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CYCLOPÆDIA OF INDIA

AND OF

EASTERN AND SOUTHERN ASIA

Commercial, Industrial and Scientific:

PRODUCTS OF THE

MINERAL, VEGETABLE AND ANIMAL KINGDOMS,

USEFUL ARTS AND MANUFACTURES;

EDITED BY

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D.

D. This English letter has letters with corresponding powers, in the Arabic, Persian, Hindustani, Sanskrit, Hindi, Mahrathi, Guzerathi, Bengali, Urya, Telugu, Karnata, Tamil and Malayalam. In all these tongues, however, there is also a softer sounding D: The English compound Dh, also, the Tamil tongue excepted, has corresponding letters, simple, modified, or compounded, with both soft and hard sounds: d, and r, in several of the Indian tongues, are moreover, so pronounced as to be difficult for a European ear to catch their niceties and d and r are therefore frequently confounded. d and r are not used by the Chinese. *Wilson. W. W. Hunter.*

DAB OR KOOSHAH, HIND Poa cynosuroides, the sacred grass of the hindoos, is generally applied only to the first shoots of the Koos grass, it is called Dubsa, in Rohilcund and is made into rope in North Western India.

DAB. Hind. of Kuhat, a moist soil.

DAB. Hind of Delhi, Anatherium muricatum,

DAB. POL. Quercus. Oak.

DAB or DOOB. BENG. Xyris indica.—*Linn.* See Graminaceæ.

DABAR a river of Gwalior.

DABBA CHETTU, TEL Citrus medica, *L.*

DABCHICK see Colymbidæ.

DABEE BENG. also Doobee, BENG. Xyris Indica.

DABI A Prince of Junagurh.

DABLING pass leads from Chinese Tartary to Kunawer.

DABOU, a small weight of Masulipatam, equal to 191 grains.

DABUL OR DEBUL. A sea-port town on the Malabar Coast, eight miles south of Severndroog. This port was burned about 1508, by the Portuguese viceroy Almeyda. He came to India, in 1505, the successor of Dias, Vasco-de-Gama and Cabral. On his arrival, he concluded a defensive treaty with the King of Vijianuggur, but the Venetians who up to that time had monopolized the trade with India, jealous of the growing power of the Portuguese, instigated the king of Egypt to oppose their progress. He accordingly sent a fleet under Mir Hukum, who in conjunction with the fleet of Guzerat, bore down upon Lorenzo, son of Almeyda and defeated him in 1508, Lorenzo falling in the fight Almeyda, to avenge his son's death burnt the port of Dabul, and defeated the enemy in the harbour of Diu, and then concluded a treaty.

DACCA, there are two towns of this name, one Dacca Jelalpur to the North of Ballargunj and Dacca proper between Dacca Jalalpur and the Megna River. Dacca yields rice, pulse, millet, maize, cotton, safflower, indigo, sugar, ginger, coffee and capsicum, but only cotton and safflower may be considered as staples peculiar to the district. The indigenous cotton of Dacca has long been celebrated for its superior quality. It is cultivated along the banks of the Megna from Feringybazar to Edilpore in Backergunj, a distance of about forty miles; on the banks of the Brahmaputra creek (the ancient channel of the river of the same name) and along the Luckia and Banar. It presents different shades of quality, the finest of which is named *photee*, and is the material of which the delicate muslins are made. It is described by Roxburgh as differing from the common herbaceous cotton plant of Bengal in several particulars, but chiefly in having a longer, finer and softer fibre than it. Safflower (Carthamus tinctorius) now so extensively used for dyeing silks in England and France, is one of the most valuable agricultural products of the district. Next to fine muslins, and embroidered fabrics, silver-filigree work is that for which Dacca is most celebrated. This art is also practised in great perfection at Cuttack, and in Sumatra, and China. The articles usually made at Dacca are ladies' ornaments, such as bracelets, earrings, brooches, chains, necklaces, &c. and *Attar-dans* and small boxes for natives. The design best adapted for displaying the delicate work of filigree is that of a leaf. The apparatus used in the art is exceedingly simple, consisting merely of a few small crucibles, a piece of bamboo for a blow-pipe, small hammers for flattening the wire, and sets of forceps for inter-twisting it. The drawing of silver and gold (*i e.* silver covered with gold) wire, used as thread in embroidery, is extensively carried on here. Benares is also celebrated for this art. There are several varieties of silver and gold-thread (*badla*), made at Dacca, as *kalabatoon* for the embroidery of muslins and silks; *goshoo* for caps and covering the handles of chowries; *sulmah* for turbans, slippers, and hookah-snakes; and *boolun* for gold lace and brocades. Some of it is drawn almost as fine as a hair. In the time of Aurungzebe a quantity of this article was made yearly for the Court at Delhi. A hundred sticks covered with it, and plain gold, and silver *badla* to

the amount of £2,000 in value, appear among the items composing the *Mulboos Khas Nuzr*, which was annually sent to the emperor. The manufacture of the exceedingly fine Dacca muslins, is slowly dying out. There is now no demand for those of the finest quality—the *ab-rowan* and *shubnam*. The native nobility of India do not patronize the finest sort, and there is no market for them elsewhere. About the year 1850, there was only a *single* family of weavers in Dacca who could manufacture the very finest quality; and it took them six-months to make up one piece, but even for that piece they got no orders. Besides, the particular kind of cotton, *kapas*, supposed to be finer than the finest new Orleans staple, from which alone the thread was spun, is now never grown. Amongst mahomedans, the name of Dacca was Jehangirnuggur See India; Inscriptions.—*Dr. Taylor.*

DACCA JELALPUR and and Dacca Proper two districts in Bengal, their chief towns Faridpoor 115 miles and Dacca 150 miles, distant from Calcutta.

DACHRA a river in the Monghyr district near Hybatganj.

DACHZIEGEL. GER. Tiles.

DACOITY. An Anglo-Hindi legal term for a system of robbery by gangs of people of the country. It is derived from the hindustani term "daka," the verb being "daka parna" to plunder. In India, Thugs or Dacoits who have been tried and convicted as having belonged to a band of thug murderers or dacoits, but who, having made a full confession of their crimes (in some individual cases amounting to the murders of as many as eighty persons) and having denounced their associates, receive a conditional pardon. Originally in the criminal Code of India, "Dacoity" was applied to the armed bands who plundered, but it and the term Thug are now applied to several well-defined classes. Amongst these are the Bhuduk of the Nepal Terai, the Dasadh of Behar who make frequent predatory excursions into Lower Bengal. In the North West, are the Bind of Ghazepore the Nuth or gypsey, the Ahir, Boria, Kurmi and a host of low castes. In the Panjab, dacoity generally assumes the form of cattle-lifting. The Meena are the most active and energetic and are concerned in most of the dacoities of Northern India. And in the S. W. the Sonthal with his club, long bamboo spear and terrible Sonthal battle-axe, often sweeps down on the plains of Bheerbhoom, Hazaree bagh and adjacent districts, and the flare of their torches or light of the burning huts, give the first warning.

DACRYDIUM CUPRESSINUM is the Rimu or Red Pine timber tree of New Zealand.

DACSHA. See Daksha. Yavana.

DACTYLIS. A grass that occupies barren soil. See Graminaceæ.

DACTYLOPTERUS ORIENTALIS CUV. a fish of the Indian seas of the order Acanthopterygii and family Loricati.

DAD. PER. HIND, Literally a gift; a postfix and prefix much in use, as Khudadad given by God, the Theodotus of the Greeks; and Dev-Dutt of the hindus, Dad-khah a plaintiff for justice.

DADA. HIND. Grandfather.

DADA. H. Cedrus deodara, deodar or Himalayan cedar, see Diar.

DADAP TREES. See Coffee.

DADAR, a valley and town separated from the great plain of Cutch Gandava, by a line of *jabbal* or low hills. Dadar is excessively hot and a Persian couplet runs "Ai Allah! dozakh ki sakhti, chon Dadar hasti, Oh Lord! why did you make hell, when you have Dadar?

DADDA, H. of Salt Range, Acacia eburnea.

DADI. IT. Dice.

DADIMA. TEL. SANS. or DADIMA PANDU. TEL. Punica granatum. Pomegranate.

DAD-MAREE BENG. Ammannia vesicatoria.

DAD MURDAN. HIND. BENG. Cassia alata.—*Linn.*

DADOS. SP. Dice.

DADRUGNA. SANS. Cassia alata.

DADRU HIND. of Hazara and Murree; Rhamnus virgatus. R. persica.

DADU a Vaishnava ascetic teacher who instituted a Byragi sect. According to Wilson, Dadu was a cotton cleaner of Ahmedabad who lived in the beginning of the 17th Century and established a monotheistical worship. see Dadu Panthi, Hindu, Vairagi.

DADUGA TEL, also Betta ganapa and Pasupu kadimi. Nauclea cordifolia, *R.* i. 514; a large tree common in the mountainous parts of the Coromandel coast. The wood is extremely beautiful resembling that of the Box-tree but lighter.—*Ainslie's Mat. Med. p.* 213.

DADUNGAWU, a tutelary spirit of the Java hillmen.

DADU PANT'HI. A Vaishnava sect of hindus, whose tenets are derived from Ramanand after whom its founder is said to be the fifth spritual guide. Their worship is restricted to the "Japa" or repetition of the name of Rama, as the deity negatively described in the Vedanta theology. They have no temples or images. Dadu was born at Ahmedabad. They carry a rosary, have no frontal mark nor *Mala*, but wear a round or

four cornered hat. They are said to be numerous in Marwar and Ajmir. Their chief place is Naraina, 40 miles from Jaipur. They are classed as (*a*) *Virakta*, who go bareheaded and have but one garment and one water pot. The (*b*) *Naga* who carry arms and serve hindu princes making good soldiers. The (*c*) *Bhistu Dhari* who follow the avocations of ordinary life. They burn their dead at dawn—*Wilson* See Dadu. Hindu ; Dadu Panthi ; Vairagi.

658 DAEE JUNNAEE. Hind. An accoucheuse : a midwife.

DAEE. A mahomedan sect who reside at Gajer, Mekran, Kej and Turbot, formed out of several Brahui tribes. They are a Scythic tribe associated with the Massagetæ. See Kelat.

DAEJA. Literally lamp-holders ; the term applied to the handmaids who invariably form a part of the Rajpoot *Daeja, or Dower Tod's Rajasthan* Vol. I, p. 628.

DÆMIA EXTENSA *R, Brown*,

Syn,

Cynanchum extensum. Jacq	Cynanchum bicolor, And.
Cynanchum cordifolium Retz	Asclepias echinata Roxb.
Chagal-banti Beng.,	Vela parti Tam.
Ubrun. Duk	Utamani ,,
Sagoani Hind.	Jutuga Tel.

This plant is used medicinally. Its fibre is known commercially as Ootrum fibre and is a promising substitute for flax. It is soft, white, silky, and strong : it can be procured in considerable quantities in Southern India, the Dæmia extensa being a common creeper belonging to the Asclepiadaceæ,—*M. E. Jur. Rep.*

DAENDELS, Herman William, born at Hattem in Guilderland 21st October 1762 died at New Guinea 1818. He was Governor-General of Dutch India, and formed the great military road of Java.—*Max Havelar.*

DAENY or DANIE, in lat. 24° 57½' N. Long. 52° 25' E., an island 1⅛ miles long, on the south side of the Persian Gulf.—*Horsburgh.*

DAEZAJEE. a silver coin of Persia of value Rs. 1½. *Simmonds.*

DAF Hind. A hand-drum, a tambourine.

DAFFADAR, Pers. Hind. An officer in the native irregular cavalry.

DAFILA ACUTA. Linn. Pin-tails.

DAFTAR Pers. a record book : Daftar-Dar also Daftari ; a record keeper.

DAGGER, one of a particular shape is the official weapon in modern Indian courts. A drawing of the dagger of ministry is given in the last volume of Duff's History of the Mahrattas. *Hind. Theat. Vol. II. p.* 249.

DAG. Hind of Kuhat, land cultivated only once in three years.

DAGH, Turki. A hill, a mountain, Alajah Dagh or variegated mountain, near Ararat.

DAG'HA. Guz. DHAGA. Hind. Thread.

DAGHESTAN, see Persia.

DAGING, Malay. Flesh meat

DAGOBA or DHATUGARBHA. Sansc. A buddhist bone or relic receptacle. The ancient edifices of Chichen in Central America, bear a striking resemblance to the Topes of India. The term is from Datula relic, Garbhan a shrine. Those of Ceylon end in a terminal Tee, in the form of a cube supporting a pointed spire,.

DAGON. Burmese. A corruption of the Talain name, Ta-Kong, the Shooay Dagon buddhist temple of Rangoon, which rises magnificently from the summit of a scarped hill to a great height. See Rangoon ; Shooay Dagon.

DAGOOTHA, Burm.? Crooked timber, in Tavoy and Mergui, floats in water, and used for building boats, for planks of houses, ladders, &c., but is liable to attacks of worms and dry rot.—*Captain Dance.*

DAGSHAI, 30°53' 1, 77°2'2, a military station S. S. W. of Simla. The cantonment is 6,025 feet above the sea. G. T. S.

DAH, Pers. Hind. Ten. Dah'm, the tenth : in the Panjab, Dah-mahi-dar, Hind. farm servants hired for 10 months.

DAH. Hind in the N. W. Himalaya, a clod crusher, a flat beam of wood dragged over the fields to smooth clods. It is the Sohaga of the plains.—*Powell.*

660 DAH. a heavy weapon made use of by the Bhot and Burmese races, as a sword in war, and in peace for felling trees or cutting up firewood; consequently the friction on the handle is very great. Notwithstanding, the gum which fastens it adheres for years, except on the edge or end of the handle, where the wood itself becomes less or more worn.—*Bonynge, America, page* 158.

DAHAK. Egypt. Colocynth.

DAHIR See Acre.

DAHIR, Desput or lord of Debeil, from Des, 'a country,' and Put, 'the head'

DAHISTAN a country separated by mount Taurus from Chorasan : See Koh.

DAHLIA, an ornamental flowering plant originally from Mexico, now largely cultivated in India.

DAHNAJ Arab, a stone alluded to by Abu Zaid as resembling an emerald.

DAHU, Hind Artocarpus integrifolia, jak-tree.

DAHYA, Hind Trophis aspera.

DAI, Pers. Hind, a wet nurse ; an

accouheuse, a midwife: the English in India use theword Ammah.

DAIMACHAS, an ambassador sent by Seleucus or by his son Antiochus Soter to Bimbasara son of Chandragupta. He was regarded by Strabo as the most lying of all the Greek historians of India. See Vindusara.

DAIMIO a hereditary prince of Japan.

DAIN. HIND. PERS. Debt.

DAIN. BURMA. league, 2, miles and 2 furlongs.—*Simmonds.*

DAIR, a town north-west of Basorah, remarkable for a colossal tower of beautiful structure. Ibn-ul-Wardi in the Khassila-ul-Ajaib says, that strange sounds are occasionally heard to proceed from its interior. Great antiquity is attributed to this minaret by all the natives of the country.—*Mignan's Travels P.* 239.

DAIRI, until 1869, amongst the Japanese, the ecclesiastical head of the government, who resided at Miako. See. Kio. Kobo.

(3094) DAISY, the little perennial plant called *Bellis perennis* by botanists. In India, this plant and its varieties are cultivated as a "souvenir" of home.—*Jaffrey.*

DAITYA, an ancient hindu term used in various ways but generally to designate a different and hostile race. In the Mahabharata, they are spoken of as aborigines; also others of them as having power on the sea coasts: In other places, the term is applicable to the buddhists: and the wars of the Daitya against the Devata, are supposed to be their hostile operations against the Aryan race. The wars, between the immigrant Aryan and the Daitya, were changed in the course of years into mythical wars between gods and demons. *Wh. H. of I.*

DAITYA. HIND. a demon, a goblin, See Viswakarma.

DAIVA, HIND. holy. See Hindu.

DAIWUZEE, on the borders of Bajour. See Kush.

DAJJAL, ARAB. HIND. PERS. Antichrist. The mahomedans believe in Antichrist whom they term Al-Dajjal.

DAJIL, a town in Cutch Gandava. see Kelat.

DAJKAR, HIND. Flacourtia sepiaria.

DAK. HIND. TAWAL, TAM. the post, mail: to travel by dak meaning as fast as the post, and is performed in palankins or in carriages, or on horseback. Also the mail or postal arrangements of India, where railroads, carts, horses, and men-runners, are employed to carry the mails.

DAKA, a town of Jelalabad.

DAKAR HIND., of Cis Sutlej, low-lying stiff clay land.

DAKAUT ALSO DAKAUTIYA, HIND. hindus born of, or descended from, a brahman father and goalin mother. They subsist on alms collected on a saturday and are astrologers.

DAKH. HIND. Vitis vinifera, Grapes, especially the wild vine; also raisins.

DAKKABIJ HIND. also D. papri HIND. Butea frondosa.

DAKHAN SHABAZ-PUR an island at the mouth of the Megna.

DAKHILAH. AR. PER. HIND. In accounts, an entry, also a receipt for money.

DAKINI. HIND a witch, a female goblin.

DAKOOA, a small town inside the Straits of Babel-mandel, See Okelis.

DARKA. A poisonous root of Nepal made up with grain into balls, and so employed to poison elephants.

DAKSHA. In hindu mythology, was an avatar or appearance of Brahma upon earth in a human shape. He was the father of Sati, the consort of Siva; whose son, Vira Badra (produced from the jatta or locks of Siva), cut off his head for treating his father with indignity and causing the death of Sati (See Parvati.) On the intercession of the gods, Daksha was restored to life; but his head having, during the battle, fallen into the fire and been burnt, it was replaced by that of a he-goat, in which form he is pourtrayed.—This is the account of Coleman and another account makes him father of Aditi, wife of Kasyapa but Wilson says Daksha was the son of Brahma and father of Sati, whom at the recommendation of the Rishis or sages, he espoused to Siva, but he was never wholly reconciled to the uncouth figure and practices of his son-in-law. Having undertaken to celebrate a solemn sacrifice, he invited all the gods except Siva, which so offended Sati, that she threw herself into the sacrificial fire. To avenge her fate, Siva created Virabhadra and other formidable beings, and sent them to the scene of action, where they disturbed the rites, beat and mutilated the assistants, and even maltreated the gods, till Siva was appeased, and arrested their excesses. Daksha, who had been decapitated in the scuffle, was restored to life, but the head of a ram was substituted for his own. Sati was born again as the daughter of the mountain Himalaya, and was again married to Siva. From this, second birth, she is called Parvati the mountaineer, or Girija the mountain-born. The disturbance of Daksha's sacrifice was a favourite legend with the hindus. *Coleman Hind Myth. p.* 6 *Hind. Theat. Vol. II P.* 263. *See,* Brahmadicas, Chandra. Surya vansa.

Parvati Surya, Vira badra.

DAKSHIṆA, Sansc. the right hand.

DAKSHINA OR BHAKTA. See Right and Left Hand Castes, Bhakta, Chalukya. Hindoo. India.

DAKSHINACHARI. S. One who follows the observances (achàrà) of the right hand tribe or caste-practisers of the purer forms of the ritual, as opposed to Vàmàchari.—*Wilson Gloss.*

DAKSHINAPATHA. The Sanscrit name for the Dekhan.—*Prin. Ind. Ant.*

DAKUNI. The witch of India. After a battle in which Bugtea, a Rahtore chief charged through Abhye Singh's army, the Rajput poets sang of his deed, is it the battle cry of Kali, the hissing of Shesnag, the denunciation of Kalispur or the war-shout of Hanowanta ? Is it the incarnation of Nursing, or the darting beam of Surya ? or the death-glance of the Dakuni ? or that from the central orb of Trinetra ?—*Rajasthan Vol. II p.* 111.

DAL. HIND, any split pulse, hence Turka-Dal, Mung ka Dal Phaseolus radiatus Cytisus cajan. It is greatly used as food by all the better classes of natives, and many Europeans also like it, generally mixed with rice.

DAL. HIND, a bough : a basket of leather or twigs.

DALA HIND ? Valeriana Wallichiana.

DALADA. SINGH., the sacred tooth of Buddha kept at Kandy in Ceylon. The original was destroyed by the Portuguese in A. D. 1560. That was probably the tooth of a man, but the object now shown, is a piece of discoloured ivory, almost 2 inches long, less than one in diameter and resembles the tooth of a crocodile rather than that of a man.—*Tennant.*

DALAKI, a town of Persia near Abu-Shahr. See Iran.

DALAMBANG. See Gluga.

DALAN. HIND. PERS. a spacious and lofty hall with an open front used by mahomedans of rank as a reception room.—*Ouseley's Travels.*—VOL. II p. 11.

(3095) DALBERGIA, a genus of Plants belonging to the natural order *Fabaceæ* Dr. Wight gives Dalbergia frondosa, latifolia, ; marginata, ; Oogeinensis reniformis, ; rimosa, ; robusta, scandens, ; stipulata, and tamarindifolia ; Dr. McClelland mentions that in Tenasserim there are four kinds of *Dalbergia* all *Black woods*, Yindike, *Burm*, all yielding a heavy timber which will not float, similar to Sissoo. These trees are very plentiful in the Tharawaddy and Hlaine districts, also in the lower parts of the Tounghoo district. The timber seldom attains a very large size and is generally found of a girth of three or four feet. Wood, black.—(*McClelland.*) One of the genus Dalbergia, is known in Tenasserim as the Chisel-Handle Tree. It is a common forest tree produces a hard, fine-grained wood which the Karens call the egg-tree, and the Burmese the chisel-handle tree, its wood being much used for chisel handles. Mr. Mason has not seen the flower, but the fruit identifies it with Roxburgh's genus. There is another large timber tree of the genus Dalbergia found throughout the Provinces, sometimes wrought into canoes, which he thinks is a species of dalbergia, but he has never seen it in flower. It is the tree of which, according to Burman geography, there is an immense specimen growing on the Great Eastern Island.—*Mason. McClelland.*

DALBERGIA ACUMINATA, *Ains.*

Sissa. CAN. | Sisso. HIND.
Sissu tree. ANGLO-HIND |

Dr. Ainslie describes this as growing in Oude, Bahar and Canara, as furnishing a valuable wood, employed for the knees and frames of ships.—*Mat. Med. p.* 210.

DALBERGIA ALATA ?

Tsouk-yoa. BURM.

A tree of Moulmein. Used for tool handles.—*Cal. Cat. Ex.* 1862.

DALBERGIA ARBOREA. WILLD. RHEEDE. Syn. of Pongamia glabra. Vent.

DALBERGIA ARBOREA. HEYNE. Syn. Dalbergia frondosa. Roxb.

DALBERGIA FRONDOSA, *Roxb. ; W. & A. ; W. Ic.*

Dalbergia arborea, *Heyne.*

Erra pachchari. TEL. | Pedda sopara. TEL.

In Ceylon, not uncommon in the central provinces and elsewhere up to an elevation of 3, 000 feet. Grows in the Godavery forests and in the Circars ; also in Pegu where it attains a girth of four feet and upwards, is taller and straighter than the Sissoo, and furnishes a strong useful timber.—*Fl. Andh, Captain Beddome, Dr. Mc Clelland, p.* 10, *Thw.*

DALBERGIA LANCEOLARIA, *Linn. fil.*

Nedon. SING. | Nendoon. SING.

Described as growing in the western and southern provinces of Ceylon, and its wood as employed in buildings and for furniture. A cubic foot weighs 56 lbs., and it lasts from 60 to 80 years.—*Mendis.*

DALBERGIA LATIFOLIA, *W. & A. Roxb.*

Shwet Sal. Beng.	Iti. Malbal.
Sit Sal. ,,	Eruputtu maram. Tam.
Yendike? Burm.	Iti. ,,
Bitti. Can.	Korin-toware. ,,
Todigate ,, ?	Virugaduchava. Tel.
Vriksha. ,, ?	Iruvndu. ,,
Sweta-shala. Duk. ??	Irugudu. ,,
Rosewood Tree. Eng.	Jittegi. ,,
Blackwood Tree. ,,	Nalla Irugudu. ,,
Malabar Blackwood Eng.	Tella ,, ,,
Sal. Hind.	

This tree grows in the peninsula and northern parts of India, in more or less abundance; in the Godavery forests, the Circar mountains, in Coimbatore, Malabar, Canara and Sunda, the S. Konkan, on the banks of the Kali Naddi river, in the Southern Mahratta Country, the N. W. Provinces, in Bengal, the Khassia hills, and in Assam: and, on the Coromandel and Malabar Coasts. It grows to an immense size, the trunk sometimes measuring 15 feet in circumference, exclusive of the bark. In Coimbatore, it is less abundant than the eatty maram, perhaps from being more sought after as yielding more valuable timber; it is, there, a very dark, heavy and strong wood, sustaining a weight of 515 lbs. Everywhere, in Southern India, this valuable wood has risen much in price, the two indents from the Madras and Bombay Gun Carriage Manufactories amounting, in 1858, to 5,000 cubic feet. In Canara, this tree was formerly given to applicants at 3 Rupees each; but that practice has been disallowed. There is not much blackwood remaining in the Anamallai Forest, but there is a considerable quantity in the escheated forest of Channat Nair, and it is abundant in Wynaad and Coorg. In consequence of its increasing value instructions were given, in 1858, for an experimental sowing at Nellumboor, with what result is not known. In Canara and Sunda, it is abundant and large at the north end of Dandelee forest; scanty elsewhere. It is rather common in most of the Bombay coast forests, particularly in ravines of the hills and under the Ghats, also on the ghats; but, there, it never reaches the great size which it attains in Malabar. It is also often crooked. The wood is extensively used for cabinet work, knees of vessels, agricultural implements, combs, &c. It appears, in density of grain and endurance, to be much superior to the Sissoo of Hindoostan. The wood of the centre of the trunk and large branches, is greenish or greenish black, often mottled, or with light coloured veins running in various directions. It is close grained, admitting of the finest polish, and is employed for furniture of every description, and, in the Madras Gun Carriage Manufactory, for light field beams, cheeks, axle cases, braces, perches, poles, splinter-bars, waggon perches and framing, light field spokes and felloes. For gun-carriages it is so valuable that large plantations have been formed in waste places of the North-western provinces of Hindoostan. In Malabar, it is the magnificent tree from which the well known Malabar blackwood is obtained, and planks 4 feet broad are often procurable, after all the external white wood has been removed: it is heavy and close-grained, admitting of fine polish and is very much used for furniture. It is one of the most valuable woods of the Madras Presidency.—*Drs. Roxburgh, Wight, Gibson and Cleghorn, Voigt, Flor. Andhr., Captain Beddome.*

DALBERGIA MOONIANA, *Thw.: Moon's Cat. p.* 51; *folios* 5-8,

D. Lanceolaria, *Linn. fil.*

Nadoong-gass. Singh.

A great tree, which grows in the southern and central parts of Ceylon, at no great elevation.—*Thwaites' Enumeratio Plantarum Zeylanicæ, Part II. p.* 93. *See* D. Lanceolaria.

DALBERGIA OOATA ??

Tsouk yo. Burm.

A tree of Moulmein. A tough wood: much used for tool handles.—*Cal. Cat. Ex.* 1862.

DALBERGIA OOJEINENSIS, *Roxb. W. Ic.*

Tevus. Mahr.	Manda motuku. Tel.
Tennus. ,,	Nemmi chettu. ,,
Tunnus ,,	Tella motuku. ,,
Ati muktamu. Tel.	

A tree 30 feet high, grows in the valleys of the Himalayas, the Kheree jungle, Dehra-Dhoon, Kamaon, Sirmore, in Oude and the Godavery forests. Found both in the Konkan and inland Bombay forests, especially common in some parts of Kolwan, Khandeish, and the Satpoora Hills. It is a wood of great strength and toughness, especially applicable for cart-building, ploughs, &c., seldom reaches a size sufficient to give a plank of 9 inches. The wood of that which grows on the Godavery is valuable, but the tree is rather rare there.—*Voigt, Fl. Andh., Useful Plants, Dr. Gibson, Captain Beddome.* (Note.—Is this the "Thevus" of Nagpore? See above).

DALBERGIA PANICULATA, *Roxb.; W. & A.*

Patchalaywood. Anglo-Tam.	Porilla, sapara Tel.
Phassie. Mahr.	Tella pachchari, ,,
Putchalai maram. Tam.	Tella patsaroo. ,,
Pachchari. Tel.	

This tree grows in Moulmein, Assam, Oude, in the Nothern Circars, in the Godavery Forests, Coimbatore, at Courtallum, in the Mawul districts, and above the Ghats. In Coimbatore, it attains a considerable size, and the timber is said to be strong, and fit

for many purpose. It is rather common in most of the Bombay forests, both of the coast and inland. The wood there is light yellow, strong, compact, and fit for many purposes in house building, agriculture, &c. But, Captain Beddome tells us of Porilla sopara. (Godavery) Tella patsaroo (Circars) *Tel.* Dalbergia paniculata, that the wood is perfectly useless—it is arranged in rings with softer substance in between the layers. Voigt tells us that it is white and firm but less useful than some of the other species. The character of the wood would thus seem to vary according to locality.—*Drs. Wight and Gibson, Voigt, Captain Beddome.*

DALBERGIA ROBUSTA, *Roxb.; W. Ic.*
Dalbergia Krowee, *Roxb.*
„ latifolia, *Gibson.*

This tree grows in Nepaul, Assam and Pegu, where it is very abundant, and attains a girth of four feet and upwards, and is taller and straighter than Sissoo.—*Voigt, Dr. Mc Clelland, p.* 10.

DALBERGIA SISSOIDES, *Grah.*

Rose wood. ENG.	Biti maram. TAM.
Black wood. „	Vitty maram. „
Eatty maram. TAM.	Kar-itti „

Dr. Wight says that this is perhaps the best known, in the Coimbatore jungles, of the trees yielding blackwood, but there are several others as good or perhaps better. It abounds in the Palghaut forests, but, in 1850, was rarely to be met with of great size; when it and its congener Dalbergia latifolia are carried to Madras it becomes one of the rosewoods of the furniture shops. It is a smaller tree than D. latifolia, but more common in the forests. Both yield a black wood, and in Madras are indiscriminately called "Rosewood." The wood contains much oil, which unfits it for receiving paint. Mr. Rohde says that this, the blackwood or East India Rosewood, is one of our best woods for plain furniture, though at Madras it is said to cast about a good deal; by experiment he found it to be one of the strongest timbers we have in the Circars, he is inclined to believe that the wood imported from the Western Coast is not equal in strength to the smaller but closer grained wood of the Circars, and the appearance of the latter is more veined and he thinks closer in the grain than that of the Western Coast—the wood contains much oil which renders it unfit for receiving paint—logs are almost invariably faulty in the centre: as a tough strong wood it will be found useful whether curved or straight. Dr. Gibson does not recognise this as a species distinct from Dalbergia latifolia.—*Dr. Gibson, Mr. Rohde and Dr. Wight in Cat. of Ex. of* 1851, *Dr. Cleghorn in Madras E. J. R.*

DALBERGIA SISSOO, *Roxb.*
Pterocarpus sissu, *Roxb.*

Sissoo wood. ENG.	Yerra Sissoo. TEL.
Sissu. HIND	Sissowa. URIA?
Fali PANJAB.	

This tree grows in Bengal, Nagpore, Guzerat, in the hills about Nagotnah, and Kennery jungles. It is a native of Bengal and the adjoining provinces to the northward where the timber is much prized. Sissoo is scarce in the hills of Ajmeer, but more abundant in Kotah. There is a large forest of Sissoo and olive about ten miles from Kohat, on the Hangu and Meranzai road, which might yield a considerable supply of timber, though not of large size. It is the most valuable hard wood in the Punjab. In Nagpore, logs of it are procurable from 10 to 15 feet long, and 3 to 2½ feet in girth at 6 annas the cubic foot. But it is said to attain a great size in Chandah. It is there employed in ornamental work, domes of gharries, &c. It was introduced into the Madras Presidency from Bengal at the recommendation of Dr. Wallich, and has been planted on the banks of the Toomboodra, where it is said to be thriving wonderfully; it is growing extensively in the cantonment of Masulipatam, as an avenue tree, and has been planted in some places on the banks of the Kistnah anicut. The trees thrive well at Masulipatam, and from their appearance, Mr. Rohde thinks it would thrive well in the Madras provinces. Its rapid growth recommends it for avenues, for the tree attains perfection in 28 years, it is propagated and reared with facility, and early attains a good working condition of timber. The wood is greyish brown with darker coloured veins, very strong, but said to be not very durable. It is used in Bengal for gun carriages, and furnishes the Bengal ship-builders with their crooked timbers and knees, being remarkable strong, but not so durable as could be wished: it answers well for various other economical purposes. Captain Macdonald tells us that, in Ganjam and Gumsur, it has a circumference of 4½ feet, with height from the ground to the intersection of the first branch of 15 feet, and furnishes the material of which tables, chairs, couches, book-stands and other articles of furniture are usually made in that part of the country. It is not so plentiful as it was, being in great request. In the Dekhan, the wood is used principally, from its strength and natural bend, for native hackeries: when it can be procured long and straight, it makes good shafts for buggies. The wood of the Ajmeer tree is

very dark and beautifully veined, like rose-wood. Upon the whole there is scarcely a tree which deserves more attention; for, when its rapid growth in almost every soil, its beauty and uses, are taken into account, few trees can be compared with it. Major Campbell's estimate of the value in practice, of this wood, is 96, being higher than that of the best specimens of teak. Wood hard, strong, tenacious, and compact, whilst its great durability combines to render it one of the most valuable timbers known. Dr. Wallich and others have recommended it for plantations, showing the probable return. Flowering time, the beginning of the hot season: the seed ripens about the close of the year.—*Voigt, Captain Macdonald, Mr. Rohde's MSS. Dr. Irvine's Gen. Med: Top. of Ajmeer, P.* 203. *Drs Riddell, Cleghorn, and Roxburgh, Captain Sankey.*

DAL BULLOO GEERA. CAN. A tree of Canara and Sunda, on the elevated plateau between Gungawalee and Black river, does not reach a great size. Wood very strong and tough, and sought after for agricultural implements.—*Dr. Gibson.*

DALCHIKARA. HIND. See Dal-Shikara.

DALCHINI. PERS. Cinnamon.

DALCHINI BERRIES. ANGLO-HIND. Cassia Berries.

DAL-DAL, the name of the horse of Ali, son-in-law of Mahomed.

DAL-DAL HIND. Bog, quagmire.

DALECHAMPIA: of this genus of plants Wight gives Capensis, 1881; Indica, 1882; velutina, 1881.

DALECHAMPIA BIDENTATA, BLUME. D. *Indica* Wight, D. *velutina*,, Wight, Grows at Gonagama, on the Lower Badulla road from Kandy; but is not common.—*Thw. En. pl. zeyl. p.* 270

DALECHAMPIA POMIFERA.

Douk-ya-mad. BURM.

Scarce, but met with on the banks of streams in the Pegu Valley, particularly in the Pommah Choung. The trees are from three to four feet in girth. Wood, red or dark brown, and adapted for cabinet-making —*Dr. Mac Clelland.*

DAMAUN, a town on the Concan coast.

DALHOUSIE, James Andrew Broun Ramsay, tenth Earl and first Marquis of, was born on the 22nd April 1812. His father was a general in the army, employed in the Peninsular war and at Waterloo, was for a time governor of Canada, and commander of the forces in India from 1828 to 1832. James was the third son by the heiress of the Brouns of Colstoun in Haddingtonshire. He was educated at Harrow, and subsequently at Christchurch, Oxford, where he was fourth class in classics (1833), and graduated M. A. in 1838. By the deaths of his elder brothers he became Lord Ramsay in 1832, and in 1834 he strove for a seat in the *House of Commons*,, contesting Edinburgh against Sir John Campbell, afterwards Lord Campbell, and James Abercrombie afterwards Speaker of the House of Commons and Lord Dunfermline. He was unsuccessful then, but in 1837 he was returned for the county of Haddington. In 1838 on his father's death, he was called to the House of Lords, where he showed great attention to business details, but did not distinguish himself as a speaker. He first entered official life in 1843, during the ministry of Sir Robert Peel, to whom his business habits had recommended him. He was appointed Vice-President of the Board of Trade, and in 1844 became President of the same department. In these offices he actively investigated all the details of the railway system, made himself acquainted with the financial and practical management of railways, and framed regulations for the conduct of the numerous bills that were pressed upon Parliament during the Railway mania of 1844-45. His reforms and improvements in the Board of Trade had been so extensive and so judicious, that on the accession of Lord John Russell to Office in 1846, Lord Dalhousie was requested to retain his position, with which request he complied.

Towards the close of 1847, Lord Hardinge was re-called from India, and the governor-general-ship of that country was offered to Lord Dalhousie. He went to India with a plan of action already formed on certain principles, and to those principles he firmly adhered during the eight years of his government. He felt that the pacific policy of his predecessors had not succeeded, and that situated as India was, it required to be ruled by a firm and uncompromising hand. When he entered on the government of that country, peace prevailed. On reaching Calcutta, Lord Dalhousie lost no time in proclaiming his policy: "We are lords paramount of India, and our policy is to acquire as direct a dominion over the territories in possession of the native princes, as we already hold over the other half of India." SOON after his arrival, news was brought that British officers were murdered at Mooltan, and that Moolraj was in revolt; Lord Dalhousie marched a force into the North Western provinces, defeated the Sikhs and annexed the Punjab to the British dominions in the East. When little more than two years were passed, the government

of India found itself involved in hostilities with Burmah, where British traders had been insulted by the officers of the king of Ava. Remonstrances proving useless, Lord Dalhousie despatched an expedition against Pegu, and in a few weeks the entire coast of Burmah was in his hands. Finding that the king of Ava still refused their just demands, he ordered the British troops to occupy Pegu and incorporate it with their dominions. This was effected at the close of 1852; from that time to the end of his administration the Indian empire enjoyed comparative peace. The rich districts of Nagpore, Sattara, Tanjore, the Carnatic, Behar, and Oude were severally annexed to British possesions by Lord Dalhonsie, either in consequence of failure of rightful heirs among the native dynasties, for the payment of Contingents, or else to put an end to the cruelty and oppression which those princes exercised towards their own subjects. It is almost needless to add that the social condition of each of the annexed provinces has proportionably improved.

During this time, great changes were effected by Lord Dalhousie in the government and civilization of India, and in the development of its resources. A yearly deficiency in the revenue was converted into a surplus until the years 1853-54 and 1854-55, when, chiefly in consequence of the vast public improvements undertaken, there was a deficiency of nearly half a million. The shipping of India doubled its tonnage, a Legislative Council was organized, the civil service was thrown open to competition, the annual accounts were expedited, and prison-discipline was improved. A system of uniform and cheap postage was also introduced by Lord Dalhousie; a portion of the peninsula intersected by railway, and all the large towns brought into immediate connection by means of the electric telegraph, laid down by Dr. O'Shaughnessy, 4,000 miles having been constructed and placed in working order between November 1853 and February 1856. The manufacture of salt, the production of cotton, tea, and flax, the breeding of sheep, and the improvement of agricultural implements all received Lord Dalhousie's attention. The development of the resources of the country in iron, coal, and other minerals was a matter on which he bestowed peculiar care; and measures were also taken for the preservation of the forests, and for making their produce available. At the same time a new and uniform survey of the districts was commenced, and the limits of subject states accurately defined. Irrigation on a large scale was attended to in Sind, Madras, and Bombay; the navigation of the Ganges, Indus, Nerbudda and Burrumpooter was improved, grand trunk roads were carried to Delhi, through the Punjab, and to Patna, and others made in Pegu and Sind. A road was also constructed from Hindustan to the frontiers of Thibet commencing from the plains of the Sutlej and another put in progress from Arracan over the Youmah ridge to Pegu. The most stupendous work however which signalized his government was the Ganges canal carried out by the skill and energy of Sir Proby T. Cantly. Under his vigilant authority also the department of public works was reformed throughout and colleges founded to train young men specially in civil engineering. Schools and colleges were established and placed under government inspection. The most strenuous efforts were at the same time made for the eradication of the systems of suttee and thuggee, and the practice of infanticide. The condition of the European soldiers was likewise greatly improved. Provision was also made for both Protestant and Roman Catholic worship, on equal terms and extensive changes were made in matters of criminal and civil justice. Lord Dalhousie also required the government of each Presidency, each Lieutenant-governor, and the chief officer of every province to send in to the governor-general an annual report of the chief events that occurred within their several jurisdictions, in order to test the progress made by the nation at large. For his success in the Punjab, Lord Dalhousie was raised to a marquisate in 1849: and on his return to England in May 1856, with shattered health and a broken constitution, the East India Company settled on him a pension of 5,000*l.* a year. He had previously been appointed to the wardenship of the Cinque Ports on the death of the late Duke of Wellington. He died on the 19th.....186 ?

DALI HIND. basket of fruit or vegetables.

DALIAH. HIND, a branch of a tree.

DALIM OR DARIM. BENG. HIND. Punica granatum.—Linn, pomegranate tree.

DALIMBA, A hard granulated coarse stone, of Cuttack, very common, and worked into utensils of various kinds—*Cat. Exhib.* 1862.

DALKISSORE, a tributary to the Hooghly running through the Pachete district, in L. 28°30' N. L. 86°34', E. running S. E—S. S. E.,—into Hooghly at Diamond Harbour, after a course of 170 m. it can be crossed at Bancoora, 50 M. from source, and at Jahanabad by means of fords.

DAL-LA, or Gisnt's Peak, in Bhutan, N. of Tanong in Lat. 27° 50, N. and L. 92°

34 E. The top of the peak is 22,495 Ft. above the sea as Trigonometrically measured from Gohatti. This peak is the prominent feature in the Himalaya panorama of Central Assam *Schlag.*

DALLAH KHAṬAK Hind. Skins.

DALLAL Hind, a procurer, a horse-couper. *Wilson.*

DALLALAH, Hind a courtezan, The Dalilah of the Bible.

DALMY, an island in lat. 24° 28' N. long. 52° 27' E, on the south side of the Persian Gulf.—*Horsburgh.*

DALME-KATTEA, Singh. Wood-Moth.

DALOSINGHA or TALOOSINGHEE, Uria? A tree of Ganjam and Gumsur, burnt for firewood and charcoal but ploughshares are sometimes made of it. *Captain Macdonald.*

DAL-SHIKARA, A crystallized salt, brought to Ajmere from Bombay; it is white and transparent, in small grains: it is very poisonous: is sometimes used in medicine; but, chiefly in "rasan" or transmutation of metals: is true bichloride of mercury, or corrosive sublimate: costs one rupee per tola.—*Gen. Med. Top. p.* 134.

DALUKGAHEH-KIRE. Singh. Euphorbium.

DAL-URUR. Ben. Cajanus Indicus, Spreng.

DALU-WANG. See Gluga.

DALYELL, N. A, and A. Gibson, joint authors of Dalyell's Bombay Flora.

DAM, English, Anicut, Tamil, literally dam-built, a name given in Southern India to a dam or weir thrown across a river to dam up the water. The grandest is that across the Godavery river, about seven miles long, but others dam up the waters of the Kistnah, the Palar, the Coleroon, the Toomboodra and the Pennar. See Canal.

DAM. Hind. This coin in the Ayeen-i-Akberee, and consequently in most revenue accounts, is considered to be the 40th part of a rupee.

DAM. Pers. Price, Cost: Be-dam; unpriced, priceless.

DAMA. Sansc, a house. It is domos; Gr. —*domus*, Lat. *domii*, Slav: *daimah*, Celt. *Muller's Lectures* p. 224.

DAMAHAN Hind Fagonia Cretica.

DAMAKA. Sans. Coriandrum sativum.

DAMALCHERRY a pass about 30 miles N. of Amboor leading from Mysore to the Carnatic. On the 20th May 1740, nabob Dost Alli fell, here, in action against the Mahrattas. *Orme.*

DAMAN Hind. of Kahan, Grewia oppositifolia.

DAMAN-I-KOH. Persian also Hindi, is the name given to the low hills that form the basis of the higher ranges of the Himalaya and in which such hill-states as Kotahah, and others are situated. It is also the skirt of the hills, of the region of low hills at the base of the Punjab Himalaya. The soil is indurated clay which becomes prolific when subjected to cultivation. The Derajat, the line next the Indus, is fertile and populous. *Ritchie Vol. II p.* 13. *The British world in the east. See Powell, Handbook. Econ. Prod. Punjab P.* 202. See Afghan. Indus.

DAMAN, See Damaun. Kol.

DAMARA. Wilson's History of Kashmir describes this people as a fierce intractable race, murderers of king Chakra Verma and who opposed Lalata Ditya in his advance to the north or Uttara-kuru.

DAMARA, or DAMRU, supposed to be a small hand-drum, or rattle, usually seen in the hands of Siva or his avatars. This definition of the emblem is however doubtful, as it has more the appearance of an hour-glass, though rattles of this form are sold in all the bazaars of India, and used by religious devotees and others to attract attention.—*Cole Myth. Hind, p.* 377.

DAMARGAVA. Sans. Cucumis acutangulus.

DAMARLOUT—? A brown coloured wood of Penang used for building and general purposes.—*Col. Frith.*

DAMMARA AUSTRALIS is the kauri or yellow pine timber tree of New Zealand.

DAMAR MATA KOOCHING, Damar Daging; and Damar Batoo, are gum-products of the Malay Peninsula and of the Archipelago. Damar-mata-kooching when mixed, with the miniak-kayoo, or wood oil, makes a durable varnish.

DAMAR PUTEH. Malay. White dammer.

DAMAR SELO. Dammer.

DAMA SAH. A prince whose name is engraved on the Girnar rock, containing the edicts of Asoka. See Inscriptions, Junagurh.

DAM MADAR, called also *Dhummul*, is a popular ceremony with the agricultural and lower classes in India. It consists in jumping into a fire, and treading it out, with the exclamation of "*Dum Mudar, Dum Mudar*!" that is, "by the breath of Mudar, by the breath of Mudar." It is devoutly believed that not a hair of these devotees gets singed, and that those who have practised the ceremony are secure against the venom of snakes and scorpions. Budeeood-deen Shah Mudar, in honor of whom this ceremony annually takes place, was, ac-

cording to the *Mirat-i-Mudárea*, a converted Jew. He is said to have been born at *Aleppo* in 1050 A. D., and to have come to India in the reign of *Sultan Ibraheem Shurkee;* and having taken up his abode between *Cawnpore* and *Furruckabad*, and expelled therefrom an evil genius, called *Mukun Deo*, who infested the place, he gave the name of *Mukunpoor* to his residence, and was buried there in 1433 A. D. at the good old age of nearly four hundred years! The tomb, which is a handsome structure, was raised over him by *Sultan Ibraheem*. He is believed still to be alive, and hence is frequently styled Zinda Shah Mudar. The prophet Mahomed gave him the power of *hubs-i-dum*, or retention of breath and hence arose his longevity, as the number of his respirations was diminished at pleasure. There is a class of *Fukeers* called Mudarea, after his name. They generally wear black cloth and are much addicted to the use of intoxicating drugs. *Elliot. Supp. Gloss. See Mudarea.*

DAMASCUS. This city is about two miles in length, is surrounded by a fortified inclosure in very bad repair, dating back to the time of Selim I., and which was built on the site of the old walls raised by the Arabs in 650. It has eighteen gates, the most curious of them being that called bab-i-Paulous, or the gate of St. Paul. The streets are narrow and winding, but are provided with a footpavement on each side. The houses, built of earth and brick, are simple externally, but fitted up within with great magnificence. Damascus contains 60 places of worship; the largest and finest is that dedicated to St. John the Baptist, and which is always closed in moments of danger or on a sign of alarm. It is one of the finest buildings erected by the christians, and its noble proportions, handsome dome, and elegant minarets, are objects of general admiration. This religious monument was thoroughly repaired by the caliph Walid in the year 86 of the Hijira; its doors, contrary to oriental custom, are of bronze and beautifully wrought. A mahomedan tradition says that at the end of the world St. John the Baptist will descend into this building, while Jesus Christ will come to the temple of Omar at Jerusalem, and Mahomed, the prophet of God, to the temple at Mecca. The other monuments of the city are, the great bazaar destined to receive the caravans, and in which from 1,200 to 1,500 camels may assemble; the seraglio, or palace of the pacha; the khan in 1860 possessed by Azad Pacha; and that of Sulaman Pacha. The commerce of the city also possesses thirty-one khans and large entrepots of merchandise. The coffee-houses of Damascus form one of its curiosities; they are 150 in number, and are regarded as the finest in the east. Damascus is the general rendezvous of from 40,000 to 50,000 pilgrims who assemble there from all points of Ottoman Europe and Asia, and even from Persia and Turkistan, in order to go with a caravan to Mecca. The sacred caravans encamp on a piece of ground to the east of the city, at about five hundred yards from the christian burial ground. Near the spot may be seen the remains of the sanctuary built in memory of the conversion of St. Paul. Independently of the great caravan which leaves at the end of the month Ramadan, there are three others; one which goes three times a year to Bagdad, another every fortnight to Aleppo, and the third every three months to Cairo. Damascus was formerly celebrated for its manufacture of sword blades; but its industry now consists in making soaps, stuffs of cotton, and silk, tobacco, saddlery, and cabinet work. There are in the city 750 dealers in stuffs called damask; 200 in handkerchiefs and fancy articles; 98 fringe-makers; 70 printers on stuffs; 185 dyers; 72 saddlers' shops; 78 tobacco manufactories, and 48 for pipes. The population of Damascus amounts to 180,000, 130,000 mahomedans, 30,000 Christians, Greeks or Latins, and 20,000 Jews. The schismatic Greeks have a church of their own, but the catholic Greeks have not, and perform their religious duties in the three Latin monasteries, viz. the Holy Monastery, that of the Lazzarists, the successors of the Jesuit missionaries, and that of the Capuchins. The Armenians and the Syrians have each a particular sanctuary, and the Jews have three synagogues. Damascus is the chief town of a pachalic of that name, the residence of a first class mollah, and of the Greek patriarch of Antioch, who has 42 arch-bishops and bishops under him. The pacha of Damascus bears the title of Prince of the Pilgrimage, because he was formerly charged to accompany the caravan to Mecca. The plain of Damascus is covered with magnificent gardens, planted with orange and lemon trees, cedars, fig and apricot trees and shrubs of all kinds. The Baradi, a pure and limpid river, divides itself into seven branches, and waters the town and its fine gardens. The two points by which Damascus is placed in communication with the sea are the ports of Beyrout and Saida."—*Ladies' Journal.* See Jews. Kalifa. Khhalif. Nicolo-di-Conti. Semitic races.

DAMASCUS SWORDS present on their surface a variegated appearance of watering. The blade is formed by mixture in

nearly equal proportions of the celebrated wootz and soft iron which being welded together and repeatedly doubled gives the desired appearance. Daggers and sword blades thus formed are common among the retainers of the hill-zemindars in the Northern Circars of the Peninsula of India, the handles of which, formed of iron, are frequently damascened in silver.

The famous Damascus blades, so renowned in the time of the crusaders, are made in Damascus no longer. The art has been lost for three or four centuries. Old swords, of the true steel, are however occasionally to be found there. They are readily distinguished from modern imitations by their clear and silvery ring when struck.

Atkinson (Oriental Western Siberia pp. 120 and 121) says that Colonel Andsoff, at Zlatavust has succeeded in manufacturing valuable Damascus blades, weapons combining edge and elasticity. The water was a succession seemingly of small bundles of almost parallel lines, occupying the whole breadth of the blade ; the ends of the bundles crossing and mingling at the point of junction. They are however, a series of minute curves, forming together lines disposed in bundles articulated together and dividing the length of the weapon into many sections. They have not the regular articulation of the articulated Khorassanic blade, their lines are infinitely finer. *T. W. Atkinson Oriental Western, Siberia* P. 120-1 *Rohde M. S. S. Taylor Saracen* P. 130.

DAMASK,

Teladamaschina, It.	Kamtschatnua, Salfftki, Rus.
Damaskwerk, Dut.	Tela adamas cada, Sp.
Venise, Fr.	
Damasten Tafelzeng, Ger.	

This is a fabric woven in a loom, with figures of flowers or other objects. The art is said to have been brought from Damascus hence the name. It is largely manufactured at Dumferline in Scotland and at Breckin in Wales.

DAMASKWERK. Duk. Damask.

(666) DAMASONIUM INDICUM, a pretty flowering plant of Macassar; the petals are of delicate white, and the long caly has its corners ornamented with fringes gathered into a kind of flounce or furbelow. It is common in some of the floods and pools.

DAMAS EN TAFELZENG. Ger. Damask.

DAMATHAT. Burm. The book containing the Burman code of laws.

DAMBADINNA, a place of buddhist celebrity in Ceylon.—*Prin. Ind. Ant.*

DAMBOOL. A buddhist temple and rock, near Matellæ in Ceylon, in which is a rude cave with carvings. The Makara, a monstrous idol, with the trunk of an elephant, the feet of a lion, the teeth of a crocodile and the ears of a pig, is a prominent figure there. Some of the statues of Buddha are upwards of 40 feet in length. The Dambool temple contains an admixture of emblems of brahmanical and buddhist worship. It was first endowed 86 B. C.—*Tennant.*

DAMBU TAGH, mountains of the province of Iran, have the topaz, beryl, schorl and gold. See Iran.

DAM-DUM, A venemous fly in the Phangan pass the bite of which causes severe irritation.

DAMGHAN, a town in Khorassan, described by modern travellers as a mass of desolate ruins, in a vast gravelly plain, with a wretched vaulted lane of mud-built huts for a bazaar.—*Markham's Embassy* P. 102.

DAMMAJI GAEKWAR, styled Shamsher Bahadur the first of the Gaekwar family, who founded the dynasty in A. D. 1720. He was an officer under Khandi Rao Holkar. The Gaekwars ruled until the treaty with the British of 1802. See Maharatta Governments in India.

DAMMAPADAN, a work, in Pali, containing moral precepts.—*Hyder's Eastern Monachism* p. 435.

DAMINNE. Singh. A tree of the eastern provinces of Ceylon. A cubic foot weighs 44 feet and it is calculated to last 40 years. Its wood is used for gun-stocks and common house buildings.—*Mendis.*

DAMIT, a tutelary spirit of the Javanese. See India.

DAMMAR. Arab. Hind. Malay. Rosin, Resins.

DAMMAR BATU. Malay. Dammar.

DAMMAR GUGGELAM. Tel. Dammer.

DAMMAR

Dammar, Arab. Guz. Hind. Mal	Coongilium, Tam.
Yakshadupha, Sans.	Googhilum, Tel.
Dummula, Singh.	Tala-gotso, Uria.

A resin in very general use throughout Eastern and Southern Asia, and the several sources from which it is obtained may be noticed :

The "*Dammers*" of the Madras Presidency are obtained from trees of the genera Vateria, Canarium, and Shorea or Vatica. The two former viz. Vateria and Canarium, yield by far the largest part if not the whole of the dammers produced on the Western coast of the peninsula, whilst the Shorea or Vatica genus yield the greater part of that collected in the northern and eastern districts.

They may be briefly arranged as follows:—

Dammer of the Western Coast is the Black Dammer, Canarium strictum, the carpoo coonghilium of Ainslie, the Dammara nigra legitima of Rumphius and the Canari of the Malayala. This occurs in large stalactitic-shaped masses, of a bright shining black color when viewed from a distance, but translucent and of a deep reddish brown when held in thin laminæ between the eye and the light. It is perfectly homogenous, and has a vitreous fracture. Its shape appears to be due to the fact of the balsam having exuded in a very fluid state and trickled down the trunk of the tree, where it gradually hardens by exposure to the sun, the fresh resin continuing to flow over that already hardened, gives rise to the stalactitic appearance of the huge lumps of resin, the outside of which much resembles the guttering of wax caused by placing a lighted candle in a draught. It is insoluble in cold, but partially soluble in boiling alcohol on the addition of camphor: when powdered it is readily soluble in oil of turpentine. Powdered and burnt on the fire it emits a more resinous smell and burns with more smoke than white dammer. The size of the lumps of this resin, together with its color and the peculiarity of shape already mentioned, suffice to distinguish it from other Indian resins.

White Dammer is the Piney resin of the Vateria indica and allied species of Linnæus and Wight. Choloroxylon Daupada of Buchanan and Ainslie, the Doopada resin of Mysore, and the Payanee or Piney of the Malabar people.

Variety 1. Compact Piney resin or first sort white dammer. This occurs in large lumps of all shapes and varying in color on the outside from a bright orange to a dull yellow, bearing evident marks of having adhered to the bark of the tree. It has a shining vitreous, fracture, is very hard and bears a great resemblance to amber. Its color, (internally), is of all shades from a light green to a light yellow, the green tint predominating in the generality of specimens. It is more soluble in alcohol than black dammer and burns with less smoke and a more agreeable odour. It is easily distinguishable from all other Indian resins by its superior hardness, its colour and amber like appearance.

Variety No. 2 Cellular Piney resin, or second sort white dammer. This occurs either in small lumps or in large masses, generally of a shining appearance and balsamic smell. Has a very cellular structure, which is attributable partly to the mode of collection, and partly to the age of the tree. Notches being cut in the trunk of the tree sloping inwards and downwards the resin collects in the cavity and is either permitted to dry on the spot, or is collected and dried by the application of heat. It is of all shades from light green to light yellow or white and is usually translucent. Specimens are sometimes seen in which from the dessication having been improperly conducted the resin is more opaque, of a dull green color and full of air-bubbles, presenting the appearance of having undergone a partial fermentation. This resin may be recognised by its cellular appearance and balsamic smell—but the balsamic smell, which is due to the volatile oil it contains, is gradually lost by long keeping or constant exposure to the air. On splitting open old and decayed trees, portions of a dark-colored resin are often found having the solid consistence of first variety, but the inferior quality of the second.

Dammers of the northern and eastern Districts. Variety No. 3. Saul tree dammer, Shorea robusta and other species. This occurs in sticks much resembling in shape the black dammer, but differing widely in colour and consistency. In colour it varies from a light yellow to a dark brown, the two colours being very frequently blended in the same lump and giving it the appearance of having a regular "grain". It is friable and differs from the white dammer of the western coast in its inferior hardness its opacity and its peculiar form, and from the black dammer in its color. There are extensive tracts of Googulam (*Vatica*) jungles in the Goomsur and Cuttack provinces. The Khond and Uria races living in and near these jungles, wound trees in several places. The resin issues and is collected when sufficiently solid. The dammer collected from the decayed parts of the tree is of a dark color, the tree is called "Guggilam" in Telugu and "tala gotso" in Urya. The Khoond and Urya races make the leaves into the plates from which they eat their food, and also roll up tobacco in them to smoke like a cheroot. In time of famine the above tribes live on a soup made from the fruit of this tree.

The Vatica tumbugaia grows also to a limited extent on the west coast, but yields little if any of the dammer collected there.

As will have been seen from the above, dammar is a commercial term, and is the resins of various trees, in different localities. Shorea robusta; Shorea tumbugaia of India, exudes an amber-colored resin. The Piney dammar of the Vateria Indica, is also amber-colored, and known as the white dammar of Malabar, and as Indian copal. The

black dammar of Malabar is from Canarium strictum. The white dammar of Singapore is the product of Dammara orientalis and the Australian dammar, or Kaurie or cowdie gum, or Australian copal, is obtained from the Dammara Australis. Dammar in the Rhio Lingga Archipelago is obtained from the Meranti (*dammar Vatu*), the Meranan (Dammar-Kruyong) and Balon trees (Dammar-marakuching.)

In Borneo also, dammar is produced by many kinds of trees quite different from Marsden's Dammara orientalis; the white Dammar is used for the same purposes as gum-copal, 'Dammar mata kuching,' or the cat's eye Dammar; is the least common, and most valuable, being beautifully transparent. 'The Dammar daging,' or flesh-like dammar, takes its name from its veined appearance, which causes it to resemble some kinds of agate. Marsden tells us that in Sumatra some of the trees producing dammar, yield valuable timber. The *dammar laut* tree not mentioned by Rumphius, is employed at Penang for the frame timbers of ships, beams, and knees. *Kamuning* (Camunium, Roxb. Chalcas paniculata, Lour.) is a light coloured wood, close, and finely grained, takes an exquisite polish, and is used for the sheaths of krises. There is also a red-grained sort, in less estimation. The appearance of the tree is very beautiful, resembling in its leaves the larger myrtle, with a white flower. The 'langsani' likewise a handsomely veined wood is employed for cabinet and carved work. Besides these the kinds of wood most in use are the madang, ballam, maranti, labon, and marakuli. The variety is much greater, but many, from their porous nature and proneness to decay, are of very little value, and scarcely admit of seasoning before they become rotten.

The Dammara Australis or Kaurie tree of New Zealand also yields Dammar. *Marsden's Hist. of Sumatra. P.* 162.

DAMMARA AUSTRALIS the Kawrie or cowrie tree of New Zealand. Its wood contains a considerable quantity of resin and appears to shrink little. The mean girth of the tree is from 3 to 6 feet and it is from 90 to 100 feet high. It is a close even and fine grained wood of a very uniform texture, its colour is a light yellowish brown, the lustre silky, the annual rings marked by a line of deeper tints of the same colour; It is used for masts and yards of ships, and seems admirably adapted for internal joiners work. It unites with glue. *Tredgold* 1853, p. 284.

DAMME, OR DAMMA, in the Arafura Sea, is a high large island 70 miles N. N. W. from Sermattan; the island is 15 miles long N. & S. and at its N. E. extreme has a volcano, with hot springs.—*Horsburgh.*

DAMO, SEE Damon AND Pythias.

DAMON AND PYTHIAS, the two followers of Anaxagoras, are supposed by Major Cunningham, to be the sanscrit Dharmma, virtue or practical morality, and Buddha, wisdom. Even the word Pythagoras seems derived from πυθας, or Buddha, and αγορευω to expound or announce. He is said to have married Theano (sanscrit Dhyana, devout contemplation) and by her had a daughter, whom he named Damo (sanscrit Dharmma, virtue or practical morality,) and who became a most learned Pythagorean.

DAMONU. URIA. Grewia tiliæfolia; used for fishing rods: abundant at Palicondah.

DAMOODAH, a river, tributary to the Hooghly. Rises in the Ramghur district in L. 23°55' N. L. 84°53' E. and runs S. E., to Burdwan; S., to Diamond Harbour.—Its length, is 350 m. The Damoodah has often burst its banks and devastated all round. It runs through a rich country, which has suffered since many years with a terrible fever epidemic that spread in 1868 into Beerbhoom. The Damodah valley; is rich in coal, which is very largely extracted. See Coal.

DAM-UL-AKHWAIN. ARAB. Dragon's Blood gum from Calamus draco.

DAMOSONIUM INDICUM. See Hydrocharidaceæ.

DAMPARA. TEL. also Gumpena chettu; Odina wodier.—*Roxb.*

DAMPEL. BENG. HIND. TEL. Stalagmites pictoria. Xanthochymus pictorius. Roxb.

DAMPIER STRAIT, called Gamen or Gemi by the Dutch, is formed by Battanta island on the south and that of Waygiou on the north side, and is about 72 miles long from Cape Mabo, to Point Pigot. It affords a good channel for vessels passing from the Moluccas to the Pacific, and is very generally selected. *Horsburgh; Journal of the Ind. Arch. June* 1852 *P.* 308.

DAMRA SHAMA. Beng. Oplismenus frumentaceus.

DAMRI. HIND a small copper coin.

DAMRI MASJID A pretty little mosque, near the fort of Ahmednuggur. It is said to be a miniature copy of one at the celebrated Tajmahal which Shahjehan, erected over the remains of Noor Jehan, at Agra. *Postans Western India Vol. I* p. 272.

DAMUL or Dabur a river near Bhilsa in Gwalior.

DAMUN. MAR. Grewia tiliæfolia.

DAMUNI. HIND. the churning-rod.

DAMWAST. HIND. An inferior tribe of

rajputs in the Benares District.—*Wilson's Gloss.*

DAN. HINDI. "An-Dan-Khan" is an expression, which comprehends the sum of sovereign rights in Rajasthan, being allegiance, commercial duties, mines, &c.

DAN, SANS. PERS. Gift. Knowing, or Standing, a postfix and prefix to many compound words in India: Dan-pun, Charity: Kalm-dan, inkstand. Na-dan, ignorant.

DANA. SANS. Artemisia Indica.

DANA, SANS. from da, to give. See Veda.

DANA HIND. Wise. Danai wisdom: Dowlat-i-Hindo, Danai-O-Fering, is a Persian phrase meaning give me India for wealth, but Europe for knowledge.

DANA HIND. grain, a grain weight.

DANAÆACEÆ. See Ferns.

DANADHOL, HIND Polynisia viscosa.

DANAGA. Kar, A cow-herd, a shepherd.

DANAKIL tribes occupying the low lying waterless region between Abyssinia and the sea, trackless and uncultivated. See Semitic races.

DANA KHANDA, SANS. from dana, a gift and kanda, a piece.

DANAVA, an inhabitant of the hindu mythological Mount Meru. See Avataram. Meru.

DANCING, in India and S. Eastern Asia, is not practised by the Arian races. The Non-Arian peoples, the Bhil, Ho and others often dance.

DANCING GIRLS. This, amongst the British in India, is a term in general use to indicate the hindu women devoted to the service of the hindu idols in the temples as also the bands of hindu and mahomedan women, who practise singing and dancing for hire. Exodus xxx ii. 19. alludes to the dancing, and dancing before the hindu idol takes place at almost every hindoo feast. It is also noticed 2 Samuel vi. 14 where David is said to have danced, and dancing is considered a religious ceremony among the hindoos. When the Rev. Mr. Ward asked a brahmin, what, of a religious nature, there could be in dancing? he replied it was an act of devotion to the god. As observed by the Abbe Dubois, the temple dancing girls, are known to the public by a much coarser name. Their profession, requires of them to be open to the embraces of all castes; and, although originally they appear to have been intended for the gratification of the brahmans only, they were, in some parts of India obliged to extend their favours to all who solicit them, though consecrated in a special manner to the worship of the gods of India. Every temple, according to its size, entertains a band of them, to the number of eight, twelve, or more. The service they perform consists of dancing and singing. The first they execute with grace, though with lascivious attitudes and motions. Their chaunting is generally confined to the obscene songs which relate to some circumstance or other of the licentious lives of their gods. They perform their religious duties at the temple to which they belong twice a day—morning and evening. They are also obliged to assist at al the public ceremonies, which they enliven with their dance and song. They are reared to this life from their infancy. They are taken from any caste, and are not unfrequently of respectable birth. It is nothing uncommon to hear of pregnant women, in the belief that it will tend to their happy delivery, making a vow, with the consent of their husband, to devote the child then in the womb, if it should turn out a girl, to the service of the pagoda. And in doing so, they imagine they are performing a meritorious duty. The infamous life to which the daughter is destined brings no disgrace on the family. These women were, until very recently, the only hindu females in India who might learn to read, to sing, and to dance. Such accomplishments belonged to them exclusively; and were for that reason, held by the rest of the sex in such abhorrence, that every virtuous woman would have considered the mention of them as an affront. These performers are supported out of the revenues of the temple, of which they receive a considerable share. They are now very generally retained as kept-women by the wealthier hindu men. There are however temples in some solitary places, where the idol requires to be honoured with the most unbounded licentiousness, and there are towns filled with them. (*Dubois' India, quoted in Cole. Myth. Hind. p.* 378.)

Hindu girls of certain castes are dedicated to some of the temples, and brought up to the profession of dancing. They do not marry but are permitted to live in professional concubinage; such practice in no way degrades them from the right to caste-privileges, provided they do not form intimacies, or cohabit, with out-castes. *Dasi* dancing girls, are either the daughters of such, among whom, like other hindu castes, the profession descends by hereditary succession; or, should these women have no children, which is more frequently the case, they adopt girls of a tender age. All girls intended for the profession of dancing are connected with some, hindu temple, to which they dedicate their persons; and, in confirmation of the same a nominal marriage ceremony is carried out for the marriage of the girls to the presiding deity of the temple.

Sometimes hindus vow in sickness or othe affliction, to give one of their daughters to some particular temple to be brought up as a dancing girl and the vow is scrupulously kept at the proper time. In the selection of girls for adoption in this profession, good-looking, well-made girls are chosen, and they are taught to dance at the early age of five. Older girls, when they adopt the profession, are also taught to dance. The lessons in dancing are given daily, two hours before daylight in the morning, one of which is devoted to singing and the other to dancing. In the evening after 4 P. M., the same number of hours are devoted, so that each girl has to practise for four hours daily, and in about three years she is supposed to have mastered the arts of singing and dancing.

There are generally reckoned six chief kinds of dancing:—

1. Audo girathoo. 2. Ananecum. 3. Lenchenee Nateum. 4. Moodeiydoo Cirathoo. 5. Hereacoothoo. 6. Colu Auteum; and the art of dancing or *Abĭmayam* is said to be exhibited in six different ways during these performances 1. By the movements of the eyes and 2. action of the features, and 3. attitude of the breast and chest, and 4. position of the hands, and 5. action of the feet, and 6, by tumbling, performing somersaults, &c.

By commencing their studies at the early age of five, these girls are able to make their appearance at about seven or eight years of age, very rarely earlier than that, and they continue practising dancing till they attain thirty or forty years of age, if not previously rendered unfit by disease or premature old age. When attached to pagodas, they receive certain sums as wages the amount of which is dependent on the worth, sanctity and popularity of the particular temple which they have joined. The money salary they receive is nominal, seldom exceeding a few annas, and sometimes a rupee or two a month. The chief object in being paid this sum as a salary is to indicate that they are servants of the temple; in addition to this, one or more of them receive a meal a day, consisting merely of a mass of boiled rice rolled into a ball. They are required to dance six times a day, at the temple, before the deity, while the priests are officiating, but this duty is performed by turns. Dancing girls attached to pagodas are generally wealthy, and when they appear before the public are well covered with the usual gold ornaments—if poor, tinsel is used, or golden ones are borrowed from others. Their toilettes are costly and tawdry, whilst their heads, ears, nose, neck, arms, wrists, fingers, ankles and toes

are overdecked with jewels, and their hair frequently with flowers. The hair is divided in front along the centre, combed back and plaited into a single plait, resting loose on the back like a tail, averaging from two to two and a half feet in length, and always ornamented with jewels and flowers. Their dancing dress comprises usually the short jacket or *Cholee*, a pair of ravake or string drawers tied at the waist, termed *pyjama*—or pavaday and both these are generally of silk—and a white or coloured muslin wrapper or *saree*:—One end of the saree is wound round the waist, and two, three, or more feet, according to the length, is gathered and inserted into the portion encircling the waist, and permitting of a folding fringe or gathering of the cloth in front, while the other end, taken after the usual native fashion over the left shoulder, descends towards the waist where the end, or *moonthanee*, is opened out and allowed to drop in front, one end of it being inserted in the waist on the side and the other left free. This portion of the *saree* is usually highly ornamented with golden thread, tinsel, &c;—the free end descends to the middle or lower part of the thighs, the other free end of the *saree* hanging down towards the legs is now caught hold of, passed between the legs and fastened to the tie around the waist at the back, and the whole encircled by a gold or silver waist belt. By this mode of dress a fold of the muslin *saree* forms a loop round each leg, and descends nearly down to the ankles, whilst the gathering hangs in the front between the legs free. At home they wear the *cholee* and *saree* with a petticoat or *pavaday*—this, in fact, is their usual dress, except when about performing they exchange the *pavaday* for the *pyjama* or *sherai*. The *pavaday* is made of chintz or silk, according to the means of the individual. A string of small brass bells, known by the name of *shullungay* or *jedjum* is tied around each leg immediately beneath the ankles. The dancing girl-caste have peculiar laws for adoption and inheritance, a dancing girl can adopt a daughter with the permission of the authorities of the pagoda to which she belongs, but she cannot adopt a son for the transmission of property, it being immaterial whether she have a son or not. The adopted girl cannot share her mother's property during her life-time, and although she may be the heiress she is not bound by the laws of caste to support her brother's widow. Among dancing girls property descends in the female line first, and then to males as in other castes. In the failure of issue, the property of a dancing girl goes to the pagoda to which she belongs. A simple recognition on the part of a dancing girl of a child as her

daughter, in the presence of one or more individuals, is sufficient to constitute her claim to adoption. Dancing girls are respected by the several castes or sects of hindus, and are allowed to sit in the assembly of the most respectable men, such honour not being accorded to their own wives and daughters. As a rule, it is seldom that these women have children of their own, unless, perhaps, they had lived in continual concubinage with some single individual, consequently they are always anxious to adopt girls, not only to become their successors in the temple, but that they may inherit their property likewise. Formerly a large trade was carried on by kidnapping good-looking girls from large towns and remote villages who were sold to these women. The practice of selling minor girls still obtains largely under suppression. The recent famine in Ganjam, Orissa and Bengal, was taken advantage of, not only by abandoned characters, but also by immoral native princes, for the basest purposes. During a recent Criminal Session in Calcutta two women were sentenced to seven years' imprisonment each, for having purchased a girl under sixteen years of age, for one rupee ten annas. In some stations there are said to exist two kinds of dancing girls—the dancing women differing from the pagoda dancers. The latter are said to live in concubinage as a rule ; they are a privileged class under the *Aylah Santanam*, or descent by the daughter's children, or in the female line, and the law of *Dhya* applies to them, *Dhya Dhiya Baga*, or division by favour, *Merasi* heritage of right to official emoluments, operates as an inducement. These women are recognised as "*Dasi*" and "Deva Dasi." The *Dasi* or dancing women belong for the most part to itinerant bands, and are frequently made up of women of low caste, who practise their professional accomplishments and prefer living in concubinage. The "Siva" temple of the *Soournamookie* (Kalastry) a zemindary in the North Arcot district, maintains a large establishment of what is termed *deva dasi* or pagoda dancers, forming a distinct community there—(*Audapapalu*) who exclusively live in concubinage. Their sons who know no father, pass by the appellation of *Nagari Kumarada*, or sons of the country and are slaves to the zemindar. Of the daughters, after supplying the vacancies in the pagoda staff, the remainder are brought in the list of drudges of the palace. The dancing master or teacher receives from fifty to five hundred rupees with other presents, for teaching a girl the usual dances. This generally forms a contract which is greatly dependent on the wealth and position of the parties. The dancing girls

when about to perform are accompanied by two men singers, termed "*Nuthuvan*" and "*Padowen*" who while singing, also play the cymbals—these instruments are of two kinds and sizes. While the cymbal is played with the right hand, the left hand open, is generally applied to the left ear while they sing, bowing their bodies forward as well as from side to side, contorting their faces in like manner and making grimaces. In singing they scream as loud as their voice and lungs will admit ; one or more old women join in the song, and frequently clap their hands during the performance, and are generally dancing girls who have given up the profession from age or other causes. Some of these girls are very good looking, handsome, with open countenances, large sparkling eyes, regular features, and intelligent pleasing appearance. They are perfectly self-possessed in manner, verging on assurance, staring at one with their large intelligent looking eyes. Notwithstanding, they possess a vast deal of courtesy and polish, tempered with languid grace and serene self-possession, whilst their manners are courteous and their bearing unembarrassed, possessing all the teaching which experience of the worse side of human nature gives, and they know but one form of pleasure, vice, in which their lives are spent :—frequently their lives are truly vicious, when their countenances assume a sodden, pale, and unwholesome aspect. The majority possess some natural gifts. As to conversational powers, they seldom possess any beyond the usual laugh and giggle, and monosyllabic replies given to common place questions. Some of the Telugu girls are very handsome; of a light pale colour, somewhat yellowish in tinge, with softness of face and feature, a gentleness of manner, with a peculiar grace and ease, which one would little expect to find among them. A lady-like manner, modesty and gentleness, such beautiful small hands and little taper fingers, the ankles so neatly turned, as to meet the admiration of the greatest *connoisseur*. They can generally read and write their own language pretty correctly, some two languages, one girl at Conjeveram wrote three : the third was English, in which she wrote her name in a fair round hand, and spoke the language with some fluency. Tamil and Telugu were the other two languages, which she wrote tolerably well. She was said to have received her education in a Mission School at Madras ; notwithstanding all this she did not appear ashamed of the profession she had adopted. The girls learn either Tamil or Telugu, one or more verses of some of their songs, they wrote on the spot with the greatest

readiness. Their songs generally comprise praises in honour of their several idols, filled with repetitions and unmeaning expletives. These songs are often vulgar and lewd, and sung before assemblies of men, and before the deities, but they time the quality of their songs to suit the place and audience before which they have to appear. These *nautches* are given on all occasions of marriage ceremonies, feasts, and other public occasions. Among rajahs, zemindars, and others, they are almost things of daily occurrence. A few of these girls can play the native guitar or violin tolerably well, and some of their songs have a mournful and melancholy tune, the harsh grating of the songs of the attendants and the rattling of the wind instruments and tom-toms are however too much for European ears, though they charm those of the natives. When their services are demanded outside the temple, larger sums of money have to be paid for them, the charge being increased according to the renown and position of the girl, as some few will not give their services, to any one unless a Rajah, or some big person. Some travel to other districts when their services are needed by petty rajahs or zemindars, and they are contracted for as many days as they have to perform in addition to being well paid. Should they please the master of ceremonies, they frequently receive valuable presents, in money, shawls, gold bangles or rings which are bestowed on them during the performance. Every village of importance has a temple with a few of these women attached to it and in some of the large towns, possessing temples of repute for sanctity, these are filled with them. Instead of looking on this profession as an evil, the natives generally consider it an acquisition; it forms the chief magnet of hindoo society. The appearance of these women draws all eyes on them, to the utter distraction of every thing else for the time being, whilst they themselves are under the impression that they have taken to a very honorable profession, by following which they are honoring their deities and are appreciated by them. It is perhaps one of the worst institutions connected with hinduism, from the recognition and support it receives from all classes of idol-worshipping devotees, the women being the victims of such a system recognised and patronised in every part of India, where hinduism predominates. These poor creatures are taught to read and write their own and other languages, with a view to be better able to master the lewd immoral songs; whilst their own wives the mothers of the children are deprived of learning of any kind, and are carefully shut out from society, not even allowed to appear in public before any assembly of men, and are allowed further to grow up in the greatest ignorance and superstition. This is carried to such an extent, that the few enlightened educated heads of families are unable to cope with such superstition and bigotry on the part of their women, and the little light they themselves have imbibed is rapidly quenched in consequence. To some extent female education and enlightenment are now penetrating the masses, and the natives themselves are seeking enlightenment and intelligence from which their own mothers, wives, and daughters have hitherto been secluded.—*Memoir by Dr. Short, read before the Anthropological Society of London. Vol. III.* 1867-68. *Article XIII. quoted from Madras Mail of 26th April*, 1870.

DAND, Hind. a rod, an oar, a staff or wand. Hence, Dandi, an oarsman, *Wilson.*

DANDA. Sans. Originally imports a staff, and amongst the hindu ascetics it figuratively signifies moral restraint, exercised especially in three ways in the control of speech, body and mind, or in word, deed and thought. A joint reference to the literal and figurative sense of the term has given rise to the religious distinction termed Danda Grahanum, the taking up of the Staff, or adopting the exercise of the moral restraints above mentioned, and carrying as emblematic of such a purpose either one, or as in the Tridandi, three small wands or staves. Tridandi designates both these characteristics of the order.—*Wilson.*

DANDACA described in the Ramayana as a forest anciently covering the south of the Peninsula of India and occupied by Rakshasha. It is now the territory of the Marava and Kollari, whose features are often like those of the baboon, hence the origin of Valmiki's monkey army. See India.

DAND GRAHANUM, See Danda.

DANDAN DANA Hind. seeds of Ricinus communis.

DANDASA Hind. Astringent barks of Juglans regia and other trees.

DANDA SINA, a Sowrah chief of Kimedy.

DANDASULU. Tel. Village watchers?

DANDAWAT. Sans. DANDAM. A hindu salutation, bow, obeisance, prostration, performed amongst hindus to each other, and is daily seen from a hindu of inferior caste to a brahmin or higher caste. It consists in joining the hands with the tips of the fingers pointed upwards, and raising the hands so joined, to the forehead. It seems the same as the Anjali (Sansc.) hindu form of respectful obeisance. The head is slightly bowed, the palms of the

hands are brought together and raised laterally to the middle of the forehead, so that the tips of the thumbs only are in contact with it.—*Hind. Theat. Vol. ii v.* 108. See Ashtanga danda.

DANDELION. See Coffee.

DANDH, or "Kolab," in Sind, a tract of low land flooded by the inundation, partially or totally dry during the cold season and at all times a hot-bed of miasma.—*Burton, Sindh*, p. 377.

DANDI, HIND. a boatman, from Dand an oar, a wand ; a staff.

DANDI. HIND. A hindu sect who worship Siva and represent the fourth, Asrama, or mendicant life, into which the hindu is to enter after passing through the previous stages of student, householder and hermit. He shaves his hair and beard, wears only a cloth round his loins and subsists on food obtained ready-dressed from the houses of brahmans, once a day only. Any hindu of the first three classes, of student, householder and hermit, may become Sanyasi or Dandi Indeed, in these days, a hindu of any caste may adopt the life and emblems of this order. These constitute the Dandi, simply so termed, and are regarded as distinct from the primitive members of the order, to whom the appellation of Dasnami, is also applied, and who admit none but brahmans into their fraternity. But the brahman can pass from any one of the first orders to the last at once. He becomes a Sanyasi, abandoning all sensual affection. The Dandi is distinguished by carrying a small *dand* or wand with several knots on it, and a piece of cloth dyed with red ochre in which the Brahminical cord is supposed to be enshrined and attached to it. The original ascetic mendicants were classed according to the pupils, with ten tribes, hence the term *Dasnami* or the ten named, but now-a-days, there are only three and part of a fourth who are still regarded as Sankari's Dandi, these are sufficiently numerous in and about Benares. The other 6½ members of the Dasnami class, are called Atit. They have abandoned the staff, the use of clothes, money, and ornaments, prepare their own food and admit members from any order of hindoos: they are often collected in Maths as well as the Dandis, but they mix freely in the business of the world, carry on trade and often accumulate property, and they frequently officiate as priests at the shrines of some of the deities. Some of them even marry and are then styled Sam-yogi. The Dandi are to the Saiva sect, what the followers of Ramanuja are to those of the Vaishnava faith.—*Wilson.* See Hindoo. Sanyasi.

DANDUMARI, See Hindu.

DANG, A hill, or precipice; the summit of a mountain, as Lal-Dang. In Dehli, and generally in Upper India, the word is used to signify the high bank of a river. It is provincially corrupted into Dhang and Dhayung, the forest or Jungle tracts in the Syhadri range are so called. *Elliot.*

DANGA—? See Curcuma longa.

DANGA-GURGUR, BENG. Coix gigantea.

DANGAH. In Persia, a custom exists of dividing fields, villages, whole districts and even the water for irrigating the fields, into six parts, which are further sub-divided into two unequal parts ; the one containing four parts, *char-dangheh*, and the other two parts *do-dangheh.*

DANGAH HIND. PERS. rebellion.

DANGAR, See Dhangar. Hindoo: Mahratha Government in India,

DANGAREE, a coarse cotton cloth in use in India for coarse common towels.

DANGEREE a river near Ramgurh in the Sabathoo district.

DANG-KAR, a town in the Spiti valley.

DANRI H. of Gujrat, Cajanus flavus,

DANIEL. Mr. Layard says his tomb was preserved amongst the ruins of Susa, or in a valley of the Bakhtiyari mountains. We have no other mention of its existence at Babylon. The Arabs made no opposition to Baron de Bode entering the chapel in which the coffin of *Daniel* is said to be deposited, on learning that Christians, as well as Mahomedans acknowledge him to have been a prophet. *Baron C. A. De. Bode's Travels in Luristan and Arabistan* Vol. II. p. 190. *Layard Nineveh. Vol. I. P.* 252 See Susa.

DANIEL-I-AKBAR, a name of Susan or Sushan on the Karan river. See Luristan.

DANIMASHA. SANSC. Phaseolus mungo.

DANIMMA CHETTU: Dadima, S. Dalimba chettu, Punica granatum, *L.—R.* ii. 499.—

DANISHMUND HIND. PERS. a wise man,

DANKALU, GUZ. Branch of a tree.

DANKI BURA Tel. Briedelia scandens, *Willd.* A doubtful name, resting on Roxb's authority only.

DAN KOTTI. JAV. Phyllanthus niruri.

DANCORA, BENG.—Sapindus danura.

DANTI HIND. A sickle ; from dant, a tooth ; or perhaps a corruption of Durantee, *Elliot.*

DANTI CHETTU. TEL. Celastrus montana, *R.* i. 620. 501 ; *Ic.* 382.

DANTI. HIND. Croton tiglium.

DANTI. See Varma, Inscriptions p. 390.

DANT-JATHI. HIND. Combretum.

DANT SAGO OR SAGO NAR—? Sanseviera Zeylanica.

DANT-TINKA HIND. holding a straw in the mouth and standing on one leg, to denote submission.

DANUK, a low tribe in Bahar and the upper provinces of India, hunters, also predial slaves. *Wils.*

DANUSHA, the unerring bow, the 11th article produced by churning the ocean. See Kurma.

DANUSHA, See Kurma.

DANXA. MALEAL. Syn. of Coriandrum sativum.—*Linn.*

DAO MURDEN; HIND. Cassia alata.

DAONA MUSTARU, also Marwa, Guz. Hind. Wormwood.

DAOOD-PUTRA. A mahomedan tribe who trace their descent to the kaliph Abbass. It is however supposed to be from Daood, the first of the family who acquired a name. They are, also said to be Sindian Beluchi changed by a long residence in Sind. They moved from Bahawulpore and seized land on the Sutlej reducing the remains of the ancient Lungga and Johia, and introducing the Sind system of canals of irrigation. Daoodpatra is, however, a name applied both to the country and to its possessors, "the children of David." Daood Khan is said to have been a native of Shikarpoor, west of the Indus, who drew upon himself the arms of Candahar. Unable to cope with his opponent he abandoned his native place, passed his family and effects across the Indus, and followed them into the desert. The royal forces pursued, and coming up with him at Sootialloh, Daood destroyed his families who impeded his flight, and faced his foes; They, appalled at this desperate act, deemed it unwise to attack him, and retreated. Daood Khan, with his adherents, then settled in the kutchee, or flats of Sindh, and gradually extended his authority into the *thul*. He was succeeded by Mobarik Khan, who deprived the Bhatti of the district called Khâdâl, and settled in their chief town Derrawal? founded by rawul Deoraj in the eighth century; Derrawal was at that time inhabited by a branch of the Bhatti, broken off at a very early period, its chief holding the title of rawul, and whose family since their expulsion have resided at Gurialah, belonging to Bikanér; The Daood Putra are to be met with in various parts of Sindh. *Tods, Rajasthan. Vol.* II. p. from 321 to 324. See Bhawulpore. Jut.

DAORA. MAR. Conocarpus latifolia.

DAOSE a river near Munglee Serai in Purneah.

DAÆ-PATE LUTA, HIND. Ipomœa-pes-Capræ. *Sweet.*

DAPHNE a genus of plants several species of which grow in India. They are of the natural order. Thymalaceæ. A Daphne grows in the Cashmerian mountains allied to Daphne gnidium and Daphne oleoides. It is essentially different from Daphne cannabina, from which, in Nepaul, a paper is manufactured, according to the Chinese manner. *Bengal Disp. p.* 531.—*Honigberger. p.* 268. See Daphne cannabina. Thymelæ, Evergreens. Edgeworthia chrysantha. Edgeworthia Gardneri.

DAPHNE BHOLUA. See Daphne cannabina. Thymalaceæ.

DAPHNE CANNABINA. Wall.

D. Papyracea. Wall.

Niggi Hind. Mahader ka phul. Hind.

A small evergreen perennial shrub, somewhat like a laurel, which bears poisonous berries. It grows, in Nepaul, in Sikkim, in Kamaon at 5000 to 9000 feet the N. W. Himalaya generally, at from 3,500 to 8,000 feet, Cleghorn mentions that paper is made from its bark in Kumaon, &c., large quantities are manufactured from the purple-flowered variety.

But it is with this shrub that the Nipal paper is made. The bark is boiled in a metallic pot, with oak-ashes, which are highly alkaline. The softened bark is then pounded with a mallet in a stone mortar, till reduced to a pulp like dough. This pulp is churned with water into a very thin paste, until it lose all trace of fibre, and will diffuse and settle smoothly. In this state it is poured into a coarse sieve placed over a frame, with a cloth bottom floating on water. The sieve stops the coarse pieces, allows the fine emulsion to pass through, and then by agitation this is smoothly deposited over the cloth. Removing the frame, the water filters away and the pulp dries rapidly by placing the frame before a fire.

The paper is subsequently polished by friction, with a shell or piece of hard wood, sheets have been made many yards square: it may be purchased at Katmandhu at 17 annas sicca for 3 seers. Bricks of the pulp are sold from 8 to 10 annas for 3 seers. The greater part of the paper is made by cis-Himmalayan Bhoteeah, east of the Kali river. The manufacture seems to have been ntroduced from China, about 500 years ago — This unsightly paper is much over rated. But it is tough when kept dry, can be used like cloth, for wrapping up dry substances in; and it can be used after having been saturate with water, provided it be carefully dried

within a reasonable time after it has been wetted. The dried bark, may be substituted for D. Mezereum. The bazar mezereon is almost always inert from age.—In Chumba, the flowers appear to be hung up as offerings in temples. *J. L. Stewart M. D. O' Shaughnessy, p.* 531. *Beng. Phar. page* 279. See Daphne. Daphne cannabina. Thymlæ, Daphne mezereum. Nepal Paper Plant.

DAPHNE GNIDIUM. Honigberger says that the bark of the Spurge-Flax introduced into the ears produces a serous discharge; macerated (steeped) in vinegar for about an hour before using it and afterwards applied (renewing it in winter once, in summer twice a day) is said to produce a local serous exudation without excessive irritation or blistering and is recommended chiefly in chronic rheumatism gouty affections, paralysis, &c. In France and Russia it is used in opthalmia. May not Sunnerkat from Cashmere have similar properties ?

DAPHNE MEZEREUM.

Mazriun, Arab. Mezereon, Eng.
Adada, „ Spurge, Olive. „
Iskhes, „ Mazriun, Pers.
Kamcela, Gr.

The berries are brisk but unsafe cathartics. Fresh bark is counter-irritant and external stimulant; the dried bark is a stimulant alterative in syphilitic, rheumatic, and scrofulous maladies. It is frequently combined with sarsaparilla, as in the Lisbon diet drink. *O'Shaughnessy page* 530. See Daphne cannabina. Thymelæ.

DAPHNE ODORA. See Daphne cannabina. Thymelæ.

DAPHNE OLEIOIDES. Schreb.

D. Mucronata Royle,

Paper shrub. Eng. Kutal Hind. of Hazara, Kaghan.

Grows in the Punjab and is used medicinally and said to be used in paper making, is in great abundance from a little above Kawai to Kaghan. The pretty red berries are not unfrequently eaten, but are said to be apt to cause sickness. *J. L. Stewart, M. D. Cleghorn.*

DAPHNE PAPYRACEA. Cleghorn ?

Paper Shrub, Eng. | Jeku Punjabi.

This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 5000 to 8000 feet. Paper prepared from the bark. *Cleghorn Punjab Report p.* 67.

DAPOO. Beng. Polypodium proliferum.

DAR. Per. Hind. in the Persian, from dashtan, to hold, a possessor, a place of abode. Used as a prefix and postfix to many compound nouns, as dar-ul-fana the perishable abode, i. e. the world; dar-ul-baka, the permanent abode, i. e. eternity: Amildar, a tax-gatherer: Abdar, watery. A water-cooler.

DAR Pers. a door, hence in hindi, darwan, a door-keeper, dar-waza a door, a gateway. Most cities in India have their gates named from the chief town to which they lead. Thus the Delhi gate: The Meccah gate.

DARA, a king of Persia son of king Darab, overcome by Alexander the Great.

DARAB, king of Persia son of Kai Bahman Ardashir Daraz-Dast, Artaxerxes longimanus.

DARABJIRD, one of the five ancient divisions, circles or departments of ancient Fars.

DARAKH. Guz. also MOWAGE. Guz and Hind. Raisins. Grapes.

DARAKHT, Pers. Tree.

DARAKHT-I-AZAD. Pers. Azadirachta Indica,

DARAKHT-I-MUQUL. Pers. tree producing Bdellium.

DARA MAZAR, Dara Nur and Dara Pech, towns occupied by the kafir race. See Kafir.

DARA a town near the valley of Cabool with many sepulchral topes.

DARANA Hind. a scare crow, from darna Hind. to fear.

DARAQ. Arabic. Shields.

DARAUN Hind. buckwheat; Fagopyrum polygonum,

DARBHA Hind. Poa cynosuroides, *Retz.* —*R.* i. 333.

DARBAR, Hind. Pers. a general reception by a ruler in British India, or by any servant.

DARBOJI, Tel. Cucurbita citrullus.—*Linn.*

DARCHIL Hind. Chamba, Pinus excelsa; lofty pine.

DARCHIKNA Hind. Corrosive sublimate.

DAR-CHINI. Hind. barks of Cassia lignea. Cinnamomum: iners. *Rein.* and Laurus cinnamomum: Cinnamomum albiflorum.

DARD. A race lying along the Indus, to the westward of Ladak, who speak three distinct dialects. They use the Persian character in writing Dardu, the three dialects of which are called Shina, Khajunah and Arniya. The Shina dialect is spoken by the people of Astor, Gilget, and lower down in Chelas Darel, Rohli and Palas on both banks of the Indus. The Khajuna, by the people of Hunza and Nager and the Arniya in Yasan and Chitral. Astor has an area of 1,600 square miles, on the left bank of the Indus. Gilgit, in Thibetan Gyilgyid, has an area of 2,500 square miles on the right bank of the Indus. The Dard or Durd are supposed by Vigne to be the Dadicæ (Δαδιχαι) of Herodotus, and the people who now occupy the country called Dardu. The Kashmiri has decided affinities with the Dard tongue. *Dr. Latham Vigne.*

DAREGA, The round shield used by the fair red-haired Tonareng race in northern Africa. See Semitic races. Tonareng.

DARENGRI HIND, an astringent leaf used in Kashmere in dyeing,

DAR-FILFIL. ARAB. Pepper. Long pepper, Piper longum or Chavica Roxburghii.

DARGAH PERS. a mahomedan saint's shrine.

DARHALD HIND. Berberis lycium, B. Asiatica. B. aristata.

DARI. See Ervum lens.

DARIA-I-RAZA. The Arian Palus of the ancients, a lake formed by the accumulation of the waters of the Helmund at the southern extremity of its course and called the lake of Zarrah by Europeans. This is a contraction of Zarrenj, the ancient capital, and this again represents the Zarangi or Drangi of the Greeks. In old Persian books "it is called Daria-Reza or little Sea," the present inhabitants of Seistan call it Meshila -I-Rustum, also Meshila-I-Seistan. Meshila merely means, in Arabic, a muddy swamp. The ordinary name of the lake is Hamún or the expanse.—*Ed. Ferrier's Journ.* See Helmund, p. 428-9.

DARI GUMMADI, TEL. Pueraria tuberosa, *D. C. W* and *A 642, Hedysarum tuberosum R. iii. 363.*

DARIM, HIND. Darimba, SANS. Punica grantum. Darimesar, HIND. its seeds; Darimpatra, HIND. its leaves; Darim-pushpoo, its flowers.

DARIUS, Persian kings of the Kyanian dynasty, are so designated but doubts as to their era exist. The first seems to have been Darius Hystaspes, whose name is said to be derived from hysna to neigh and aspa a horse. His persian name was Gushtasp, his admiral Scylax reported so favourably of the wealth of India, that Darius invaded India, and annexed the provinces bordering on the Indus. His Indian possessions were the most valuable of his twenty satrapies, and are supposed to have included the Punjab, but there is no testimony to this beyond the authority of Herodotus, (Lib iii, 100) and the doubtful voyage of Scylax down the Indus. The nations subject to him are engraved on the inscription at Naksh-I-Rustum. Bunsen gives the following dates of the reigns of the kings Darius :

Darius son of Hystaspes, B. C. 521 to 486.

Darius Nothus B. C. 423 to 405.

Darius iii surnamed Codomannus B. C. 335 to 332 *Hist, of Panjab Vol, p.* 45. See India, Susa, Zoroaster.

DARJILING, in L. 27° 3′. 0 ; N. and L. 88° 15′3 E. in Sikkim, is a large station and sanitarium. The top of the observatory hill is 7, 168 feet above the sea. This hill Darjiling-ridge, however, varies in height from 6,500 to 7,500 feet above the level of the sea ; 8,000 feet being the elevation at which the mean temperature most nearly coincides with that of London, viz., 50°. To the north-west, towards Nepal, the snowy peaks of Kubra and Junnoo (respectively 24,005 feet and 25,312 feet) rise over the shoulder of Singalelah ; whilst eastward the snowy mountains appear to form an unbroken range, trending north-east to the great mass of Donkia (23,176 feet) and thence south-east by the fingered peaks of Tunkola and the silver cone of Chola, (17,320 feet) gradually sinking into the Bhotan mountains at Gipmoochi (14,509 feet.)—Darjeling has a mixed population of the Sikim, Nepaul and Dharma Bhoteah also Lepcha and Pahari. Dr. A. Campbell tells us of the enormous increase of population that had taken place under British rule, from a few scattered tribes in 1853 to upwards of 60,000 at the present time. Brahmins and Rajpoots, few in number, with a sanskritic tongue, and an Indo-European physiognomy, are confined to Nepal. The Rhu, Màjàr and Goorvong, a mixture of hindoos and Mongolians, with features of a type belonging to the latter, comparatively free from caste-prejudices and speaking the Parbutta dialect. They are short and squat highlanders, and make good soldiers. The Bhooteah Lepcha, and Moormi are Buddhists, and speak the Thibetan language. They are strong and active and incline strongly to the Mongolian race. The Limboo, Sunwar and Chepang possess a small Mongolian type, strongest in the Limboo, and their language is referable to either the Thibetan or Indian standard. The Mechi, Dhimal and Gharow are lowland tribes with a Mongolian physiognomy, but are neither hindoos, buddhists nor mahomedans. The Tharvo and Dhunwar are buddhists or mahomedans with fair and barely Mongolian features. The Bahir, Kebant, Amatti, Maralia, Dhanook and Dom are not Mongolian, but a dark race speaking Hindee or Bengalee. The Koch or Rajbungsi are a race of dark hindoos inhabiting the Terai of Nepal and Sikhim, but who have spread into British territory. Darjeling is the dampest of all the Himalayan regions. In the plains below, the usual features of a tropical vegetation are observed, especially in the Terai or bands of jungle which skirt the base of the mountains, where however plants from the high land begin to appear. About 2,000 feet of elevation forests of gigantic trees of Magnolia,

cedrela, subtropical oaks, mingled with Acanthaceæ, Melastomaceæ, &c., occur. Here. Dr. Hooker says, "the gullies are choked with vegetation, and bridged by fallen trees, whose trunks are richly clothed with Dendrobium Pierardi, and other epiphytical orchids, with pendulous Lycopodia, and many ferns, Hoya, Scitamineæ, and similar types of the hottest and dampest climates." Convolvuli and Vixi are very common, and those rope-like plants, which form a remarkable feature in the forests of the Indies, are here observed in great abundance, throwing their cable-like stems from branch to branch; they belong chiefly to the genera Bauhinia and Robinia, among the Leguminosæ. The diversity of this aspect of the Flora is increased by scandent trumpet flowered Bignoniacæ, and slender Araliaceæ (Ivies) and Dioscoreæ nearly allied to the Smilacenaceæ, Peppers, wild plantains and many species of bamboo are common, the latter a useful article to the ingenious Lepcha. There are climbing palms of the genera calamus and plectocomia, along with the Phœnix acaulis. The other palms of the Sikkim mountains are Wallichia oblongifolia, Areca gracilis, Caryota urens, and Licuala peltata. Here too grows the tree fern, Alsophila gigantea, extending from 2,000 to in some cases 6,500 feet of elevation on the mountains near Darjeeling, and probably indicating here, as its congener in the Andes does, the upper limits to which the cultivation of Cinchona might be caried with success. To these may be added the Cinchona gratissima and C. Pinceana of Wallich, now made by some botanists a separate genus, under the name of Lucuala, true natives of these mountains, whose forests are enlivened by the gorgeous colors of their flowers. Above Darjeeling, oaks and chesnuts occur abundantly, with rhododendrons, and the English yew; pines however, from the humidity of the atmosphere, are rare on the outer range. English fruits, grains and potatoes are cultivated near Darjeeling; and, in the valleys below, many varieties of rice, with Indian corn. The geological structure of the mountains of Sikkim is very uniform, the rocks being principally varieties of micaceous shale and gneiss. The soil is generally formed by the disintegration of these rocks, and is covered in some places with vegetable mould.—*Indi. Anna. Medi. Science, page* 264. *Hooker, Him. Journ. Dr. Thomson in Eth. Soc. Journ.*

DARKHASTAN PERS. to request: hence Darkhast HIND. PERS. a request, a petition.

DARL. HIND or darli, Hind. This name is given on the Sutlej and Beas, to the Cedrela toona, *var.* serrata, also called hill toon.

DARMA a race occupying the Darma pass, leading into Gurhwal. They are said to be the descendents of a body of Mongols, whom Timur left behind him in Kamaon. They practise divination, taking their omens from the warm liver of the sacrificed sheep. They eat the yak and the cow. They inter their dead for a time and then, in the month Kirtik, they exhume and burn them. *Cunningham's Ladak. Latham's Ethnology.*

(3118) DARNING (*rafu-gari*) is a branch of the sewing art which, though in Europe applied to the most homely purposes, requires the greatest skill in the East, where a defect in a costly shawl is to be made good, or a coarse thread is to be picked out of a piece of a muslin into which it has been accidentally introduced. So skilful are some of the *rafugar*, that they can extract a thread twenty yards long from a piece of the finest muslin, and replace it with one of the finest quality. They are principally employed in repairing the muslins and calicoes that are injured during bleaching, in removing knots and joining broken threads; also in forming the gold and silver headings on cloths."—*Taylor. Royle Arts &c. of India. page* 505.

DAROGHAH HIND. a superintendent.

DAROO. HIND. The general term for ardent spirits and equivalent to the Araq of the Arab and Persian. Daroo distilled from the Mawa flower is produced in great quantities in all the jungles of the upper Godavery. But the distillation is carried on, from rice and various other substances, and from sugar.

DAROOR a fortress in Nagpore surrendered 4th February 1851.

DARRAH ARAB. PERS. HIND. a valley.

DARSANA, a school of philosophy amongst the hindus, Of their schools of ancient philosophy, the hindoos have classified six,—including amongst them the Mimansa of Jaimini which is little more than a Vedical essay. See Veda.

DARSHISHAN. ARAB. Kiliurum Bark.

DARSINI. ARAB. Cinnamon.

DARU. GUZ. HIND. Ardent Spirits. Gunpowder. See Daroo.

DARUDI, from Darud, PERS, Benediction: one who repeats benedictions at a tomb or public building.

DARUKA, in hindu mythology, a female Asura, who according to Colonel Vans Kennedy, was the leader of a host of Amazonian Asura, with whom the gods were afraid to engage in battle, from an apprehension of incurring the sin of feminicide. They in consequence applied to Siva, on whose solicitation Parvati produced from herself the form of Kali, having in her hands a trident

and a skull. On beholding her, the affrighted gods ran away: Kali alone attacked Daruka and her hosts, and destroyed them. —*Cole. Myth. Hind. p* 378.

DAR-UL-KARAR, a rhythmical addition to Candahar. The words mean the abode of quiet or City of stability. Throughout the east, mahomedans often employ this kind of alliteration. To Choki, a chair, they will add Choki-oki. To Bachah a child, is added Bach-kach. To Hyderabad, Farkhoondah baniad.

DAR-UL-KARAR or city of permanence is allegorically applied to the future world, as opposed to this, the Dunya-i-fani, the transitory world.

DARUN. Beng. Hind. Punica granatum.—*Linn.*

DARUN-AJ-AKARBI. Doronicum scorpoides a kind of fern, the root and leaves of which come to Ajmeer from Arabia viâ Bombay: considered as a tonic: four to six massa are a dose: one tola costs two rupees.—*Gen. Med. Top. p.* 133.

DARVESH, from Dar a door and Vihtan to beg, is the persian term synonimous with the Arabic and Indian Fakir, a mahomedan religious mendicant. Originally there were 12 orders, viz.

Rafai	Maulavi	Jalwati
Sadi	Kadiri	Khalwati
Sahravardi	Nakshbandi	Bedawi
Shibani	Vaisi	Dassuki

There have been many branches and at present, there are said to be 60 orders. Jalal-ud-Din, Rumi, the author of the Masnavi-i-sharif, founded the Mawlavi order. In European Turkey, the Darvesh have formed somewhat prominent communities, and about sixty different orders each named after its founder are supposed to exist there. The Batashi, of Constantinople, are said to be quite atheistic, not attached to the principles of the Koran, nor firm believers in mahomed as a prophet. They are generally of the sect of Ali, therefore Sufi, or mahomedan spiritualists. The Rafai darvesh, so common in Turkey, inflict on themselves great self-torture. Some of the wandering Indian fakirs travel so far west as Hungary, to visit the shrine of a santon, Gul-baba, and travel into Tenasserim and Burmah. One whom we recently met near Hingolee, in the Dekhan, was a native of the Punjab, but had been to Ceylon, Mergui, Tavoy, Rangoon and Moulmein.

DARWAZ, a chieftaincy in the valley of the Oxus, the chief claims a Grecian descent, like the mir of Badakshan, and the chiefs of Chitral, Gilgit, Iskardo and others. See Kabul, Kush.

DARWAZAH, Hind. Pers. a door, the gate of a town or fortress. All great mahomedan cities name their gate-ways, generally, as leading to other cities, such as Meccah-darwazah, Dihli-darwaza.

DARWAZAH-I-IRAK, the western gateway of the town of Herat. The suburbs extend a great distance beyond that.

DARWAZYE, one of the Hazara states, the chief of which is of the Tournoulee.

DARYA Hind. Pers. the sea, Darya-i-Kulzum, the Caspian sea.

DARYA KA SHEKHRA. Duk. Whiting Fish.

DARYAI-I-NAREL Hind. Lodoicea Seychellarum.

DASA Hind. Sansc. a slave, usually written by the British, Dass, or Doss, is a common termination to hindu names of men, especially among the Bania tribe, Narayan Doss, Bhagavan Dasa, Krishen Doss, for instance, signify the slave of Narayan, Bhagavan, or Crishna; similarly bo Abid Ullah, the slave of God, among the mahomedans. Ramdas is, in like manner, the slave of Rama. Dewa Dasa are hindu temple women, common women. There are vast numbers and varieties of slaves in British India, and in Eastern, and Southern Asia. The illegitimate sons of the Rana of Mewar are called das, literally 'slave' they have no rank, though they are liberally provided for. *Bussee* signifies acquired slavery in contradistinction to "*gola* a hereditary slave". The gola can only marry a golee; the lowest Rajpoot would refuse his daughter to a son of the Rana of this kind. The Bussee can redeem his liberty: the gola has no wish to do so, because he could not improve his condition nor overcome his natural defects. To the bussee nothing dishonourable attaches: the class retain their employments and caste, and are confined to no occupation, but it must be exercised with the chief's sanction. Individuals reclaimed from captivity, have in gratitude given up their liberty: communities, when this or greater evils threatened, have done the same for protection of their lives, religion, and honour. Instances exist of the population of towns being in this situation. The greater part of the inhabitants of the estate of Bijolli are the bussee of its chief, who is of the Pramara tribe: they are his subjects. The only badge denoting the bussee is a small tuft of hair of the crown of the head. The term interpreted has nothing harsh in it, meaning 'occupant, dweller, or settler.' The numerous towns in India called *Bussee* have this origin. Famine in the regions of Rajasthan is the great cause

of loss of liberty : thousands were sold in one great famine. The predatory system of the Pindari and mountain tribes aided to keep it up. The mahomedan slave girl is called Bandi, Londi, but when associating with their master is one of the Harm.—*Tod's Rajasthan.* See Haram ; Hareem.

DASAGRIVA, or the " Ten-necked" a name of Ravana. See Ravana.

DASAHARA or " Ten Removing," a name of Ganga. See Ganga, Ganges, Dussera.

DASAHARA, or DASHARA, Sans. The tenth of Jeth Shukhl Paksh, which is the birthday of Gunga : also described as the tenth of Asin Shukl Paksh, Asoj or Ashwin shud, on which, after the worship and religious ceremonies performed during nine nights, the hindus throw the images of Devi into the river. On this day, Rama marched against Ravana. The day is celebrated with great pomp by the mahrattas and hindus of northern and western India. The festival occurs about the first days of October. It is supposed to relate to the autumnal equinox or the breaking up of the S. W. monsoon. The nine days preceding the Dasara are the Naoratri, or "nine-nights" during which a brahman is engaged to read the praises of Durga, and, on the tenth, perform the homa or fire-sacrifice, in which rice and ghee are poured into the fire. Bania women keep up a dance called Garbha. See Dussera.

DASALATHAN, the Pali pronunciation of the name of Dasaratha, who lived about the time of Agathocles in Bactria and of Maha Sewa Suratissa in Ceylon. See Inscriptions.

DASANA also Japa pushpam, Tel. Hibiscus rosa-sinensis.—*L.*

DAS-ANNA, a class of the Garo tribe.

DASARATHA, according to Wilson, the son of Aja and father of Rama, a distinguished prince of the solar dynasty. Buchanan supposes him to have lived in the fifteenth century before the christian era. According to Wilson the sons of Dasaratha were Rama, Lakshmana, Bharata, and Satrughna. At the time that Sita was married to Rama, Urmila, the other daughter of Janaka, was given to Lakshmana, and the two other brothers were married to Mandavi and Srutakirtti, the daughters of Kusadhwaja, the sovereign of Sankasya, or, according to the Agni Purána, of Kási or Benares, and brother of Janaka, *Hindoo Theatre*, Vol. I, p. 288-289. See Avataram, Inscriptions, p. 382. Polygamy.

DASARATHA KUMARA. See Inscriptions, p. 377.

DASA, an order of Vaishnava devotees.

DASAWRI, Hind. Barley.

DASHRI of Panjab, Ficus glomerata, *Roxb., Willde.*

DASHT-I-BE-DAULAT is an elevated valley or plain, situated to the N. E. of Moostung, at the head of the Bolan pass. Its diameter is from 15 to 20 miles, and of its boundaries some approach the Bolan pass. It has no towns or villages, but is occasionally dotted with the toman of the Kurd tribe. Some portions of it are cultivated in the spring and summer months ; but during the winter it is a bleak, howling wilderness, destitute of trees, or any shelter ; the snow lies deep on it and cold winds whistle over its frozen surface. It is subject to the depredations of the Kaka tribe of Affghans, and caravans are frequently plundered by them. In the summer it is clothed with the fragrant Terk plant, and its surface diversified by fields of waving grain. It has no streams, but one or two wells have been dug and water obtained with some difficulty ; the cultivators are dependent on rain and heavy dews, for the success of their labours. See Kabul, pp. 487, 491 and 493.

DASHT-I-GURAN, a plain south of Chappar, inhabited by the Sunari, a branch of the Jehri tribe of Jhalawan. It was once occupied by the Zigger Minghal, but their increasing numbers compelled them to migrate. See Kelat, p. 491.

DASHT-I-KAPCHAK. Kapchak is a Turkish word, and Dasht means a wide uncultivated plain. *Markham Embassy*, p. XXXIV.

DASI, Beng. Barleria cœrulea.

DAS-NAMAH. A hindu sect, worshippers of Siva, also called Dandi. Sankara Achayra was their founder. They take this name from the words " Das" ten, and " namah," a class, because there were ten orders amongst them. See Dandi, Hindoo, Sankara, Sanyasi.

DAS PADSHAH-KI-GRANTH. This and the Adi-Granth form the religious writings of the Sikh sect. See Sikhs.

DASRAT RAMA, a name of Rama Chandra. See Rama.

DASRE, Tel. Cucumis utilissimus.

DASSERA, or Navaratri. See Dussera, Hindu, Kalasa.

DASTA, Nep. Spelter.

DASTAH, a kalliyon, a small hand-hookah, from Dast, the hand.

DASTANE, DASTE, Hind. Gloves.

DASTUR, a high priest of the Zoroastrians.

DASTUR, Pers. Hind. Custom ; hence, dasturi, a customary fee, perquisites paid by a dealer to servants when their master makes purchases.

DASTUR-UL-AMAL, a revenue work prepared in the time of Akbar.—*Wils.*

DASYA, a name mentioned in the Sanscrit writings to indicate a race or races who, along with the M'hlecha, opposed the advancing Arian race. It is probable that they were the prior occupants of the new countries, and were all reduced to subjection or slavery, the word being either from Des a country or from " Dasa" a slave. The Aitareya Brahmana says most of the Dasya, are sprung from Visvamitra, and Sanscrit writers applied the term Dasya to all the aborigines from the Naga of North Eastern Bengal, throughout all India, to the indigenous castes of Ceylon, to wit, the Koli-Sarpa, Serpent Kol or snake races.—*W. W. Hunter.* See India ; M'hlecha.

DASYAULUS, *Thwaites.* Several species of this genus of trees occur in Ceylon, all middle-sized trees, viz., D. fulvus, at Hewessee in the Pasdoon Corle ; D. microphyllus, in the south, but rare : D. moonii, at Caltura near Ratnapoora : and D. neriifolia, " Gang mee," *Singh.*, common on the banks of rivers and streams in the warmer parts of the island. The last is the Bassia neriifolia of Moon's Cat.—*Thwaites.*

DASYLOMA BENGALENSE and D. glaucum, *D.C.* plants of Bengal.

DASYLOPUS, a genus of birds of the Phœnicophainæ, 4 gen. 1 sub-gen. 19 sp., viz., 1 Dasylophus superciliosus, *Cuv.* 3 Phœnicophaus : 5 Zanclostomus : 1 Rinortha : 4 Taccocua : 5 Centrophus. See Birds, p. 475.

DATA, a mode of address among fuqeers.

DATA, Sans., a giver, from da, to give.

DATCHANA. See Hindu.

DATE PALM, Eng. The date tree is met with in almost every part of the South of Asia : in the peninsula of India, it shoots up in every dip of ground, and it is common in portions of the Dacca, Mimensing and Sunderbund districts. When not stunted in its growth by the extraction of its sap, it is a very handsome tree, rising to 30 or 40 feet in height, with a dense crown of leaves spreading in a hemispherical form on its summit. The leaves are from 10 to 15 feet long, and, composed of numerous leaflets or pinules about 18 inches long, the fruit is only about one-fourth the size of the Arabian variety, no doubt to be attributed to the neglect of its improvement. In India, it is used solely for the palm juice extracted from it. The process of tapping and extracting the juice goes on all the year round, but in Bengal it is continuous from the 1st November to the 15th of February. Some days previously, the lower leaves of the crown are stripped off all round, and a few extra leaves from the side of the tree intended to be tapped. On the part thus denuded, a triangular incision is made with a knife, about an inch deep, so as to penetrate through the cortex and divide the sap vessels, one point of the triangle downwards, into which is inserted a piece of grooved bamboo, in order to direct the sap into an earthen pot suspended underneath it by a string. The pots are suspended in the evening, and, when sugar has to be made, are removed very early the following morning, ere the sun has sufficient heat to warm the juice, which would cause it immediately to ferment, and destroy its quality of crystallizing into sugar. The cutting being made in the afternoon, in Bengal next morning the pot is found to contain, from a full-grown tree, 10 seers of juice, the second morning 4 seers, and the third morning 2 seers of juice ; the quantity exuding afterwards is so small that no pot is suspended for the next four days. The boiling apparatus consists of a hole of about 3 feet in diameter, sunk about 2 feet in the ground, over which are supported by mud arches four thin earthen pans of a semi-globular shape, and four inches in diameter ; the hole itself is the furnace, and has two apertures on opposite sides for feeding in the fuel and for the escape of the smoke. The fire is lit so soon as the juice is collected and poured into the four pans, which are kept constantly supplied with fresh juice as the water evaporates, until the whole produce of the morning is boiled down to the required density. As the contents of each pan become sufficiently boiled, they are ladled out into other earthen pots or jars, of various sizes, from 5 to 20 seers of contents, according to the local custom, and in these the boiled extract cools, crystallizes into a hard compound of granulated sugar and molasses, and is brought to market for sale as goor. By subsequent processes the goor is deprived more or less of its molasses and impurities. A Persian poem celebrates the date palm and its 360 uses. A recent writer has supposed the date to be the conical figure, on the top of the thyrsus of Bacchus. This fruit, according to Pliny, was consecrated to the worship of almost every heathen divinity, and the date palm is the sculptural emblem of all that is dignified, beautiful and good, and entered largely into the ornamentation of temples. See Dates : Phœnix.

DATE-PLUM of China. Diospyros kaka.

DATES.

Dattes, Fr.	Khurma, Guz., Hind.,
Datteln, Ger.	Malay, Pers.
Dateri, It.	Khajur, Hind., Pers.
	Datiles, Sp.

The best dates are the fruit of the Phœnix dactylifera, dried in the sun. They have a shrivelled appearance, and a pleasant subacid taste. They are brought to Bombay

from the Arabian Gulf. The districts of Multán, Dera Ghazi-Khan and Muzaffargarh, produce dates in large quantities from the P. sylvestris, but of an inferior kind to those of Arabia: they are, however, preserved, either by being dried or else by being boiled in oil and water, and then dried: when about to ripen, a piece of matting is put over the cluster to prevent the ravages of birds, &c. A gum is obtained from the P. sylvestris palm-tree, called "huckmchil." The date trees on the coast of Oman form a continuous grove to Khorfakan, a distance of one hundred and fifty miles, and the Arabs have a saying that a traveller may proceed the whole distance without ever losing their shade. Dates form the principal export from Oman, large quantities being taken to India, where a considerable share is consumed in making arrack. The middle classes of the mahomedan and hindu population are very partial to them. The best are brought from Basrah and Bahrein, those from Oman being classed next in excellence. There are several methods of preserving them; some are simply dried and then strung on lines: others, which is the usual plan, are packed in baskets. Notwithstanding their great number, every tree has its separate owner, and disputes between the relations of those who die intestate, are, in consequence, very frequent.—*Wellsted's Travels., Vol. I., p.* 188. *Fraser's Journey, p.* 74. *Burton's pilgrimage to Mecca, Vol III., p.* 405. *Powell's Hand-book of the Punjab.*

DA-THA-EWON, Burm. Moringa pterygosperma.

DATILES, Sp. Dates.

DATIRA, Mahr. Ficus t'siela, *Roxb.*

DATISCA CANNABINA,
Ik'l-bir, Hind.

Grows in Cashmere, Kanawur, Nepal and the Himalaya: its bark and the woody portions of the root are much esteemed in the Punjab for dyeing silk of a yellow colour. The bark also contains a bitter principle, like quassia. Root exported to Amritsir as a dye stuff.—*Drs. J. L. Stewart, M.D. Cleghorn, Punjab Report, Kullu* and *Kangra*, p. 80. *Cal. Cat. Ex.* 1862. See Dyes.

DATOKE— ? Grislea tomentosa.

DATOO, a petty chief in Sumatra.

DATTA, Tam. Dungaree.

DATTA JAYANTI, a hindu festival held in honour of a deity named Dátta.

DATTELN, Ger. Datteri, It. Dattes, Fr. Dates.

DATTUR, Hind. Datura stramonium.

DATUS, Malay. A governor under a sultan.

DATUNI. The root of the Croton tiglium, brought to Ajmere from Delhi and Pali: it is a very powerful purge, much used in prescriptions: one seer costs four rupees. —*Gen. Med. Top., p.* 133.

DATURA, a genus of plants common in India, both wild and cultivated, the colours of the flowers are white, yellow, purple, and blue. Wight figures D. fastuosa, D. metel and D. stramonium.

DATURA ALBA, *Rumph.*
D. metel, *Roxb., Rheede.*

Jouz-mazil, Arab.	Dattur, Panjab.
Dhatura, Beng., Eng.	Tattur ,,
Pa-daing-phoo, Burm.	Velle umate, Tam.
Sada Dhatura, Hind.	Dutturam ummetta, Tel.
Humata, Humatu, Maleal.	Tella umati, ,,

D. alba (sada dhatura) and D. fastuosa (kala datura) similarly to D. stramonium, are used to stupify a person where robbery is intended. Bishop Heber thus notices this plant in his "Walk in Bengal,"

"While to the cooler air confest
The broad datura bares her breast
Of fragrant scent and virgin white,
A pearl around the locks of night."

DATURA FASTUOSA, *Mill., Rox.*
Datura metel, *W.*

Jouz-mazil. Arab.	Rotikubung, Malay.
Pad-daing-phu, Burm.	Kachu-bong, ,,
Kala dhatura, Beng.	Nella umata, Maleal.
Purple thorn apple. Eng.	Umana nella umata, ,,
Methel seed. ,,	Gaoz-giah, Pers.
Downy thorn apple, ,,	Anhenta, Singh.
Lal dhatura, Hind.	Karu umate, Tam.
Kala ,, ,,	Nalla ummetta, Tel.
Dhatura, ,,	Kalu uttana, ,,
Krishna dhatura, ,,	

This is very common over both of the peninsulas of India. The seeds are given with sweetmeats to stupify, and the effects have been known to continue for two days, and still recovery take place; cold affusion and strong stimulant emetics constitute the most effectual treatment. The vision often continues obscured long after the general recovery takes place. This state is best remedied by blisters to the temples or nape of the neck, and by cold affusion. If given while the stomach is empty a much smaller dose may induce all the preceding symptoms and prove fatal. This is well known to the Indian poisoners, who suit the time of administration according to the purpose they mean to serve. Both the single and double-flowered varieties of this species may be often seen near Burman houses, and children not knowing its poisonous character, sometimes eat the fruit, with very serious effects. Its large tulip-shaped white flower is sacred to Mahadeva.—*O'Shaughnessy, Gen. Med. Top., p.* 133. *Cat. Exh.* 1862. *Mason.*

DATYA, in hindu mythology, brahmins who were slain by the gods. Brahminicide, is the sin of killing a brahmin. The Datya, according to the hindu mythology, were brahmins, and were slain by the gods: but were resuscitated by Sukra, their guru, and attack-

ed the gods in Swerga, from which the gods fled in various disguises; Indra as a peacock, Yamuna as a crow, Kuvera a lizard, Agni a pigeon, Nairat a parrot, Varuna a partridge, Vayu a dove, &c. Indra thus lost his heaven: but he afterwards slew Vitra, the datya, and committed the crime of brahminicide, for which he had again to leave heaven and do penance. This myth seems to be an account of one of the ancient wars between the Arian brahmins and a race with whom they came in contact, or a relation of the suppression of the vedic naturalism.—*Cole. Myth. Hind., p.* 376.

DAUBENTONIA PUNICEA, flowering plants brought from South America, grow well in a sandy loam.

DAUCUS CAROTA, *Linn.*

Istaflin-jezr, AR.	Mor-muj, PANJABI.
Jazar-ul-bostani, ,,	Bal ,, ,,
Gajur, DUK.	Kach ,, ,,
Carrot, ENG.	Canjara, SANS.
Jazr, EGYPT.	Grinjuna, ,,
Staphulinos, GR.	Gajjara kelangu, TAM.
Gajra, Gajur, Jugur, HIND.	Carrot kelangu, ,,
Zirduk, PERS.	Gajjara gadda, TEL.

Cultivated all over India; *O'Sh. page* 3.,

DAUGHTER, from duhitri, SANS., milking.

DAUD-KHANI, HIND. A white wheat.

DAULA, HIND. White sugar-cane, the best kind.

DAULATABAD. See Dowlatabad.

DAULI: at Dauli, in Cuttack, are two separate local edicts, the remaining edicts corresponding with those at Girnar in Gujarat. They are in the old Lat character, in old Pali, of the third or fourth century before Christ, probably B. C. 306? Devanampiya, the young prince of Ougéin is named "the beloved of the gods;" the king is probably the father of Asoka, who was regent at Ougéin. Both edicts appoint two tupha, or colleges for meditation and the propitiation of heaven. The question of atheism in ancient buddhism is set at rest by these edicts, which repeatedly speak of this world and the world hereafter; and the people are expressly commanded to propitiate heaven, and to "confess and believe in God, who is the worthy object of obedience," or more literally, Him, The Eternal, ye shall propitiate by prayer.—*Vol.* iv, *p.* 442.

DAUNDAN-I-FEL, PERS. Ivory of elephant teeth: properly, Dandan, Pers., a tooth.

DAUNICHA. See Dhunchi.

DAUNKISTSJIL.—Cajaputi.

DAUNLACCA, MALAY. Lawsonia alba, Lawsonia inermis.—*Henna.*

DAUPHINE DU GANGE, *Cuv.* Platanista gangetica. See Mammalia.

DAUP-YAN, a Tavoy wood, used for building.—*Col. Frith.*

DAUP-YAT. In Amherst, a timber employed for rafters; it is a beautiful yellowish-white compact wood, but has a tendency to split. The leaves are used as a dye.—*Captain Dance.*

DAURIAN, a Tungus race dwelling on the Upper Amur, all well made, especially the women. The secretaries of the mandarins who are sent to this part, are privileged by a letter from the khan to select any women or young girls whom they may fancy, whenever love prompts them. Mr. Ravenstein says that he frequently was present when the best-looking were taken away in a cart. Some men whose wives had been selected in this manner consider it a special favor to have such fine gentlemen as brothers-in-law. Others, though discontented are compelled to conceal their chagrin for fear of punishment and disgrace.—*Ravenstein's Russians, p.* 365.

DAUSS, in lat. 25° 9′ N., long. 53° 1′ E., one and a half mile long, is a bare volcanic island on the N. side of the Persian Gulf.—*Horsburgh.*

DAVAHDARUM, Erythroxylon æreolatum. Sethia Indica.

DAVA-DATSI, TEL. Vitis vinifera.

DAVALLIA, an elegant fern, very plentiful in the neighbourhood of Maulmain, characterised by the fructifications being in roundish separate spots near the margin.—*Mason.*

DAVANAMU, TEL., also Naga-davana Artemisia vulgaris—*L. R.*, iii, *p.* 420.

DAVARADANGI CHETTU, TEL. Acacia speciosa.

DAVARAJPUTNAM, a table-land bounding the Neilgherries to the north. See Korambar.

DAVERSOLABETTA, a Peak, in L. 11° 27′ N., L. 76° 43′ E. in the Neilgherries, two miles north of Ootakamund is 8,380 ft. above the sea.

DAVETTE, SINGH. Carallia zeylanica, *Wight's Ill.*

DAVID ELLIAS. See Karund.

DAVID, king of the Jews, B. C. 1028, reigned 41 years.—*Bunsen.*

DAVIE, Major, commandant at Kandy of the British forces that were destroyed on 24th, 25th and 26th June 1803, he was taken prisoner and kept a prisoner till his death in 1810.

DAVOLIA, HIND. Eragrostis cynosuroides.

DAVOU, SANS. Wood or Timber.

DAWA, AR., HIND., PERS. A claim. Ladawa, no demands. Madda'a, a claimant. Madda-alei, a defendant.

DAWA, PERS., HIND. Medicine:—properly dowa.

DAWADAR, DUK. Erythroxylon æreolatum.

DAWA-I-ATSHAK, HIND. Gentian root.

DAWA-I-MUBARAK, HIND. Clerodendron siphonanthus.

DAWA-I-PECHISH, HIND. Ophelia elegans.

DAWALKARANDA, SINGH. Cassia bark. Cinnamon.

DAWANIYA, SINGH. Grewia tiliæfolia, *Vahl.*

DAWANUM, TEL. Southern wood.

DAWAR, known in old times as the "Bilad-ud-dawar," and by the modern inhabitants as Zamin-i-dawar. A large province, contiguous to Rukhkhaj, Bust and Ghor, and the opening of the latter to Sijistan. Elphinstone says on the right bank of the river Helmand lies the rich country of Zamindawar, which has the Parapomisan mountains on the north, and some hills connected with that range are found within its limits. This fine country extends for forty or fifty miles to the west of the Helmand.—*Elphinstone's Cabul, 4to., p.* 122. *Reinaud, Mem. sur l'Inde, p.* 173.

DAWARICA. See Dwarka ; Kattyawar.

DAWATA GAHA, SINGH. Carallia lucida, *Roxb.*

DAWI, HIND. Grislea tomentosa.

DAW-NEE, BURM. Eriolæna, *Species.*

DAWODHAR.—See Porcupine.

DAWOL KURENDA, SINGH. Cassia cinnamomum.

DAWUDZYE, a tribe of Afghans.

DAWU-GAS, SINGH., Conocarpus latifolia, *Roxb.*

DAWUL-KURUNDU, SINGH., Litsæa zeylanica ? *Nees ?*

DAWURA, MAHR. Conocarpus latifolia.—*Roxb.*

DAWUT, invitation ; also Exorcism, practised by mahomedans in India to command the presence of genii and demons,—for the protection from evil, casting out of devils, to create enmities, friendships or love between people, to destroy or injure enemies, detect crimes. These are effected by philters, pulectahs or lamp-charms, smoke-charms, amulets.—*Herkl.*

DAY, Mr., a servant of the English East India Company, who founded Madras in 1639.

DAY, Dr. Francis, a Madras medical officer, who wrote on the Fishes of India. In 1865 he published his fishes of Malabar, the nineteen new species described in which were lodged in the British Museum.

DAY.

Yom, ARAB.	Roz, PERS.
Divous, CAN.	Nal, TAM.
Din, HIND.	Dinam, TEL.

The names of the days of the week are

Latin.	English.	Saxon.	English.	Burmese.	Siamese.	English.	Jewish.	Arabic.	Persian.	Hindustani.	Tamul.	Rajpoot.	Scandinavian and Saxon.
Dies Solis	Sunday	Sun's day.	Sunday	Tanen ga uway	Van Athet ....Day of the Sun.	Sunday	Yom rishon	Yom-ul-ahd	Ek-shumba	Itewar	Nayar.	Surya-war	Sun-day.
Dies Lunæ	Monday	Moon's day.	Monday	Ta nen la	Chait .... ,, Moon.	Monday	Yom sani	,, athnein	Do	Pir	Tingal.	Som, or Indu-war	Moon-day.
Dies Martis	Tuesday	Tiw's day.	Tuesday	En ga	Ngankau .... ,, Labour.	Tuesday	Yom salisa	,, thalath	Si	Mungul	Shevvay.	Mangal-war	Tuis-day.
Dies Mercurii	Wednesday	Woden's day.	Wednesday	Bud da hoo	Poeth .... ,, Meeting.	Wednesday	Yom rabihi	,, ur-arbia	Char	Charchumba	Budhun.	Bud-war	Wodens-day.
Dies Jovis	Thursday	Thor's day.	Thursday	Kyapaday	Prahath .... ,, Hand-day.	Thursday	Yom umishi	,, ulkham	Punj	Jumarat	Vyazhun.	Vris'hpat-war	Thors-day.
Dies Veneris	Friday	Friya's day.	Friday	Thoukkya	Sok .... ,, Rest.	Friday	Yom sisi	,, Jooma	Jooma	Joma	Velli.	Sucra-war	Frey-day.
Dies Saturni	Saturday	Saterne's day.	Saturday	Tsa nay	Saun .... ,, Attraction.	Saturday	Yom sabat	Yom us saba	Shumba	Awul hufta	Sanl.	Sani, or Sanichra war	Saturday.

From the remotest times, amongst the Chaldeans, Egyptians, Arabians, Hindus, Greeks and the nations of northern Europe, there has been a hebdomadary division of the month. In general, the days are commenced by the day of the sun, followed by the moon, and the five planets Mars, Mercury, Jupiter, Venus and Saturn.

The following origin of the ancient names has been suggested in connexion with astronomical science: the planetary arrangement of Ptolemy was thus :— Saturn ; 2, Jupiter ; 3, Mars ; 4, the Sun ; 5, Venus ; 6, Mercury ; 7, the Moon ; each of these planets was supposed to preside, successively, over each hour of the 24 of each day, in the order above given. In this way Saturn would preside over the first hour of the first day, Jupiter over the second hour, Mars over the third, the Sun over the fourth, and so on. Thus the sun presiding over the fourth, eleventh and eighteenth hours of the first day, would preside over the first hour of the second day, and carrying on the series, the Moon would preside over the first hour of the third day, Mars over the first hour of the fourth day, Mercury over the first hour of the fifth day, Jupiter over the first hour of the sixth day, and Venus over the first hour of the seventh day. Hence, the names of the days yet used in the learned professions throughout Europe.

The present English names are derived from the Saxon :—Tiw, Wooden, Thor, and Friya, were deities of the pagan Saxons. Thor was the god of thunder, as well as the ancient Jove, and Friya was a goddess, the wife of Woden.

The hindus, however, reckon by the light and dark halves of the moon which they designate kista (or krishna) and sakla paksham, though they, too, have a weekly arrangement. The Rajput names of the day, the Sooraj-war, or Adit-war, is Sunday, and the days of the week are from the other planets, Mangala is one of the oldest names of the hindu Mars, Kumara, to whom the Wodens-day of the North-men, the Mardi of the French, and the *dies martis* of the Romans, are alike sacred. *Mangala* also means happy, the reverse of the origin of *Mongol* said to mean 'sad.' *Vris'hut-pate,* is he who rides on the bull ; the steed or vahan of the Rajpoot god of war, and Sucra is a Cyclop, regent of the planet Venus.

The manner of reckoning the days by the ancient Jews, and which subsists amongst that people at the present time, is, to commence the day at a certain hour of the evening, and to finish it on the next evening at the same hour. Thus their sabbath begins on the afternoon of Friday, and is completed on the afternoon of Saturday. The Roman Catholic church also commences its festivals in the evening ; and this custom is retained in Britain in some of the popular observances, such as the eve of St. John and Christmas eve. The English names of the days of the week are derived from the Saxons, who had partly adopted their names from the more civilized nations of antiquity. The civil day of Britain now commences at 12 o'clock at midnight, and, lasts till the same hour of the following night. The civil day is distinguished from the astronomical day, which begins at noon, and is counted up to 24 hours, terminating at the succeeding noon. This mode of reckoning the day, is that used in the Nautical Almanac, and it sometimes leads to mistakes with persons not familiar with this manner of computation : a little consideration will obviate the difficulty. Thus January 10, fifteen hours, in astronomical time, is January 11, 3 in the morning civil time. In France and most of the States of Europe, as with the British, the hours are counted up to 12, from midnight till noon, and from noon till midnight. In parts of Italy, and of Germany, the day is held to commence about sunset, and the hours are counted on till the next sunset. This mode is very inconvenient to travellers, as the noon of the " Italian hours" at the summer solstice is 16 o'clock, and 19 o'clock at the winter solstice.

The division of the day among *mahomedans* is chiefly subservient to the stated time of performing their devotions, and is not generally very accurate. They begin their account at sunset, reckoning twelve hours from thence to sunrise, whether the night be long or short, from sunrise to sunset they also reckon twelve hours, and consequently a night hour is longer in the winter than an hour of the day, and in summer the hours of the day are longer than those of the night. At the equinoxes alone, all the hours are of equal length, and then they coincide with those adopted by the British, French and Germans, in commencement and duration, differing, of course 6 hours in enumeration, so that six o'clock of Britain is their twelve, seven is their one, &c. At other periods of the year, also, their six o'clock coincides with our twelve, but every other hour differs more or less from those of Britain. The time of sunrise, and, consequently, the length of the day, being known, the length of each hour will be easily found by division, and the period of any given hour determined. Thus, if the sun rise at 7 o'clock, the length of the day will be 10 hours (of 60 minutes each) and that of each hour 50 minutes. One o'clock, mahomedan reckoning, will then be at 50 minutes after 7, two o'clock 40 minutes after 8, and three o'clock will be half-past 9, and so on of the others. When the sun rises at 5 o'clock, the first three hours of the day will be completed, severally, at ten minutes after six, twenty minutes after seven, and half-past

eight. In every case six o'clock arrives exactly at mid-day, which, in India, is called "do pahar or the second watch." Mahomedans in India, also, reckon part of a day for the whole; thus what they mean by three days, is the day on which an event happens and the two following. The mahomedans reckon the sidereal day, in their time, from sunset to sunset, differing thus from the European civil day, midnight to midnight, or, solar day, midday to midday.

Though the Gothic and Scandinavian nations have, in the cases of Tuesday, Wednesday, Thursday and Friday, given the names of Scandinavian deities, Tuisco, Woden, Thor, Friga, to four days of the week,—most of the northern nations have preserved the Latin names as in

French—Mardi, Mercredi, Jeudi, Vendredi.
Spanish—Martes, Miercoles, Juenes, Viernes.
Italian—Martedi, Mercoledi, Giovedi, Venerdi, while for Saturday they have taken the Sabbatical word.—*Tod's Rajasthan, Vol. I., pp. 232 and 595. Bowring's Siam.*

DAYAK is the name given to all the wild tribes of Sumatra and Celebes, but is particularly applied to those of Borneo where they are most numerous, some are wild savages but others have fixed habitations, large barrack-like huts, containing many families. They are ignorant of any written character. In their wars they clothe in prepared skins, their arms are the sword and spear and blowpipe. The Kayan Dayak are idol worshippers, keep their dead for some days, and inter in a coffin made of the hollow trunk of a tree. See Dyak.

DAYAL BIRD. See Robin.

DAYAMUR, a magnificent peak in the Bara Lacha or Western Himalaya, visible from Ramnagur in the Punjab.

DAYG, a large, or Dayg-cha, a small copper caldron; from the Arabic degh and degh-cha.

DAY-LILIES, the genus Hemerocallis.

DEAD. The remains of the several races in South Eastern Asia are variously disposed of. One of the most ancient of the races, the Parsee or Guebre, the followers of Zertusht or Zoroaster, expose their dead bodies on iron bars over a deep well enclosed in a circular tower. The buddhist Tibetans allow the dead to be dragged in an unseemly manner to a distance and then exposed. The dead of the buddhist Burmese, of rank, particularly of the religious phoongee, is laid in honey for a year, and then conveyed, seemingly with much rejoicing, to the burning place and burned amidst fire-works. The Chinese revere the dead and make pilgrimages to their ancestors' graves. Their dead are placed in coffins made of great logs of wood and lodged in chambers above ground in the manner of the ancient Jews. Some of these log coffins are valuable, and it is usual for the rich Chinese to keep their coffins ready for their own use. The Saiva hindu, the Jangam or Lingadari, the pariah or outcast races and the five artizan classes of India, all inter their dead with their faces to the north. The artizan dead are seated facing the north. The vaishnava hindu who die of ordinary diseases are burned on a funeral pyre, and it was not unusual amongst the burning classes of the Rajputs and hindus of the Mahratta country and northern India, for their widows to place themselves alive alongside the bodies of their deceased husbands. Amongst the Balinese, the widow and slaves of the deceased great are burned along with the deceased. But with the vaishnava hindu, unmarried persons or such as have died of small-pox or cholera are burned, and their ashes thrown into water. The mahomedan dead are all buried, and visits are paid to their graves. Dr. Livingstone describes the practice of the Balonda of S. Africa to be, to abandon the spot where a favorite wife has died.—*Livingstone Travels.* See Burial.

DEAD SEA, called now Bahr-ul-Lot, or the Sea of Lot, is the largest lake in Palestine, being 40 miles long with an average breadth of 9 miles and at places 200 fathoms deep. It occupies the valley of Siddim, in which were the cities of Sodom, Gomorrah, Admar, Zeboim and Zoar, which sunk by some convulsion of nature. The Dead Sea has been known by several names. It is called the Sea of the Plain, Deut., iii. 17; the Salt Sea, in Deut., iii. 17; Josh., xv. 5; from the extremely salt and bitter taste of its waters, which hold two lbs. of salt in a gallon, and the East Sea in Ezek., xlvii. 18; Joel, ii. 20, from its position with respect to the Judæan mountains. Josephus and the Roman writers call it the Lake Asphaltites, from the abundance of the bitumen found in it. The more familiar name, the Dead Sea, is in allusion to the ancient tradition, erroneously but generally received, that no animal could exist in its salt and hydrosulphuric waters. It is 1,300 feet below the general sea level, and 4,000 feet below Jerusalem, but the general slope of the intervening district is so regular that from the spires of the city and the Mount of Olives, one can look down directly upon its waters.—*Taylor Saracen, p. 63; Maury's Physical Geography, p. 186; Robertson's Travels, Palestine and Syria, Vol. i, pp. 61, 68.*

DEALS.

Dœler. DAN.	Tavole. IT.
Deelen. DUT.	Piane. ,,
Deal boards. ENG.	Tarcice. POL.
Sawn wood. ,,	Doski. RUS.
Planches minces. FR.	Tiljor. SW.
Dielen. GER.	

Thin fir planks much used in carpentry, formed by sawing the trunk of a fir tree longitudinally.—*Faulkner, McCulloch.*

DEEARA, OR DEWARA, HIND. Alluvial soil, or an island formed in the bed of a river.—*Elliot.*

DEA-PHUL, BENG. Artocarpus lakoocha.—*Roxb.*

DEAR-KA-TEL, HIND. Cedar tree oil.

DEATH'S HEAD MOTH, the Acherontia satanas of Ceylon. See Acherontia. Insects.

DEB, BEN., URYA. A cognomen appropriate to brahmans, as Chandradeb.

DEBAL, a part of Sind, famous in ancient times, but site now unknown : supposed by Burnes and Burton, to be the modern Tatta. Tatta is still styled Debal or Dewal (temple), by the Arabs and Persians. Mr. Elphinstone and M. Reinaud point to Karachi, and Dr. Burnes and Mr. Crow indicate a site between Karachi and Tatta. Mr. Thomas gives Karachi as the ancient Debal. The temple was probably on the promontory now occupied by Fort Manora, and was occupied by a pirate tribe called Tangamura.—*Elliot's Hist. of India.*

DEBANSHAB, PERS. Ocymum basilicum.

DE BARROS AND DE CONTO, two Portuguese writers who, in concert, gave a history of the Portuguese in Asia. Joao de Barros held at Lisbon the office of Custodian of the records of India. He was a contemporary of Albuquerque and died in 1570. He published three decades, his fourth being posthumous, but in these he celebrated the achievements of Albuquerque, to whom he stood in the same relation as Orme, the English historian does to the English conqueror Clive. His companion writer was Diego de Conto, and their book was entitled Da Aria dos Feitos que as Portuguezes fozeram no descubrimento e conquista das terras e mares do Oriente, Lisbon, 1778. DeBarros was born in A. D. 1496 and died in 1570. The first decade of his work was published in 1552 ; the second in 1853 ; the third in 1563, and the fourth after his death in 1777-8.—*Tennent, Bikmore.*

DEBDAREE, BENG., HIND. Guatteria longifolia. Mast tree.

DEB-DHANYA—Sorghum vulgare.

DEBKI, the dance of the Arabs, resembles in some respects that of the Albanians, and those who perform in it are scarcely less vehement in their gestures, or less extravagant in their excitement, than those wild mountaineers. They form circle, holding one another by the hand, and moving slowly round at first, go through a shuffling step with their feet, twisting their bodies into various attitudes. As the music quickens their movements are more active ; they stamp with their feet, yell their war cry, and jump as they hurry round the musicians. The motions of the women are not without grace ; but, as they wrap themselves in their coarse cloaks before they join in the dance, their forms, which the simple Arab shirt so well displays, are entirely concealed.—*Layard Nineveh, pp.* 119, 120. *Baron de Bode's Travels.*

DE BODE. See Baron de Bode.

DEB-RAJAH, the temporal ruler of the Bhot, from Deo the deity.

DEBRA TABOR, a town in Amhara in Abyssinia, formerly a small village. It was afterwards a place of considerable size, and the residence of the emperor Theodore.

DEBUL. See Dabul. Debal.

DEBURAH, HEB. In the Scriptures, are several Hebrew words which in the English version have been translated, fly, viz., Oreb, Zebub, Deburrah, Tsira, Sarabim, Bak, Cinnim. The Orov or Orob, Heb., a swarm or assemblage, is translated in Ps. cv. 31, swarms of flies, but Exod. viii. 31, also Ps. lxxviii. 45, is supposed to allude to the musquito. The Hebrew Zenon, of Ecc. x. 1 and Is. viii. 18, is not known. Flies are undoubtedly very troublesome at some seasons in tropical Asia, but an infusion of quassia sweetened with sugar, on a plate destroys them. See Fly.

DECAISNE. Messrs. Cambessedes and Decaisne, issued a volume on some of the plants of Jacquemont's voyage.

DECAISNEA, a very remarkable plant, which Dr. Hooker saw in flower in the Lachen valley and is called " Loodooma" by the Bhoteea, and "Nomorchi" by the Lepcha. It grew on the ridge near Tumloong and the Ryot valley at 7,000 feet ; it bears a yellow fruit like short cucumbers, full of a soft, sweet, milky pulp, and large black seeds ; it belongs to a new genus, allied to *Stauntonia*, of which two Himalayan kinds produce similar, but less agreeable edible fruits the " Kole-pot" of the Lepcha.—*Hooker Him. Jour., Vol.* ii, *p.* 198.

DECANDOLLE, author of Prodromus Systematis Natur. Vegetabilium.

DECAPODA MACROURA, a division of the Crustaceæ. See Crangonidæ, Crustaceæ. Shrimps.

DECASCHISTIA CROTONIFOLIA, syn. Girardinia leschenaultiana, exhibited by Mr. Jaffrey at the Madras Exhibition of 1855, appears to yield a good fibre.

DECCAN, a great table land, south of the Nerbuddah river. The name is derived from a Sanscrit word, meaning the right hand, and, metaphorically, the south, because a hindu when facing the east, has this region on his right. The boundaries of the Deccan terri-

tory have never been fixed authoritatively, but the countries in the Peninsula have been distinguished by this name from the earliest times. The term signifies the south; as Poorub does the east, when applied to Bengal and its dependencies. But, at the present day, the term is generally applied to the Hyderabad and Dowlatabad provinces lying between Berar and the Kistnah, and from the Syhadri or western ghauts, eastwards to Telinganah. The British in northern India, however, make the Deccan more extensive and regard it as including all the southern table-land, supported as it were by a triangle formed by the Sautpoora or sub-Vindhya on the N., the Syhadri or western ghauts on the west and the eastern ghauts on the E.; the Sautpoora range constituting the base of the triangle. The length, from the Sautpoora range to Salem, is about 700 miles; breadth from Mahabaleshwar to Sirgoojah about 700 miles. But if Choota-Nagpore be considered as part of this great table-land, it may be said to extend nearly 250 miles farther in a north-easterly direction, or about 950 miles in all. Its highest parts are those nearest the W. ghauts, and in the centre of Mysore. Mahabaleshwar in L. 18° N., and L. 73° 45′ east is 4,700 ft. The source of Kistnah, 4,500 ft. Source of Godavery, 3,000 ft. Poona, 1,823 ft. Source of Manjera, 3,019 ft., and the rivers rising in ravines between spurs of the W. ghauts, wind their way through E. ghauts across the Deccan, the slope being in that direction. Plains of Nagpore, 1,000 ft. slope to S. E. drained by Wein-Gunga, which falls into the Godavery. Hyderabad, is 1,800 ft. Secunderabad, in L. 17° 26′, N. L. 78° 33′; E. is 1,837 ft. Beder, in L. 17° 53′, L. 77° 36′; E. is 2,359 ft. From the Wein-Gunga the surface rises towards N. E., where Rypoor, 21° 12′, 81° 40′, is 1,747 ft. Source of Mahanuddy, 2,111 ft.; and Konkar, 20° 16′, 81° 33′, 1,953 ft. Nundydroog, highest in Mysore, 4,856 ft.; slope from hence on all sides, S. to Bangalore, 3,000 ft.; E. to plains of Carnatic-Chittoor, 1,100 ft.; N. to plains of Gooty, 1,182 ft.; and those of Bellary plains, 1,600 ft. Gooty plains 1,182 ft.; Cuddapah town, 507 ft.; and E. part of Cuddapah district 450 ft. Hypogene schists, penetrated and broken up by prodigious out-bursts of plutonic and trappean rocks, occupy by far the greater portion of the superficies of Southern India. The central part of the Deccan is composed of waving downs, which, at one time, present for miles a sheet of green harvests, but in the hot season, bear the appearance of a desert, without a tree or shrub to relieve its gloomy sameness. Colonel Sykes has described the great volcanic outburst of green-stone rock which covers all Berar from the Nerbuddah to Bombay and southwards through Nirmul to Naldroog through many thousand square miles. Between Naldroog and Beder and for a hundred miles to its north and south are great hills of laterite. The area covered by Deccan trap, in the peninsula of India cannot be little less than 200,000 square miles. Except the hollow of the Loonar lake there is no trace of any crater in this volcanic region: twenty miles to the east of Nirmul, and a few miles south of the mountains, hornblende slate occurs, resting on granite and quartz rock. The countries through which the Gutpurba and the Malpurba run, and the lower course of the Kistnah, Bheema and Tumbudra and all about Kalladgee, Kurnool and Cuddapah are formed of strata of limestone and clay slate, the granitic platform of the Deccan, which intervenes between the Kistnah and the Godavery, intersected by numerous green-stone dykes (sometimes of green-stone porphyry), having for the greater part a direction from S. by E. to N. by W., and not very different from that of several of the ranges of basaltic mountains to the north. The seaward face of the table-land towards the W., though abrupt, is not precipitous, but consists of a succession of terraces or steps. On the Coromandel side the slope to the sea is gentle, exhibiting the alluvial deposits borne down from the higher portions of the table-land. The inhabitants of this great region are nations speaking Gondi, Mahratta, Telugu and Canarese, and for 120 miles north west from the town of Sadasheepet running on through Beder and Dangapura these three languages join, and the villages are styled sibhasha-basti, three-tongue-towns. The British rule over the Ceded Districts of Bellary, Cuddapah, Kurnool, the southern Mahratta country, and part of ancient Dowlatabad, they have assigned to them all Berar, and their officers rule over Mysore: the Nizam holds Hyderabad and a few small chiefs rule near the Kistnah river. It was not till A. D. 1471, that the mahomedans of the Deccan extended their arms to the Northern Circars. At this time the Oria rajah of what is now the Ganjam country, died without issue, and his adopted son Mungul Roy, and his cousin Humner (?) became competitors for the succession. During Mahmoud's time (in 1512), the Bahminee dynasty was dismembered, and five Deccanee kingdoms set up. The country now known as "The Northern Circars," fell under the dominion of the Kutub Shahee state, whose capital was Golcondah near Hyderabad. That portion south of the Godavery became tributary without difficulty. Wistna Doe or Gaji-

putty, a powerful prince of Orissa, who ruled in Rajahmundry and Chicacole, withheld submission, and it was not till A. D. 1571, that his pretensions were lowered. The Northern Circars was occupied by the British in 1766. The central outburst of granitic rocks in the peninsula can be traced from north of the Godavery, in latitude 19° north, through Hyderabad, the Ceded Districts and Mysore to Ceylon, these rocks and the green-stone form the prominent parts of the Dekhan, clay, slate, mica, chlorite and hornblende schists, sandstones and limestones with fossils of a post-oolite age being the stratified rocks. The greenstone is supposed by some observers to decompose into a deep black earth, light when dry, and cracked and rent by the sun in the hot season, but forming a tough, deep, tenacious soil in the rains, rendering marching almost, if not wholly impracticable. It is called "regur" in the Dekhan, and is the "cotton soil" of Europeans, by many of whom it is regarded as indicating an unhealthy locality. It is very fertile. The granite rocks, on the other hand, decompose into a red sandy soil, which is generally hard, and as it allows a rapid percolation of water and quickly dries, it is less fertile, but is considered more favorable to health. It may be doubted, however, if there be any facts to prove that the one soil is more favorable to health than the other.—*Elliot, Annl. Ind. Adm., Vol.* xi, *p.* 243. *Rennell's Memoir.* See India, Sykes.

DECIUS. Ephesus, the chief town of Ionia, in Asia Minor, 45 miles south of Smyrna, was famous for its temple of Diana and amongst the mahomedans of the east, its story of the seven sleepers is continued, through the Koran. When the emperor Decius persecuted the christians, seven noble youths concealed themselves in a cavern, which was then blocked up with stones. They immediately fell into a deep slumber, which lasted for 187 years. At last the slaves of Adolius, removed some of the stones for building materials, on which the seven sleepers were aroused, and despatched Jamblichus, one of their number, to the city, to procure food, on which the altered appearance of Ephesus, the age of the coin he presented to the baker, and his long beard led to a discovery of the marvellous adventure. The bishop of Ephesus, the clergy and magistrates visited the cavern, and after conversing with the somnambulists, they quietly expired. James, a Syrian bishop of the fifth century, devotes a homily to its praise; and the seven sleepers are found in the Roman, Abyssinian and Russian calendars. Mahomed introduced the tale in his Koran, as the companions of the cave, and says God caused them to turn over occasionally from right to left to preserve their health.—*Milner's Seven Churches of Asia, p.* 171. *Sale's Koran, p.* 219.

DECKANI HEMP, Eng. Hibiscus cannabinus. See Ambari.

DECOITS are gangs associated for the purpose of plunder, who assemble by night, fall on an unsuspecting village, and kill those who offer resistance.—*Elphinstone's History of India, p.* 377.

DE CONTO. Diego De Conto, who died at Goa in 1616, brought down to his own time, the history of the Portuguese in India, commenced by De Barros. See De Barros.

DEDES, Jav. Civet. Musk.

DEDHAN or Devdhan, Beng. Andropogon saccharatum.

DEDH, a race in Cutch, who are tanners, and who speak a dialect of the Cutchi. The word seems a modification of the term "dher." See Kach.

DEEB-KANCHUM, Beng. Bauhinia purpurea.

DEECHIT, Hind. A brahman tribe, also a rajput tribe in Benares, Azimghur and Gazipur.

DEED, Pers. A mahomedan sufi worship, the viewing or beholding of the deity, pointed out by the moorshid or teacher.

DEEGA, a form of marriage amongst the polyandrist Kandyans in Ceylon, in which the wife dwells in her husband's house.

DEEH, Hind. of Benares, a deserted village.

DEELEN, Dut. Deals.

DEEMROUT, Hind. A Pal of the Mewati race, who have twelve sections or Pal.

DEEN, Arab., Hind., Pers., is applied by mahomedans to their own mahomedan religion. They sometimes call it Din-i-Islam, the Faith of Salvation. The arabic term mazhab relates to the sectarian part of the Deen. Thus a mahomedan is of the Din-i-Islam, but of the shiah or sunni mazhab. Deen is everywhere used as the mahomedan war-cry, Deen ! Deen ! for the faith ! for the faith ! The principles of the koran generally, but in particular the text in chapter which inculcates war against non-mahomedans, and death in the contest as the surest passport to heaven, have established amongst mahomedans an intimate connexion between the spiritual aspiration and political convictions. Hami-ud-Din, Defender of the Faith.

DEENAR, a Persian coin, in Hindoostan equivalent in value to two and a half rupees.

DEEP, Pers. A bear.

DEEPDAN or DIPDAN, Hind. In E. Oudh and Benares is land assigned to brahmins on the banks of rivers to deprecate river

encroachment. The word is derived from "Deep," Hind., an island, and Dan., Hind., a gift.—*Elliot.*

DEEP-DAN, HIND., derived from deepa, a lamp, is applied to a hindu ceremony observed for ten days after the decease of a relative. It consists in suspending from a pipul, or some other, tree, a lamp, for the purpose of lighting the departed spirit on the dark road to Jumpoorce or Yamapuri, the abode of Yama. This place is declared in the sacred books to be the general rendezvous of the departed from all parts of the world from which they proceed in a body with a proper guard, composed of the servants of Yama (Pluto) to Dharmapuri.—*As. Res., Vol.* x, *p.* 145—*Elliot.*

DEEPIKA, SANS. A light.

DEER, ENG. A general term used by the British in India to designate several bovine animals, distinguishing them as the barking-deer, hog-deer, rib-faced-deer, sambur and spotted deer. There are, however, frequent minglings of names, as there are a variety of scientific and vernacular synonyms. These animals are all eagerly pursued as game by Europeans who often refer to scientific men for their true names.

Giana of Tibet, Nepaul and Saul forests, is the Cervus Wallichii of Cuvier.

Barah-Sinha, or Buraiya of Bengal, Eastern and Northern skirts of India, is the Rucervus Duvaucelli of Cuvier.

Sung-nai or *Sungraee*, of Munipore and Malay Peninsula, is the Panolia acuticornis and P. Eldii of Gray ; the Cervus or Rusa frontalis of McClelland, and the Cervus Eldii of the Cal. Jour. Nat. Hist.

Sambur of the Mahrattas ; *Sambara*, Sanscrit, an inhabitant of the Deccan, Southern Mahratta country, of Sumatra, Borneo and Banka, is the Rusa equina, of Cuvier and Gray ; the Cervus equinus of Cuvier, the Cervus or Rusa hippelaphus of Elliot, Rusa etam or Rusa Kumbang of the inhabitants of Sumatra.

Samber of Hodgson, a dweller in the forests of (northern) India, is the Rusa hippelaphus of Cuvier and Gray, the Cervus hippelaphus of Gray.

Jarai or *Jerrow* of the great forests of India and of Ceylon is the Rusa aristotelis of Cuvier and Gray, the Cervus aristotelis of Cuvier.

The Spotted deer Chitra, Sanscrit; and Chittal, Hindi, of Continental India and Southern Mahratta country and of the Malayan peninsula, is the Axis maculata of Gray, the Cervus axis of Erxleben and Elliot.

The Hog deer of Continental India and Assam which is called by the vernacular names "Para," "Khar," "Laghuna," and "Sugoria," is the Hyelaphus porcinus of Sundeval ; the Cervus porcinus Zimmerm and the Axis (Cervus) niger, Dr. Buch. Ham.

The Muntjak of the Sundanese, Kidang of the Javanese and Kijang of the Malays of Sumatra which is found in Banka, Borneo, Java and Sumatra, is the Cervulus vaginalis Bodd. and Gray, Cervus muntjak of Zimmerman.

The Barking deer of Europeans, which is the Rib-faced deer of Pennant, and which dwells in the plains of India, is the "Baiker" or "Bekra" of the Mahrattas according to Sykes and Elliot : the "Ratwa" and "Kaker" of the Indian Continent of Hodgson, Cervus muntjak of Sykes, Stylocerus Ratwa of Hodgson.

Paddy-Field deer of Ceylon is Axis oryzus of Kelaart.

DEERGA KARAVALLI, SANS. Momordica charantia.

DEERGAVARTAKA, SANS. Brinjal.

DEER-SKINS. See Leather.

DEES and GOEY are rivers near Sindwah in Holkar's territory.

DEESA, a town and military station in Guzerat ; about 350 feet in height above the sea : its rainfall is 12 and 14 inches, and the thermometer ranges from 50° to 110°. It is surrounded by a desert of sand.

DEEWARGIRI, HIND. Tapestry, or cloth for adorning a wall.

DEEYAPARA, SINGH. Wormia triquetra, *Rottl.*

DEG, HIND. A large copper cauldron or globular vessel, a cooking pot. Deg-cha, a small pot.

DEGAR, HIND. Ficus oppositifolia.

DEGCHA, HIND. A pot.

DEGOT : Smola : shitkaja, RUS. Tar.

DEH, PER. A village : hence Dehgan, a villager, a cultivator. Dehi, pertaining to a village.—*Wils.*

DEHA, SANS., from dih, to collect or increase.

DEHAR, a river near Tootagong in Gowhatty.

DEHAVILLAND. Colonel Thomas Fiott deHavilland, eldest son of Sir Peter deHavilland of Guernsey, was born in 1776 ; he received a commission as Lieutenant in the Madras Engineers at the age of 16 ; was present at the taking of Seringapatam and received 5,000 Rupees prize money ; was taken prisoner by the French at sea, but was soon released ; joined and remained with his corps till 1812 ; then retired to Guernsey and built Jerbourg barracks ; returned to Madras, where he planned and constructed the Mount Road, built St. George's Church now the

Cathedral ; also St. Andrew's Church, or the Scotch Kirk, which was long considered the perfection of architecture in Madras, and of which the steeple is still the tallest piece of masonry and its dome the finest in Madras. When the affairs of the Military Fund were in confusion, he was called upon to set them right, which he did very satisfactorily. He retired from India finally in 1825, and up to within 10 years of his death, lived a most active and useful life in his native island, he died at his seat, DeBeauvoir the Ræquettes. By his first wife Martha deSaumarez, Col. deHavilland had three sons and two daughters. His first wife's body was the first to be interred in St. George's Church burial ground.

DEHGOPA, a corruption of Sanscrit words signifying relic-receptacle, and by some supposed to be the source of the word Pagoda. It is also known by the Sanscrit word "chaitya." Dehgopa is a buddhist shrine enclosing or protecting some sacred relic, but by some they are supposed to be shrines built over the remains of persons of the buddhist faith and consecrated to their saints.—*Prinsep's Antiquities by Thomas, p.* 154.

DEHI, SING. Limes.

DEHKANI, PERS. A villager or cultivator.

DEHLA, HIND. Capparis aphylla ; also Vitis Indica.

DEHRA, HIND. A tent, and, amongst the Afghan, an encampment ; also a town as Dehra-Ismael Khan, Dehra Fatteh Khan.

DEHRA DOON, is situated in latitude 30° 18′ north, and in longitude 78° east ; it is about 60 miles in length from east to west ; and 16 miles broad at its widest part. It is bounded on the south by the Sewalik range of hills, and on the north by the Himalaya proper, which are here nearly 8,000 feet above the level of the sea. On the west it is open to the river Jumna, and on the east to the Ganges, the distance between these rivers being about 60 miles. Its average height is about 2,000 feet above the level of the sea ; cut off from the Doab of the Ganges and Jumna by the Sewalik hills. It has been largely occupied with tea plantations, and many Europeans reside in the town of Dehra. Dehra, used here, seems a corruption of Darrah or Tarrai, a valley, or amongst the Maharattas "therri" as Bheema therri, Seena therri.

DEHRA GHAZI-KHAN. The town of Dehra Ghazee-Khan on the Upper Indus is a manufacturing place, and it leads to the commercial towns of Mooltan and Bhawulpore, which adjoin it, and now furnish many articles for the Cabul market. It is about equidistant from Umritsur and the opulent town of Shikarpoor in Sind. There is, near, another position, which at first sight appears the most favorable of all the towns on the Indus, Mittuncote ; viz. at the confluence of the Indus, with the five rivers of the Punjab, about two miles from the Indus on an elevated spot, but the country around is flooded by the inundation, and either under water or a marsh for half the year, when it is both hot and sickly. Mittun is a small town with a population of about 4,000 souls.

DHERA-ISMAEL KHAN, has an advantageous position, and is, besides the market town of the Lohanee merchants. It is a small place and subject to alteration from the inundations of the river, which a few years ago swept away the entire town. It is nearer to the great commercial city of Umritsur than any of the other places on the Indus, and lies on the road between it and Cabul. This tract, however, is not much frequented, except in the extensive export of the native fabrics of Jung and Meengana, which consist of coarse white cloth, European goods are not in general sent by this road ; for the merchant besides avoiding the desert tract between the Jelum and Indus, derives the supply of goods for Cabul and Toorkistan from marts below Umritsur. Dehra-Ismael Khan covers the road from that city and must yet be considered one of the most eligible sites on the Indus. *Bengal As. Trans., Vol.* viii., *p.* 250.—*Papers, East India, Cabul and Affghanistan, pp.* 103, 104, 105.

DERAJAT, ARABIC, plural of Dehra, the country on the right bank of the Indus, below the Salt Range and to the point where that river is joined by the waters of the Punjab. It is so designated from the two principal towns, Dehra Ghazee-Khan and Dehra-Ismael Khan. The lower part bears the local name of Sind from bordering on the Indus, and the upper that of Daman from its bordering on the Suliman mountains. The country is flat and in many places fertile, but to the westward of the river there are no wells. The Derajat is about two-thirds of the narrow strip of land, which lies between the Indus and the Suliman mountains, and extends from the hills and valleys of the Kohat district to the Sind frontier. A thin fringe of cultivation and jungle extends along the bank of the great river, and terminates as you advance into the interior, in a flat desert country where a precarious supply of water from the hills affords a poor cultivation in the vicinity of the thinly-scattered villages. Lower down, the hill streams become smaller, and the aspect of desolation still greater, so that for miles not a human being is visible, nor can a drop of water be procured to quench the thirst produced by these scorching plains. The Pathan and Baluch tribes who inhabit the hills, have

the same attachments to their chiefs, internal hereditary feuds, dislike to combination and predatory habits, which distinguish so many mountain races, but have withal a martial bearing and love of independence. The scarcity of water limits cultivation, and their wealth consists in their herds which find a scanty pasturage at the foot of the hills; amongst the mountains occur a few fertile patches: the country being traversed by footpaths known only to themselves, the hill tribes were accustomed to issue from it in raids on their wealthier neighbours in the plains, hurrying their cattle and retreating in safety to their impracticable mountains. To stop this, in the beginning of 1857, after one of such inroads, the Punjab Government sent an expedition to reduce the Bozdars, from amongst the troops of the Punjab Irregular Force, and names known to fame, in the Indian mutinies, Chamberlain, Coke, Nicholson, Hodson, Probyn, Watson, Wild, and Green, were all trained in this school of warfare, involving severe marches, incessant fights and exposure to all the seasons of the year. The hills are inhabited by predatory Pathan and Belooch tribes, who cultivate little fertile patches, called *kuchee*, lying within the mountains. The tribes, from north to south, of the Derajat frontier come in the following order:—

Pathan Tribes...	Ahmedzye, Othmanze, Muhsood, Buttunee, Sheoranee,	Wuzeeree.
	Usteranah or Oosteranee.	
Beloochee	Kusseranee.	
Pathan	Khetran.	
Belooch Tribes...	Bozdar. Loond. Khosah. Lugharee. Goorchanee. Muzaree.	

The Muhsood Waziri have three large divisions. A Beluch contingent was maintained for the defence of the Derajat frontier and the Beluch chiefs were held responsible for its passes. (*Medley's year's Campaigning, pp.* 1 to 21.) The Bozdar are a border tribe with about 2,500 fighting men, west of the Derajat. They dwell in the hills opposite Mungrota, about 50 miles north of Dehra Ghazi Khan, and were given to make troublesome inroads on the plains. After a series of such, a force was sent against them in March 1857 through the Mahvi and Mungrota passes, and, after seeing their green crops destroyed, and seeing the Oosterani, a small but warlike tribe, join the British, one morning the Bozdar chiefs rode into the British camp and sued for peace. They were received in solemn Durbar, and "for every man they had slain in their forays 125 Rupees were paid, and 50 Rupees for every wounded man, this being the regular price of blood in the hills." A few months afterwards, they furnished a contingent to protect the frontier, when the troops were sent to quell the mutiny. This Beluch tribe occupy the mountains and the low country, and have the following sections, Seharni, Suwarni, Gulamanni, Jelalani, Chandiah and Shahani. From the Kusranee limits the hills of the Bozdar tribe extend along the British Frontier for about 15 or 20 miles. The range is intersected by some nine passes leading into the plains, the chief which is the Sungurh Pass, through which there is considerable traffic with Candahar and the Punjab. Opposite these hills lies the Sungurh low-land (forming the upper portion of the Dehra-Ghazee Khan district and cultivated by several peaceful tribes) and very much at the mercy of the Bozdar. There is only one Bozdar village in the plains, but there is much scattered cultivation belonging to the tribe. Almost the whole tribe and their chiefs live in the hills. They can muster 3,000 or 4,000 fighting men, some portion of whom are horsemen. They were probably the most formidable robbers in this part of the frontier. Under the Sikh regime they repeatedly carried fire and sword into the Dehra-Ghazee Khan district. The Dehra Ismail Khan district formed one of the governments of the Dooranee rulers. When Elphinstone passed through the town in 1803, within a hundred yards of the Indus, it was enclosed by a large wood of date trees. It had a ruinous wall of unburned bricks, about a mile and a half in circumference. The inhabitants were chiefly Beloochee, with some Afghans and Hindoos: but the country people were Beloche and Jut, resembling those on the opposite bank of the Indus. The Dehra-Ismael district is divided into two halves by a range of hills running at nearly right angles from the Suleemance range to the Indus. The passage from one part of the district to the other is through the Peyzoo and Mulezye passes which intersect the range. Above the passes there is the valley of Bunnoo occupied by the Bunnoo Wuzeeree. The Bunnoochee themselves were a vicious race. They cultivate with some industry; and are well affected to the government. Below the valley, and immediately above the range is Murwut. The Murwutee are a fine race of striking appearance, loyal to the British, and both willing and able to check the depredations of their hill neighbours. In Murwut stands the fort of Lukkee. In the hills near the Peyzoo pass dwell the Buttanee: they were, once, a rob-

ber tribe, but have reformed since annexation. Their co-operation against the Muhsood Wuzeeree could be reckoned upon. Below these, is the Dehra-Ismael Khan district, are two important families, namely, the Gundapoor of Kolatchee, and the chiefs of Tank. These two tracts are exposed to attack from the Sheoranee and Wuzeeree. The revenues of Kolatchee amount to between Rupees 8,000 and 10,000. Of this the Gundapoor receive 25 per cent. on condition of good service in defending the tract. The Tank chief holds a lease of the revenues of that tract; he makes the collections, which amount to Rupees 65,000 per annum, and receives one-third for himself and the establishment he maintains. This lease is conditional on good service in defence of the fief. The chief is a Puthan of good family. The nawab of Dehra-Ismael Khan, belongs to the princely race of Suddoozye. South of Dehra-Ismael Khan lies the large tract of Dehra Ghazee-Khan, which extends as far west as the mountains and along the Indus to Sind. Its principal chiefs have usually behaved well, even at times when their brethren of the hills were in a state of hostility against British subjects. The plain tribes are the Nootkanee, Loond and Dreshuk, all of them well conducted; they had a certain number of fighting men, but they were victimized by such tribes as the Bozdar and Goorchanee. The Dehra Ghazee-Khan district has the Dreshuk, and Muzaree.

Adjoining the frontier of Dehra Ghazee Khan district are the Khutran, Kosah, Lugharee, Goorchan, Murree and Boogtee.

Dehra Ismael Khan district—Bunnoochee, Murwutee, Butanee Chiefs of Tank, Chiefs of Kolache, Chiefs of Dehra-Ismael Khan, Nootkanee, Loond.

Adjoining frontier of Dehra-Ismael Khan district are Sheoranee, Oshteranee, Kusranee, Bozdar.

Adjoining frontier of Kohat district.—Buzotee, Sepah, Orukzye, Zymoosht Affghans, Tooree.

Adjoining frontier of Kohat and Dehra-Ismael Khan districts—Wuzeeree.

The Derajat or *Hist. of the Panjab, Vol.* i, *p.* 24. *Aitcheson's Treaties.* See India, p. 336; Khyber, pp. 512 to 518.—*Papers, East India (Cabul and Affghanistan)* 1859, *p.* 22. *Elphinstone's Kingdom of Cabul, p.* 29. See India, p. 336. Khyber, pp. 512, 514, 518. Kelat, Tajik.

DEHVEH SAMANI, Turk. Hedysarum alhaji.

DEHWAR, Pers. A villager, a farmer. The Tajik race on the northern borders of Affghanistan are called Dehgan. The Dehwar residing with the Babi, at Kelat, are supposed to be descendants of Tajik from Balkh. They are an agricultural, hard-working, poor people, who dwell in villages and do not migrate. Their language is nearly pure Persian.—*Dr. Cooke in Bombay, Medical Transaction, No.* vi, *New Series,* 1860.

DEHWAR, also written Dewar or Deehwar in northern India, the village deity, the deity under whose care the village is placed—the "genius loci" to whom, at each harvest, a portion of grain is set apart. The corresponding term in the North-West is T'hanaputee (the lord of the place.) In Bundlecund, "Gram Deota" or "Gramma-deva." In Saugor he is styled Miroyea, from the fact of his being the guardian of boundaries. The Deewar is very commonly,—and even where these local names prevail, styled Bhoomia from Bhoom, land. The occupation of the Deewar is very much like that of the Roman Lares Rurales

"qui compita servant,
"Et vigilant nostrâ semper in urbe Lares."

The Dehwar deities have various names, such as Kutesuree, Burnaichu, Hunwut, Bhoom Sen, Chanwur, Casheenath, Munsa Ram, Hurdour, Rutnoo, Huree Ram, Jharkhund Eesòòr, Kall Sen, Bisharee: oft-times they are the spirits of good men, of brahmins or village heroes, but who, when they become objects of worship, come to be generally considered very malicious devils; and oft-times they are nothing but mere epithets of the Dii Majores. In some places their images are of male; in others of female, figures. In many places the villagers, for fear of misrepresenting their Gramma Deota, erect a stone without form or feature; like the si Deo si Deæ of the Romans, which ambiguous expression was addressed to their tutelary gods, to obviate all chance of mistake. The worship of these village gods is fixed to no stated day. In some places, it occurs on the 14th of every month; in others, on the full moon of Cheyt; at others on the full moon of Katik, and so on. The unshapen stone or log of wood is a common form of the village deity of the peninsula, but Hanuman is a frequent form between the Nerbudda and the Kistnah rivers, and to the south is the Ai, the Amman or Amma or some hero. It has been supposed by Doctor Stevenson of Bombay, that these Deewar, or Grama Deota, are the remnants of the ante-brahminical religion; but the supposition cannot be received as correct regarding the N. W. Provinces, though it may be conceded with respect to the gods of the South of India that there are many circumstances of their worship which are not of hindoo origin.—*Elliot, quoting Bombay Literary Transactions, Journal R. A. S., Nos.* ix *and* x. *Buchanan's Eastern India,*

Vol. ii, *pp.* 138, 352, 478; *Wilson's Hindu Theatre, Vol.* i, *p.* 21, *and Vol.* ii, *p.* 64.

DEIFIED WARRIORS, are largely worshipped in the peninsula of India. Rama, one of these, was the leader of one invasion of the southern part of the peninsula of India and of Ceylon. On that occasion he advanced into the forests of Danda Cāranya, scattering the prior inhabitants, as he advanced, whom he described as Rakshasha and demons, driving some of them into the forests and mountain retreats, where they still reside in a barbarous freedom, and reducing others to the state of predial slavery, in which the Pariah, the Pallar, Cherumar and other humbled races are now dwelling in the plains. To such invasions is owing the circumstance that each province in India has its own peculiar helot race; and each range of mountains and each forest tract, its own tribes of wild savages either wholly independent or partially subject to their more civilized neighbours in the open country. We may instance the Pahari of the Rajmahal hills on the banks of the Ganges, and from their locality westwards through all the races in the Vindhya hills, the Meena, the Mhair, the Bheel, the Koli, southwards through the races in Bustar and Gondwana. Amongst the Sonthal, the Gond, the Kond, Chenchwar, Souriah, the Yanady, the Irular, the Kurumbar, the Beder, Kallar, to the Malayali or mountaineers in the south, an infinite succession of races and tribes with customs and speaking languages, differing greatly from the inhabitants in the plains; besides whom are numerous migratory races, as the Korava, Wadawar, Yerkalwar and Pardi. The ancient Sanscrit writers give other names of ancient races with whom the Arians came in contact in their advance to the Ganges, some of which cannot now be traced.

DEIG, a town and fortress in Hindostan. A battle was fought and won, here, by the E. I. Company's troops under Lord Lake, on the 13th November 1804, and on the 23rd December 1804, the fortress of Deig was taken. See Battles.

DEIGWUR, a town in Hazareebagh.

DEIR, a town of Mesopotamia.

DEITY, see Deo; Deva. Hindoo.

DE KOROS, Alexander Csoma, a Hungarian, who travelled on foot from Hungary to Tibet. See Csoma.

DEIN, HIND. Oryza sativa.

DEKHANI BROWN HEMP, Bombay. Crotalaria juncea.—*Linn.*

DEL, SINGH. Artocarpus hirsuta, also A. pubescens.—*Willde, Lam.*

DELA, HIND. Jasminum hirsutum.

DELADHA, the reputed tooth of Buddha, in the Malegawa temple at Kandy, is the most devoutly worshipped relic of their religion, which is possessed by the buddhist nations of the East. Long before the christian era it was adored by the buddhist sovereigns of Orissa, and was originally deposited in the great temple of Jagganath, then a buddhist foundation. Its first deposition in Ceylon was in the fourth century of christianity. The buddhists of Ceylon have a tradition, that whoever can succeed in retaining it must of necessity become the sovereign of the country. The Chinese traveller, Fa-Hyan, mentions amongst the precious relics worshipped in the fifth century by the buddhists of Ladak *a vase in which Buddha had spat*, and one of his *teeth;* another tooth was similarly cherished by the king of Nakia, in Affghanistan, eastward of Ghuzni. In an adjoining monastery the monks preserved the cuttings of his hair and nails. Fa-Hyan also describes a *shadow* of Buddha, which was shown to him at Nakia, but admits his inability to describe the process of its preservation.—*Tennent's Christianity in Ceylon, p.* 239. See Buddha.

DELEMI, the Amir Azan, Delemi, built the dam called Band-i-Amir, the Bend-Amir of Europeans. See Bendamir.

DEL-GAHA, SINGH. also Del-gass, SINGH. Artocarpus nobilis.—*Thw.*

DELA KURA, also Doggali kura, also Erra Doggali kura, TEL. Amarantus polygamus.—*Linn, Roxb.*

DELAY-LAMA, dwells amongst the Tongut Tartar nation, to the south of the Mongol. See Kalkas.

DELE, HIND., and Dela, the fruit of the Capparis plant.

DELFS, DUT. Delft.

DELFT, ENG.

Delfs: porcelyn, DUT.	Fayence, GER.
Faience, FR.	Coarse porcelain ware, JAP.
Unächtes Porzellän, GER.	

Coarse porcelain.

DEHLI. About 15 centuries before the christian era, the town of Indraprestha was in existence on the Jumna, in the vicinity of the site occupied by the modern Dehli. At present, the only remnants of Indraprestha, are the Negumbodghaut and the Puranah Killa or Indrapat, but it was one of the five "pat" or "prastha," viz., Panipāt, Sonpat, Indrapat, Tilpat and Baghpat, which Dhritorashtra gave to the Pandu. Now, however, Purana Killa and the Negumbodghaut on the Jumna are the only places which can be pointed to as probably connected with the ancient Indraprestha, and the ghaut seems to have been a sacred place of pilgrimage, even before the Pandu family settled there. The

people still call Puranah Killah, Indrapat, though Hamayun new named it Din-Panah and Sher shah, styled it Sherghur. In Puranah Killah is the Keelar Kona mosque, which was commenced by Hamayoon and finished by Sher shah. It has five horse-shoe arches, decorated with blue tiles and marble. Indraprestha was about five miles from ancient Dehli. Thirty princes of the line of Yudishthira succeeded him on the throne, but only their names are known, and the last of them was Kashemaka, who was murdered by his minister, Viserwa, whose line of fourteen princes held sway for five hundred years. The Goutamah line of fifteen princes succeeded, it is said, by Mahraj murdering the last of the Kashemaka, the last of them being Ultina, and were succeeded by the Maurya. In the times of Buddha, of Alexander, of Seleucus, no allusion occurs to the existence of Indraprestha. The last of the Maurya was slain by the rajah Kemayoun styled Saka-ditya, or, chief of the Saka, who subsequently fell before Vikramaditya, and Avanti or Oojein became the capital. Dehli was then in existence, because Vikramaditya was described as possessing it,—"Dilli-pat-kahayo" became king of Dehli.

The origin of the name of Dehli is obscure. Ancient Dehli was five miles distant from Indraprestha on a rocky hill, to the S. W. in the interior, and the site is eleven miles from the modern Dehli. It is surmised that on the removal of the capital to Oujein, the cities in that locality lay waste and desolate for eight centuries. Fa-Hiang A.D. 400 and Hwen Thsang, who travelled in the eighth century (A. D. 750), make no mention of Dehli, nor is it mentioned in the time of Mahmoud who sacked and plundered both Muttra and Thanesur. In 1052, however, Anangpal re-built it.

The oldest of all the monuments in Dehli is the edict column of Asoca. The Lat of Ferozshah, in the Kotila, is an edict column of Asoca. It is supposed to have been brought from Shrughna, in A.D. 1356 by Feroz Shah, to have been brought on a truck to Khizrabad and thence by water to Dehli, then called Ferozabad, and set up in the court-yard of the palace of Feroz. Its head is now bare, but so late as A. D. 1611, when William Finch was there, it had a golden pinnacle, which gave it the name of Minar-i-Zarin, or golden minaret. It is a single shaft of pale pink sandstone, and like all Asocas pillars is 42 feet 7 inches high, of which the upper 35 feet are very highly polished. The next in point of antiquity is a solid shaft of mixed metal upwards of 16 inches in diameter, and about 60 feet in length. The greater part of it is underground, and that which is above is 22 feet high. The ground about it has marks of a recent excavation, said to have been carried down to 26 feet without reaching the foundation on which the pillar rests, and without loosening it in any degree. The pillar contains about 80 cubic feet of metal and would weigh upwards of 17 tons.

The iron pillar standing nearly in the middle of a grand square, records its own history in a deeply-cut Sanscrit inscription of six lines on its western face. Antiquaries have read the characters and the pillar has been made out to be 'the arm of fame (Kirttibhuja) of raja Dava.' He is stated to have been a worshipper of Vishnu, and a monarch who subdued a people on the Sindhu, called Vahlika, probably the Bahika of the Punjab, and that he obtained with his own arm an undivided sovereignty on the earth for a long period! The age in which he flourished is, therefore, concluded to have been about the year B.C. 319, the initial point of the Balabhi or Gupta era. The most widely prevalent tradition attributes the iron pillar to the Pandoos, of whose heroic age it is believed to be a token. Major Archer heard that 'as long as the pillar stood, so long would Hindoostan flourish.' Mrs. Colin Mackenzie says, that 'as long as this pillar stands, the raj or kingdom has not finally departed from the Hindoos.' The Kutub Minar is at present 238 feet, 1 inch high above the ground, but tradition says it was once 300 feet, and in 1794 the measurement was 250 feet 11 in. The base of this minar is a polygon of twenty-four sides, altogether measuring 147 feet. The shaft is of a circular form and tapers regularly from the base to the summit. It is divided into five stories, round each of which runs a bold projecting balcony, supported upon large and richly-carved stone brackets having balustrades that give to the pillar a most ornamental effect. The exterior of the basement story is fluted alternately into twenty-seven angular and semi-circular faces. Up to the third story the Minar is built of fine red sandstone. From the third balcony to the fifth, the building is composed chiefly of white Jeypore marble. The hindoo architect has not failed to record his undertaking without the usual hindoo invocation, Sri Viswakurma prasade rachita 'built under the auspices of Viswakurma,' the celestial architect of the hindoos. The object is at once apparent to the spectator that of a Mazinah for the Muezzin to call the faithful to prayers. The Kootub seems to have been commenced in about A. D. 1200, and finished in 1220. The mausoleum tomb of Hamayun, with its white marble dome is a conspicuous object for miles around. It cost 15 lacs of

rupees and was erected by his widow Hamida Banu begum, who is also interred near.

Bhoot Khana. In Pirthiraj's capital, were twenty-seven hindoo temples, of which several hundreds of richly-carved pillars still remain to attest both the taste and the wealth of the last hindoo rulers of Delhi. The Bhoot Khana is a colonnaded court-yard, the materials of which were obtained from the demolition of the hindoo temples.

The *Alia Durwaza*, built by Ala-ud-Din, A.H. 710, A.D. 1310, is a beautiful specimen of Pathan architecture.

At the S. W. corner of Siri or Shahpur is the Roushan Charagh built by Feroz Shah as a shrine to the memory of a famous saint.

The fortifications of Toghalaqabad form a stupendous structure.

Inside Delhi is the Jumma Musjid close to the Chandni Chouk.

The Shalimar gardens were made by the emperor Shah Jehan at a cost of a crore of rupees.

The Zinat Masjid called also the Kumari Musjid, was built by Zinat-un-Nissa, the spinster daughter of Aurungzeb.

During the rebellion of 1857, the Delhi massacre occurred on the 11th May 1857. Delhi was assaulted on the 14th September 1857.

From the 14th to the 17th of September, the Church, the Kutcherry, the College, the Kotwallee, the Magazine, and the Delhi Bank House were one after the other carried and recovered. On the 18th the line of communication between the magazine and the Cabul gate was completed. On the 19th the Burn bastion, near the Lahore gate, was taken possession of by a surprise. This bastion is so called from Colonel Burn, who with a handful of men made a most memorable defence of Delhi in 1804 against an overwhelming army of Holkar and the cannonade of a hundred and thirty guns. Sir D. Ochterlony, then Resident, wrote of this defence that it cannot but reflect the greatest honour on the discipline, courage and fortitude of British troops in the eyes of all Hindoostan to observe that with a small force they sustained a siege of nine days, repelled an assault, and defended a city ten miles in circumference, which had ever before been given up at the first appearance of an enemy at its gates.' The 20th of September was the day of the final capture of Delhi. On that day the imperial palace was entered and found deserted. The main picket of the British forces was at Hindoo Rao, on the top of the ridge that is to the north-west of the city. The chief efforts of the rebels were directed against this post of the besiegers. From the 8th of June 1857, until the fall of Delhi, it had had to sustain twenty-six attacks. The heavy siege guns arrived in September when five batteries were constructed and some fifty pieces of artillery opened their fire upon the doomed city. The 14th of September was the great day for the storming of the city of Delhi, and the attacking force was divided into four columns, with a reserve. The gallant party fixed upon to blow open the Cashmere gate consisted of Lieutenants Salkeld and Home, Serjeants Carmichael, Burgess and Smith, Bugler Hawthorne who accompanied the party to sound the advance when the gate was blown in, and eight native sappers under Havildar Madhoo to carry the bags of powder.

The inscriptions on the pillars at Delhi and Allahabad, and on the Tirhut pillars at Mathiya, Delhi and Radhiya, have long ago been deciphered and translated by the remarkable ingenuity of Mr. James Prinsep. The inscriptions on the rocks at Junagiri in Gujrat, and at Dhauli in Kuttack, were also interpreted by him. A supposed third version of the rock inscriptions (but in the Ariano-Pali character), which was found at Kapur-digiri, near Peshawur, has been carefully collated with the others by Professor Wilson. Many short inscriptions from Gaya, Sanchi and Birat, as well as from the cave temples of Southern India, have also been published at different times, but, with the single exception of the edicts in the Rock Inscriptions, which contain the names of Antiochus, Ptolemy, Antigonus and Magas, the inscriptions in the able work of Major Cunningham are of greater interest, and of much higher importance, than all that had before been published.

The highest population of Delhi was two millions in the time of Aurungzebe that of Rome having been three millions, and that of London being now somewhere between the two numbers. Three years before the mutiny the number returned was upwards of 150,000. Delhi is a city of great antiquity, from which, from pre-historic times, much of India has continued to be ruled. One dynasty, the Pandava, ruled there from B. C. 1120 to B. C. 610. Delhi is in L. 28° 38′ 9″, N. L. 77° 13′ 1″ E. and 825 or 827 feet above the sea. It is on the right bank of the Jumna, 120 miles above Agra, which is also on the right bank. The river washes the east face of the city, forming the chord of an arc of which the rest of the city wall is the perimeter. The length from north to south is about two miles, the extreme breadth from east to west, about three miles: the area enclosed within the walls probably four square miles. The walls are built of stone and lime, entirely surround the place, and consist of long curtains with bastions at different intervals, the whole

defended by a ditch and a good glacis. The bastions were of modern construction and capable of mounting twelve to eighteen guns each. There was, however, only a musketry parapet along the connecting walls, there being no terreplein behind the curtains for guns. The king's palace was on the river side, and was a native fort of considerable size, with high walls of red sandstone, flanked by round towers and defended by a ditch. Close to the palace and connected with it by a bridge over an arm of the river, was an old native fort the Selim-ghur. From the centre of the city rises the Jumma Musjid, and prior to the mutinies of 1857, the Church, the Delhi Bank, and the Ordnance Magazine, were all within the walls. The breadth of the Jumna at Delhi is about 1,000 yards, the river there is very winding and shallow, with numerous sand banks, the deep channel being very narrow. Of the famed budd'hist antiquities of India, there is a column at Delhi, another at Allahabad, one at Mattiah and one at Radhiah. The inscriptions are the same on all the columns. No images of Buddha, no temples or relics, are mentioned. But Dharma (the doctrine) is to be taught under the sacred tree. The chief object is the interdict of the slaughter or destruction of any living creature, of the abolishment of torture in punishments, of the punishment of deaths for criminals, and exempting animals from work on 8th, 14th and 15th of the moon, which days do not quite accord with modern Budd'hist practices. The name of Buddha, Gotama, or Sakya Muni, is not mentioned; but the expression, Sukatam Kachhato, which Mr. Prinsep supposes is intended for Sugatam Gachhato, or Sugato, (welcome) a name of Buddha; and the inscriptions have frequent references to the acts to be done under the holy fig-tree, Buddha's Ficus Indica. The inscription opens in the twenty-seventh year of the king, Devanampiya Piyadasi's anointment. Asoka distinctly says, the object of his doctrines is to increase the mercy and charity, the truth and purity, the kindness and honesty, of the world. The king, says he, prays for those of every creed that they, with him, may attain eternal salvation.

The language of the inscriptions is Pali, but of an old character, between Pali and Sanskrit, possibly the original of both. By the Mahawanso, the fourteenth year of Asoka's reign corresponds to the 232nd year after the death of Buddha, and therefore to B. C. 311 and the inscription being in the 27th year of his reign, the date is B. C. 298. The Dipawanso says, Asoka was inaugurated 218 years after the death of Sakya, therefore B. C. 325. The character used in the inscriptions is the Lat, or oldest form of Deva Nagari, which latter is deducible from it, letter by letter through successive ages, excepting the new or additional Sanskrit letters. The religion mentioned is buddhist, of this there can be no doubt, from the injunctions to teach "*Dharma*" under the sacred tree, and turning the wheel of the law, the mention of the ascetic disciples; certain dogmas, and the observance of the three holy days, monthly, mentioned by Fa-hian, preachings, &c., and Babhana (brahmans) are to be converted, and kindness and condescension shown to brahmans and sramans. The king mentioned is Piyadasi, or Asoka, emperor of all India, identified as Asoka by the Hon. Mr. Turnour, from the Pali Dipawanso, which states that he was the grandson of Chandagutto, and viceroy of Ougein.

The Iron Pillar at Delhi has an inscription in Sanskrit, no date, but scarcely earlier than A. D. 800, the character looking more modern than Kanouj Nagari. Of the character used in the inscription, many letters agree with the Kanouj Nagari, but the general aspect is more modern. The religion mentioned is the Vaishnava, but no invocation or names of gods. The king mentioned is prince Dhava, an usurper, at Hastinpura. This inscription is punched upon the iron pillar, and the only thing remarkable in it is the mention of the Bactrians, called Vellakha, being still in Scinde. From the compound letters used, the inscription must be long after the fifth century.

The Stone Pillar at Delhi has an inscription in Sanskrit of date, Samvat 1220, or A. D. 1163. The character used is almost modern Deva Nagari and the religion mentioned is hindoo. The king mentioned is Vesala Deva. This inscription was cut upon one of the old lat, or buddhist columns, to record Vesal's victories, but not against the budd'hists, because they were gone.

In A. D. 1191, Prithiraj, a heroic king of Delhi, utterly routed Mahomed Gori, at Tiruri, 14 miles from Thaneshur, and compelled him to recross the Indus. But in 1193 Mahomed re-entered Hindoostan with a mixed Turk, Tartar and Affghan army, defeated the hindoo chiefs, murdered the king of Delhi, took Ajmir and returned to Ghazni. He left his general, Kutub-ud-din, his slave, in command, who conquered Merut, Coel and Delhi, which last now became the seat of the mahomedan government in India. In 1195, Mahomed returned with a large force, and between Canouj and Etawah defeated and slew Jye Chandar, a Rajput king of Canouj, and the oldest hindoo monarchy was then overthrown. Bakhtiar, a Ghilji, one of Kutub-ud-din's generals conquered Behar, and after-

wards overran and conquered Bengal, and from this time for five centuries and a half, Bengal was under mahomedan rule. Delhi, was conquered by Shahab-ud-din A. D. 1200. In A. D. 1219 the dominion was extended by Kutub-ud-din Aibek, whose successors were Aram shah and Altamsh. Altamsh conquered Multan, and died A. D. 1235. From this year, till A. D. 1246, there were five successors, viz., Feroz Shah, Rukn-ud-din ; the princess Razziah-ud-din ; Bahram Shah ; Masud Shah Ala-ud-din and Mahomed Shah Nassir-ud-din ; the last made great conquests in India, and was succeeded by Ala-ud-din, who was alive in A. D. 1317. In A. D. 1398, sultan Mahamud was reigning, and it was this emperor whom Timur conquered in that year. From that time till the revolt of 1857, the Timur dynasty continued to be connected with India. But from Timur until Baber's time, the connection was not close. Baber in A. D. 1526 conquered sultan Ibrahim Lodi, and died four years afterwards A. D. 1530. Humayun succeeded and died A. D. 1556. Akbar ruled till A. D. 1605, and of all the descendants of Timur he was the most illustrious. His three sucessors, Jehanghir, died 1627, shah Jehan died 1658, and Aurungzebe who died 1707, retained great power, but it was bought at the price of endless crimes, and from the death of Aurungzebe in 1707 the Great Moguls fell into insignificance, escaping by submissiveness, the whirlwinds of Nadir Shah, of Ahmed Shah, and of the Mahrattas. Bahadoor Shah died at Lahore in February 1712, Jahandar Shah and Farraksir ruled until A.D. 1719 ; Raffi-ud-Durjat, Raffi-ud-Dowlah and Mahomed Shah till 1739, when Tamas Kuli Khan took and sacked Dehli and retired to Persia.

The defeat of the Delhi sovereigns and Nadir's entry into the capital, took place on the 13th February and early in March 1739 respectively, but were not known in London until the 1st of October. The emperor shah Alam entered Delhi with the Mahrattas on 22nd December 1771. He continued a mere state prisoner in the hands of the Mahrattas till 1803, when he was released by Lord Lake, and brought under the protection of the British Government. All the territories and resources assigned for his support by the Mahrattas were continued to him, and a pecuniary provision was granted in addition, fixed at Rupees 60,000, but afterwards increased to Rupees 1,00,000 a month. Shah Alam died on the 19th November 1806, and was succeeded by Akbar Shah, who was succeeded in 1837 by his eldest son Bahadoor Shah. He was restricted to the neighbourhood of Delhi, he was not allowed to confer titles or to issue a currency, but he had the control of Civil and Criminal Justice within the palace. When the mutiny of 1857 broke out, the mutineers in Delhi took possession of the town. fort and stores and applied to the king. Bahadoor Shah put himself at the head of the movement. At first his conduct was most vacillating, but he subsequently identified himself with the rebel cause. After the fall of Delhi on the 20th September 1857, he was captured and tried on the charges of, 1st, aiding and abetting the mutiny of British Troops ; 2nd, encouraging and assisting divers persons in waging war against the British Government ; 3rd, assuming the sovereignty of India ; 4th, causing and being accessory to the murder of Christians. He was convicted on each charge on the 9th December 1858, and sent to Rangoon, where he died in 1862, and this, after nearly five centuries of sovereign power, the Timurides ceased to reign. Of all the countries over which the members of this family once ruled, India alone has made any advance in material prosperity, since the days of their power. Samarcand, the capital of Timur, is a desolate heap of ruins ; Andecan, the beloved home of Baber, is in the possession of Uzbek savages. The once rich and opulent Herat, the abode of learning, the brilliant capital of Shah Rokh and Hosein Mirza, the native land of poets and historians, is now the ruinous fortress of an Affghan. Shiraz, the beautiful city, made immortal by the songs of Sadi and Hafiz, where Ali of Yezd wrote the life of the mighty Timur, is reduced to the condition of an impoverished provincial town, in the kingdom of the Kajar kings of Persia. Lahore and Delhi are noted for their gold. woven fabrics and light silk muslin fabrics interwoven with gold threads, as well as for all kinds of work in tinsel or kalábatun.—*Markham's Embassy, p.* 1, *Vol.* iv. *Cunningham's Sikhs, Rennell's Memoirs, p.* 1, *Vol.* vi. *Elphinstone's History of India, p.* 37, *Vol.* ii. *Count Bjornsterna's British Empire, p.* 98. *Aitchison's Treatises, Vol.* i, *pp.* 1 *to* 4 *and* 285. *J. A. S. B., Vol.* iii, *p.* 494. *Vol.* vi, *pp.* 576, 791. *Vol.* vii, *p.* 629. *Tr. of Hind., Vol.* ii, *p.* 371.

DEL HOSTE, Captain an officer of the Bombay army, author of Memoirs on Scinde. On the Nerbudda river. Journal of a march from Ahmedabad to Sukkur, Upper Scinde. Notes on the meteorology of the Phoonda Ghaut.—*Dr. Buist's Catalogue. Bom. Geo. Trans., Vol.* i, *p.* 22.

DELIGHT OF THE WOODS, Eng. Hiptage madablota.

DELIMA, Malay. Punica granatum.

DELIMA HEBECARPA, a creeper of Penang and Java.—*Voigt, p.* 18.

DELIMA SARMENTOSA, *Linn.* A shrub with small white flowers in panicles, grows in the southern parts of Ceylon up to an elevation of 1,000 feet.—*Thwaites' En. Pl. Zeyl., p.* 21. *Riddell.*

DELPHI, a natural cave in the earth at the town of Delphos in Greece, where was an ancient oracle and place of worship. Delphi is synonymous with the hindoo Yoni.

DELPHINIDÆ, a family of mammals of the order Cetaceæ, or the whale tribe, which live in the ocean. Amongst them are the whales, the largest of creatures now existing; also the dolphins, the porpoises, and the dugong. They have fin-like anterior extremities, the posterior extremities being absent, or rather their place supplied by a large horizontal caudal fin or tail. They have no hair on their skin, have no outer ear, and the bones of the neck are so compressed as to leave the animal without the appearance of a neck. Some of them eat plants, or are phytophagous; some are zoophagous, or animal-eaters. Seven new species of cetaceans have been described from the Bay of Bengal, six of the family Delphinidæ, the seventh belonging to the sperm whales, Physeteridæ, to be called Physeter (Euphysetes) simus. The order of the Cetaceæ or whale tribe, consists of 2 Families, 8 genera and 21 species,

Fam. DELPHINIDÆ.	Porpoises, 5 Gen., 14 sp.
Delphinus, 8 sp.	Platanista, 2 sp.
Steno, 2 sp.	Globiocephalus, 1 sp.
Neomeris, 1 sp.	
Fam. BALÆNIDÆ.	Whales, 4 Gen., 7 sp.
Balænoptera, 1 sp.	Physter, 1 sp.
Balæna, 4 sp.	Phocæna, 1 sp.

Sub-Order SIRENIA HERBIVOROUS CETACEA.

Gen. Holicere, 3 sp.

DELPHINÆ.

Neomeris Phocenoides.—Gray.

Delphinus melas, *Terns.*

A dolphin of the Indian Ocean.

Phocæna communis.

Phocæna Rondeletii, *Willoughby.*	Delphinus phocæna, *Linn.*
Common Porpoise.	Porpesso.

Grampus Sakamata.—Schlegel.

Sakam Kuzira. JAPAN.

Found off the Coast of Japan.

Grampus Sieboldii.

Naiso Gata. JAPAN.

A native of the Coasts of Japan.

Grampus macrorhynchus.—Black fish of the south sea whalers. It inhabits the south seas.

Delphinapterus Peronii.

Right whale Porpoise of whalers.

It is found on the Brazil bank, off the Coasts of New Guinea and the higher southern latitudes. It lives in large shoals, and its flesh is esteemed a delicacy. It is black, but the beak, the pectoral fins and underpart of the body are white.

Delphinus. Sea-faring people call the species of this genus, bottle-nose, bottle-head, flounder head, grampus, porpoise, porpesse, or porpus, sometimes even whale, and give the name of dolphin to the Coryphæna, a scomberoid fish which changes colour when dying. There are several species of Delphinus recognized.

Delphinus delphis. The Dolphin, attains a length of 9 to 10 feet. Greek legends make it the friend and companion of man.

Delphinus phocæna. The porpoise, attains a height of 5 or 6 feet.—*Hartwig.*

Delphinus Orca. The Grampus, measures 25 feet in length, and is 12 or 13 feet round. It is the most voracious of all the Dolphin tribe.

Delphinus Heavisidii. The Hastated Dolphin, inhabits the south sea and Cape of Good Hope.

Delphinus obscurus. The Dusky Dolphin. Inhabits the southern ocean andCape of Good Hope.

Delphinus Abusalam. Inhabits the Red Sea.

Delphinus Eutropia. Inhabits the Pacific Ocean and Chili.

Delphinus Novæ Zealandiæ. The New Zealand Dolphin. Inhabits New Zealand and Cape Gable.

Delphinus Forsteri. Forster's dolphin, inhabits the Pacific Ocean between New Caledonia and Norfolk Island.

Delphinus Sao. inhabits Madagascar.

Delphinus longirostris, the Cape Dolphin inhabits the seas about the Cape of Good Hope and the Southern Ocean.

Steno Malayanus.

Dolphinus plumbeus *Dussumier. Cuv.*	Delphinus Malayanus, *Lesson* apud *Cuv.*
Param puan, Maut, Malay.	Dolphin Ventre Roux of Paris Museum.

Inhabits the Malabar Coast and coasts of Penang. It is numerous and rather heavy in its movements, but is rarely captured, except by chance in the stake nets. It eats small fishes, Clupea and Glyphisidon cœlestinus.—*Cuv.*

Steno frontanus, inhabits the Indian Ocean and the Pacific.

Platanista Gangetica.—Gray.

Delphinus Shawensis of Blainville.	D. Gangeticus, *Roxb.*
Platanista of Pliny.	Sou-sou of India.
Dauphine du Gange. F. Cuv.	Susa of Buffon.

Inhabits the Indian seas, the Ganges and Irawaddy.—*Cat. Mam. Mus. E. I. C. Hartwig.*

DELPHINIUM, a genus of plants of the natural order Ranunculaceæ, of which several species, D. ajacis, D. Brunonianum, D. consolida, D. glaciale and D. oliverianum occur in India and the south of Asia—*O'Shaughnessy, Voigt.*

DELPHINIUM AJACIS.

Larkspur, ENG. | Na-furman, HIND.

is cultivated in gardens in India during the cold season. The properties of the seeds agree with those of the stavesacre kind.—*Drs. O'Shaughn, p.* 169. *Roxb, Royle, Voigt.*

DELPHINIUM BRUNONIANUM.

Musk plant, ENG. | Nepari, PUNJABI.

Grows in the Sutlej valley between Rampur and Sungnam at an elevation of 14,000 feet. Smells powerfully of musk.—*Cleghorn's Punjab Report, p.* 67.

DELPHINIUM GLACIALE, of East Nepaul, is one of the most alpine plants in the world, growing at an elevation of 17,000 feet. It is abundant in the valley of the Chomiochoo near Tungu, in Thibet, and exhales a rank smell of musk ; it very closely resembles *D. Brunonianum* of the western Himalaya. The latter plant smells powerfully of musk, but not so disagreeably as this does.—*Hooker's Him. Jour., Vol.* ii, *pp.* 95 *and* 269.

DELPHINIUM PAUCIFLORUM.

Judwar, Hind. of Bombay? | Nirbisi, Hind. of Himalaya.

A tuberous root in Sirmoor, without poisonous properties. The best comes from Lahore.—*O'Shaughnessy, pp.* 167 *and* 168.

DELPHINIUM STAPHISAGRIA, the Stavesacre or Louse-wort, a biennial plant, native of the Levant, Teneriffe and Asia Minor. The powder taken internally acts as a violent cathartic and emetic ; it is made into an ointment used for destroying vermin in the hair. The seeds intoxicate fish.—*O'Shaughnessy, p.* 168.

DELPHINUS MALAYANUS, *Lesson* apud, *Cuv.*, syn. of Steno-malayanus.

DELPHINUS MELAS, *Terns.* syn., of Neomeris phocenoides.—*Gray.*

DELPHINUS PHOCÆNA, *Linn.*, syn. of Phocæna communis. See Delphinidæ.

DELPHOS, a town in Greece where was an ancient oracle and place of worship in a cave of the earth called Delphi, the word Delphi being synonymous with Yoni. See Delphi, Yavana ; Yoni.

DELTA of the Ganges and of the Irawaddy. See Ganges, Irawaddy.

DELUGE, tradition of the. See Avatar.

DELUNGHIDI, SING. Pomegranate.

DEMATUR. See Yavana.

DEMAVEND, a high road leads from Teheran by the town of Demavend to Ask, the capital of the district of Laurijan. The hot baths of Demavend, are situated in this locality. They are two in number : one, the tepid bath, is situated within 100 yards of the town of Ask, on the right bank of the river. It rises in an oval basin, measuring about 30 feet by 20, and about 3 feet in depth, formed by deposit from the spring, which gushes up with great force in the centre of the basin, together with a considerable amount of gas. The water is composed of sulphur, iron, soda, and magnesia. The other spring, which is situated about 2 miles further down the valley, and on the mountain of Demavend, is so intensely hot that the water has to be conducted through canals for some distance before it is collected in an artificial basin, in which the patients bathe. The water is also composed of magnesia, iron, and sulphur ; but the latter is in much larger proportions, and naphtha in great quantities, also forms one of the ingredients. Near Ask there is also a spring of cold water, strongly impregnated with iron. From Ask a road leads down to the town of Amil, but it is extremely dangerous, lives being lost annually from mules and their riders falling over the precipice, along the face of which it runs. Demavend bears N. 65° E. of Teheran, about 40 miles distant, and its pale lofty summit forms a magnificent pyramid as it shoots up from the high range of El-burz. The cone of Demavend is doubtless of volcanic origin, and appears to have been formed partially by having been forced up above the level of the mountain by some subterranean agency, but more by the debris and lava thrown out from the summit when the volcano was still in activity. From a distance it appears to be nearly smooth, and to slope evenly at an angle of about 45° from top to bottom. On a nearer approach, however, it becomes evident that the cone consists of a number of ridges, which run from the summit to the base, leaving between them deep ravines filled in general with snow and ice, beneath which lies a mass of debris fallen from the upper part of the mountain. By observations of the height of the mountain it was ascertained to reach the enormous height of 21,520 feet. The cone of Demavend terminates in a crater about 85 yards in diameter, which is nearly surrounded by jagged rocks.—*Chesney, p.* 15. See Ararat.

DEMER-HINDI, TURK. Tamarind.

DEMETRIUS, Grecian kings, successors of Alexander, rulers in Syria, there were three of this name :

Demetrius I, surnamed Soter, B. C. 162.

Demetrius II, surnamed Nicator, B. C. 147.
Demetrius III, surnamed Eucærus, B. C. 94.

DEMOCRITUS. There is authority for believing that Democritus went to Egypt and Babylon, but his more distant travels to India are legendary.

DEMODURA, a variety of the Saligrama. See Salagrama.

DEMOLE, a light wood, which is made into planks and employed where durability is not much required.

DEMON-WORSHIP is everywhere observed amongst the non-Arian races in India, but is perhaps carried out to its fullest extent and most openly amongst the Shanar people in the south of the Peninsula. This worship has little or no similarity to the hindoo cultus, being mostly directed to appease the malignancy of evil spirits, the shades, or as they are called "saya", of persons who have recently died. In some parts of India there is a mixing up of some parts of demon and spirit-worship with that of the hindoo deities. In the Dekhan, the deified sage Vithoba and his early expounders are largely worshipped as local divinities. Byroba, the local deity of herdsmen, is largely worshipped in the Dekhan, as also is Kandoba, the deified hero of shepherds. Outside almost every hindoo village in the Dekhan, is a circle of large stones, sacred to Vetal, the demon-god of the non-Arian races. Amongst the evil genii of all India, is a being called Rakshasa, of giant bulk, terrible teeth, who feasts on dead bodies. The bhoot, acknowledged all over India, more resembles the ghost of Europe. The Rev. Dr. Caldwell in his work on the Devil-worship of the Shanar, has shown how continuously the people of India are making new deities or demons. On the left bank of the stream at the village of Assaye at which Scindiah's artillery was posted during that battle, is a tree, beneath which is the tomb of an officer who fell during the battle, and his spirit is punctually worshipped by all the people of Assaye and the neighbourhood. Sir Bartle Frere mentions that he accidentally found an order in existence at Government House, Dapoorie, handed down by each non-commissioned officer, for the native sentry on guard to present arms if a cat or dog, jackal or goat, entered or left the house or crossed near his beat during certain hours of the night, because it was a ghost of a former governor who was still remembered as one of the best and kindest of rulers. The rajah of Wanparty, one of the Reddi race, who have founded small principalities along the banks of the Kistnah river, died in 1868 at Hyderabad. He had led a turbulent life and retained to the last much of the spirit of his youth. At the close of that year, an outbreak of cholera occurred in that neighbourhood, which the people attributed to the spirit of Wanparty, and they made a clay image of him, riding on an elephant, and placed near him the clay image of a Brinjari and worshipped all with the Maha Bali sacrifice. In India the Jan, the Gin of the Arabian nights, is only known amongst the mahomedans. In Scinde, the Jan resembles the Pwecca or Puck of Britain. The Jan of the Baluch hills is wayward and often morose, but not necessarily malignant. He is described as dwarfish with large eyes, and covered with long hairs, and often changes to the form of a camel, goat or other animal. On meeting a Jan, it is essential not to be alarmed, to use civil language. The Jan can become the servant of man and work hard.

The Cobra or hooded-snake, is often personified in Indian story. In many parts of western India, after killing a cobra, the non-Arian races give it all the honors of a cremation, assuring it with many protestations that they are guiltless of its blood; that they slew it by order of their master, or that they had no other way to prevent its biting the chicken or the chickens.

In Ceylon is a class of demi-gods, who, under the name of Yakshyo are supposed to inhabit the waters, and dwell on the sides of Mount Meru, and who are distinguished not only for gentleness and benevolence, but even by a veneration for Buddha, who, in one of his earlier transmigrations, was himself born under the form of a Yakshyo. The malignant spirits of Ceylon are the Yakka, who are the authors of indefinite evil, and the Singhalese have a demon or *Sanne* for each form of disease, who is supposed to be its direct agent and inflicter, and who is accordingly invoked for its removal; and others, who delight in the miseries of mankind, are to be propitiated before the arrival of any event over which their pernicious influence might otherwise prevail. Hence, on every domestic occurrence, as well as in every domestic calamity, the services of the *Kattadia* or devil-priests are to be sought, and their ceremonies performed, generally with observances so barbarous as to be the most revolting evidence still extant of the uncivilized habits of the Singhalese. Especially in cases of sickness and danger, the assistance of the devil-dancer is implicitly relied on: an altar, decorated with garlands, is erected within sight of the patient, and on this an animal, frequently a cock, is to be sacrificed for his recovery. Another kind of demon-worship in Ceylon is a debased form of hinduism, where the priest or Kapua is the performer.

Mr. Forbes in the Ras Mala (p. 378) says the bhoot and pret reside, it is said, in the place where funeral piles are erected, in trees which are not used for sacrificial purposes, such as the tamarind and the acacia, in desert places, at the spot where a death has occurred, or at cross-roads,—for which reason people set at these places food for the use of the bhoot. He is most at a loss for water to drink. The pipe of his throat is, it is said, the size of the eye of a needle, and he is continually thirsty enough to drink twelve gallons of water. The watchmen of Wuroon Dev, however, are stationed wherever there is water, to prevent the bhoot from drinking, and the thirst is therefore as continual as it is intense. The bhoot feed upon all kinds of refuse. The goblin of the best class, he, that is to say, whose funeral ceremonies have been duly performed, but who has been debarred from liberation by his own intense affection for earthly objects, is called a "Poorwuj Dev," and resides in his own house or in a sacred fig-tree. The Poorwuj Dev, like the Etruscan Lar, or the Grecian hero, is regarded as hovering about his former abode, averting dangers from the inhabitants and bestowing blessings upon them. He frequently appears in the character of a serpent, and is then treated with great respect by the inmates of the house near which he resides. It is a common belief in Goozerat that serpents are always to be found wherever a hoard is buried, and that these are the bhoot of the deceased owners who have remained upon earth from affection to their wealth. The Arabian Jin also frequents cross-roads; and the fairies of the Scottish low-lands carry bows made of the ribs of a man buried where three laird's lands meet, as in A Midsummer Night's Dream, (*Act* iii, *sc.* 2:—)

"damned spirits all,
"That in cross-ways and floods have burial."

"Desert places," in Goozerat, correspond exactly with the "dry places," (*αννδραν τοπαν*) assigned to the evil-spirits in Matthew, xii. 43; Luke, xi. 24. The custom of placing food for spirits is very general throughout the world. In the dialogue of Dives and Pauper, printed by Richard Pynson, in 1493, among the superstitions then in use at the beginning of the year, the following is mentioned:—'Alle that take hede to dysmal dayes, or use nyce observances in the newe moone, or in the new yeere, *as setting of mete or drynke by nighte on the benche to fede alholde or gobelyn.*' The powers which the bhoot and pret exercise are the following:—They take possession of a corpse, and speak through its mouth; they exhibit themselves in the form which they possessed when living; they enter into a living man, and cause him to speak as they please; sometimes they afflict him with fever, or various other diseases; sometimes they assume the forms of animals, and frighten people by suddenly vanishing in a flash of fire; sometimes, remaining invisible, they speak in whispers. A bhoot has been known to come to fisticuffs with a man, and to carry a man off and set him down in a distant place. It is even said that women are sometimes found with child by bhoots.

The Jain shâstras teach a different doctrine in regard to spirits from that which is taught by the Poorâna. They assert that there are eight kinds of Vyuntur Dev, and eight of Wan-Vyuntur Dev, who reside below the earth. Each of these has two Indra, or sovereigns, ruling respectively the northern and southern regions, and who are in colour black, white, or blue. The Vyuntur and Wân-Vyuntur Dev appear upon earth, where they possess the bodies of men, exhibit themselves in various shapes, and perform many strange feats, whence their common name of Kootohulee (or surprising) Dev. Below them reside the Bhuwunputee Dev, who, also, sometimes appear on earth. Below them again are the Nârkina or infernal spirits. Above this earth, in the atmosphere, five kinds of "Devs of splendour" reside:—the sun, moon, stars and others. Above them, in twelve Dev-Loka, the Dev who ride in chariots dwell; these, sometimes drawn by their own desire, or compelled by charms, appear in the world; but they do harm to no one. Above them are nine classes of Grivek, and five of Unootur Veemâni. They are of great power and never visit the earth. Men who have lived a life of austerity and righteousness are born again in these classes of upper or lower Dev, but the sinner is not born in them. Of old, a man who had performed the rite of "Uthum" by fasting for three days, acquired the power of calling the Dev to him, but now, it is said, these Dev never visit the earth at any one's call.

Trees.—It is customary in Guzerat, where people wish to prevent the removal of a jungle tree, that they should paint a trident upon it with vermillion, or, if that be incovenient, that they should collect a number of stones and throw them down at the root of the tree. Whoever, after this, passes by, is sure to add a stone or two to the heap, believing the place to be the residence of a Bhoot. Some, however, throw without taking heed to what they are doing. If the place be one where stones are not easily procurable, a bit of old rag is thrown so as to adhere to the tree, and every one who passes by follows the example once set. They call the spot the "Rag-uncle's." In places where trees are scarce these uncles

are very common, and people are much annoyed with the dread of touching them. The name "uncle" is given to the bhoot by women as a term of respect. Men are less superstitious. Similarly, whenever in any place there is a hillock or mound upon which a few stones have been piled one above the other, every passer-by considers himself bound to add a stone to the heap, considering that the spot is the residence of some Dev, and that if any one raise a little temple there, his house will flourish. Such monuments are also set up in places where a person has been slain or wounded. "Cairns" of this kind are frequently connected with the dead—

"On many a cairn's grey pyramid,
"Where urns of mighty chiefs lie hid"

—*Râs Mâlâ Hindoo Annals, Vol.* ii, *pp.* 379, 380, 386-87. *Brand's Hindoo Annals, Vol.* ii, *p.* 378.

DEMPO OR GUNUNG DEMPO, a peak of a high mountain, in the interior of Sumatra, which was ascended in 1817, by Mr. Presgrave, other two peaks are named Lumut and Berapi.

DEMUKH, a very brave, ancient and independent race of Arab origin; considered as the militia of the district of Persia through which Ouseley travelled.—*Ouseley's Travels, Vol.* i, *p.* 255.

DENAR, a coin of Turkish Arabia. It is the "denarius;" of the Romans: *dirhem* is the *drachma*, and *felus* (in the singular) is the *follis* of the Romans.—*Ouseley's Travels, Vol.* ii, *p.* 490.

DENDENG. The Malay name for the jerked beef of commerce, that is, of animal muscular fibre, preserved by drying in the sun, nearly the only mode of curing flesh in the Archipelago. Dendeng is made of the flesh of deer, oxen and buffaloes, and by the Chinese of that of the wild hog. It is a considerable article of native trade.—*Crawfurd's Dict., page* 120.

DENDLU, HIND. Hypericum perforatum.

DENDRACITTA, a genus of birds of the section A. Magpies, in which are 4 gen., 9 sp., viz., 3 Pica; 4 Dendracitta; 1 Crypserina; 1 Temnorus.

DENDROCALAMUS, a genus of bamboos. D. balcooa prized for its solidity and strength, grows in Bengal. D. strictus, of the peninsula is used for spear shafts, and D. tulda is the common bamboo of Bengal. See Bambusa.

DENDROCYGNA, a genus of water-fowl, known in India to sportsmen as the "whistling duck." They are common to the northern and southern hemispheres. See Aves, Birds.

DENDROPHIS, a genus of reptiles, commonly known as "Tree-snakes," the name being from the Greek dendron, a tree, and ophis, a serpent. They are very numerous in India, where they are called whip-snakes, D. rhodopleuron, *Schlegel*, is a snake of Amboyna, and D. pictus of *Gmelin* is found all over India.—*Mason.* See Dendrophidæ, Reptiles.

DENDROBIUM, a genus of air-plants, of the natural order Orchiaceæ, which occur in south-eastern Asia and Australia. Dr. Wight in his Icones, gives thirteen, Dr. Voigt names twenty-five species, and on the Tenasserim coast there are 15 or more species.

Their names will suffice here:—

album.	densiflorum.	macrostachyum.
aggregatum.	denudans.	paxtonii.
alpestre.	filiforme.	pendulum.
aureum.	formosum.	pierardi.
barbatulum.	flavum.	pulchellum.
bicameratum.	gibsonii.	pumilum.
cambridgeanum.	graminifolium.	purpureum.
candidum.	heterocarpum.	ramosissimum.
calceolus.	heyneanum.	secundum.
cœrulescens.	humilis.	stuposum.
clavatum.	jenkinsii.	sulcatum.
crumentatum.	jerdonianum.	teretifolum.
chrysanthum.	longicornu.	

Of the air plants on the Tenasserim Coast, the most interesting is a dendrobium," the flowers of which are white, with a yellow lip, three or four inches in diameter, and exquisitely fragrant. The plant blossoms in March, but it flowers to the close of October, and may be seen whitening under the emerald foliage of the groves nearly six months of the year. The Burmese call it the "silver flower."—*Mason.*

DENDROCALAMUS BALCOOA, *Voigt*, syn. of Bambusa balcooa, *Roxb.*

DENDROCALAMUS STRICTUS, *Voigt*, syn. of Bambusa stricta, *Roxb.*

DENDROCALAMUS TULDA, *Voigt*, syn. of Bambusa tulda, *Roxb.*

DENDROCITTA RUFA, the pleasingly coloured rufous tree-magpie, Dendrocitta rufa.

DENDROPHIDÆ, a family of harmless snakes; consisting of the following genera;

Gonyosoma oxycephalum, *Boie*, Andamans, Assam, Pegu, Mergui.
" gramineum, *Gunth.*, Khassya.
" rænatum, *Gray*, Khassya.
Dendrophis pictus, *Gmel.*, Bengal, Assam, Andamans, Arabia, Pegu, Malacca.
Rhodopleuron, *Schl.*, Amboyna.
Chrysopsoelea ornata, *Shaw*, Shanghae, Malacca.
See Reptilia.

DENDROPHILA, a genus of birds of the Family Certhiadæ, viz.

Sub-fam. Certhinæ, 1 gen., 3 sp., viz., 3 Certhia.
Sub-fam. Sittinæ, 2 gen. 1 sub-gen., 6 sp., viz., 1 Trichodroma; 4 Sitta, 1 Dendrophila. See Birds.

DENDROSAURA. See Chameleons.

DENDRU, HIND. Lonicera quinquelocularis.

DENGI AND PUNSUI. The Dengi is the

common passage and ferry-boat on the river Ganges. It is a comfortless ricketty-looking boat and dangerous to travel in. Caught by the bore even in the middle of the river, if crowded, the dengies are swamped. The "Punsui" is a light and fast boat, longer, broader and sharper than the Calcutta Dengi and more comfortable.

DENGOOYA-KHARA, Beng. Amarantus lividus.

DENISON, Sir William, an officer of Engineers, of the British Army, Governor of Madras for five years and temporarily Viceroy of India, after Lord Elgin's sudden death; his short rule was mainly remarkable for studied inaction, obt. Jan. 1871.—*Thurlow's Company and the Crown, p.* 9.

DENKENACOTTA, a forest, the finest in the Salem collectorate of the Madras presidency. It contains sandal wood and acha wood.—*Cons.*

DENMARK, on the 22nd Feb. 1845, for £125,000 sterling, ceded, by treaty, all its Indian possessions, at Balasore, Tranquebar and Frederick's Nagore, or Serampore.

DENTELLE, Fr. Lace.

DENTHAR, Hind. Callicarpa incana, *R.*

DENTURU, Hind. Hyoscyamus niger, Phytolacca decandra.

DENWAR, a name given by Mr. Hodgson to a border tribe between Nepaul and the Bhot country. See Chepang, Haiyu.

DEO, Deva, Dewa, Sans. A god, a deity: hence Dewalai or dewal, a house of idols, a temple, a pagoda. Diu, Dev, Deo, or Deu, are synonymous with Deva. It is the zeus of the Greeks and deus of the Romans, and is possibly the original of the name of Siva, often called Seo or Sheo or Shev, or Sheb; Devi is a goddess. Deo, is also used to designate a demon, an idol, genii giant, a spirit or shade or ghost and a hobgoblin. See Deva.

DEODAR, Hind. *Cedrus deodara, Loud., also the Cupressus torulosa; Juniperus excelsa,* and *Chickrassia tabularis.* The word is also spelled Dewdar, also Devidar, and is most usually applied to the Cedrus deodara. The Conservator of Forests, in his report of 1864 on the Deodar forests in the Jummoo and Kashmir territory, allowing 5,000 first class trees for the Liawa and Uj divisions, estimated the amount on the Chenab with the Bhutna at 35,000, the Marru Wardwan at 32,000, the Jhelum, below Baramula, at 5,000, and for the Kishen-gunga nearly 40,000, an aggregate of 117,000 fine trees, almost as many as the whole number at present available in the Punjab forests in British territory, or leased elsewhere by the Punjab Government.

The mean results of experiments have been

Description of Timber.	Dimensions.			Breaking weight.	Weight reduced to units of			Weight in lbs. @ cubic foot.
	In.	In.	In.		L. 1 ft.	B. 1 in.	D. 1 in.	
Chenab deodar	18	1¼	1¼	1,348 lbs.	599 lbs.			28·62.
Ravi deodar..	18	1¼	1¼	1,821 lbs.	808 lbs.			35·75.

DEODAR or Shemanathu oil is an empyreumatic medicinal oil from the Erythroxylon arælolatum.—*Pioneer, M. E. J.R.—Cleghorn's Punjab Report, p.* 137. See Cedar, Cedus deodara, Cupressus torulosa, Diar; Juniperus excelsa. Kelon.

DEODARA of Kulu and the Beas, Cupressus torulosa, twisted Cypress. Duk. Sethia indica, *DC.* Hind., Erythroxylon areolatum.

DEO-DHUNGA, a peak north-east of Kathmandu, in L. 87° E., upwards of 29,000 feet high, and consequently the loftiest yet known peak of the Himalaya. Its name, Dévadhúngá, means holy hill. Déodhúngá and Mount Everest are both "about 100 miles N. E. of Kathmandu;" both are midway between Gosainthán and Kangchun.—*Beng. As. Soc. Jour., No.* v. *of* 1856.

DEOGARH, was once ruled by a Gond dynasty, and was described by Sir R. Jenkins, in his report on the Nagpur province, which contains an outline almost all that is known of the history of these obscure hill tracts before they were annexed by the Mahrattas.

DEOGHUR or Byjnath, a small town in the zillah of Bheerbhoom. It is famous for its temples which are annually visited by thousands of pilgrims from the N. W. of India. Copper, lead and iron-ores are found near. See Bheerbhoom.

DEOGIRI, now called Dowlatabad is about 12 miles from Aurungabad, in the Dekhan, is a scarped rock of considerable height with a road-way leading up through the rock. Its position is commanding, and it has from the most ancient times been a stronghold of the rulers in that part of India. The name seems to have been sometimes written Deoghur. It was the capital of Ram Deo, a prince of so great power that the mahomedans looked on him as king of the Dekhan. Alla-ud-Din, nephew and general of Feroz, in A. D. 1294 swept across the Nerbuddah and captured Deoghur, and besides money and jewels obtained the cession of Ellichpoor and its dependencies, and the raja was further to pay tribute annually. On his return, he was met by his uncle Feroz, whom he assassinated, as he patted him on the cheek, and then ascended the throne. Subsequently he invaded

and conquered Guzerat and took its beautiful queen, Komala Devi, into his household. About A. D. 1300, he repulsed an invasion of the Moghuls under Katallagh Khan. In A. D. 1303 he captured the fort of Chittore but was immediately recalled to check an invasion of the Moghuls whom he repulsed a third and fourth time in 1305 and 1306. In 1306 he sent Malik Kafur, his general, a eunuch, and who had been the slave of a merchant at Cambay, to chastise the rajah of Deoghur which Kafur effected and also subdued the Mahrattas. In A. D. 1309, Malik Kafur captured Wárangál, then the capital of Telingana. In 1310, he reduced Belal-Deo, the rajah of the Carnatic, with whom the Belal dynasty ended. He over-ran the whole of the eastern provinces, as far as Ramisseram, opposite Ceylon, where he erected a mosque to commemorate his victories ; and in A. D. 1311 he returned to Delhi, laden with plunder. In 1312 he despatched Kafur a second time to punish Ram Deva, king of Deoghur and son of the former Ram Deo, who was put to death, and the kingdom annexed. He next carried his arms over all the Mahratta territory and the Carnatic, and soon after died.—*Brigg's Nizam.* See Dowlatabad.

DEOGUR, known for its copper mines, and argentiferous ores. See Copper.

DEO KANCHANAMU, Tel. Bauhinia acuminata.

DEO KANCHANAM, Tel. ? Batatas paniculata.—*Choisy. ?*

DEOKHADIR, Hind. Mimosa rubicaulis.

DEO KORA, the household god of the Garrow race. It is a small bell-metal dish with embossed figures, hung up in the house and worshipped and sacrifice offered.

DEO MUNNI ? Sacred beads of Assam.

DEOOA or DEPPHUL, Beng. Artocarpus lacoocha.

DEOOLA TEMPLES, sacred to Jugunnat'ha, rise from the foundation in a gradual slope like a sugar-loaf, with an iron image of Guroora on the pinnacle. These temples made of brick, are ascended by a flight of steps, and contain only one room.

DEO PATTAN, a district in the S. W. of India, in which was the temple of Somanath taken by Mahmood of Ghazni, in 1024. See India, p. 334.

DEORA, is the tribe of the Sarohi princes, chiefs of Aboo and Sirohi. It is a branch of the Chohan rajpoots whose cradle is said to be on the summit of Aboo, whence they spread over the regions skirting the Aravalli to Ajmir, establishing many minor principalities, as Nadol, Jhalor, and others, long before the Rahtor of Jodpoor had set foot in Maroo, but were yet enjoying all the pomp of royalty in the splendid city of Kanouj. Sarohi, Aboo and Chandravati, then appertained to the Pramara race, nor was it until the thirteenth century that the uncle of Kana Deo, prince of Jhalore, treacherously obtained possession of the former with its dependencies, by the slaughter of the Pramara race. The city, now the residence of the Deora princes, is comparatively of modern date, the ancient Sarohi lying behind a second range of mountains. The Rahtor and Deora are the bravest of the rajput races. Achilgurh, or the immovable castle, is the name of the fortress of the Deora. —*Tod's Travels, p.* 61, *Rajasthan, Vol.* ii, *pp.* 39 *and* 57. *Annals of Mewar, p.* 334. See Khengar, Sidraj.

DEORHI, Hind. A threshold, a household ; the household of a person of rank, generally of a mahomedan noble.

DEOSHI, the sacrificial priest of the Kooch.

DEOTA, Hind. A deity.

DEOTSA, a small plateau or table-land adjoining that of Balti. It and the Balti table-land, form a territory 60 miles long and 36 broad, and are part of the territory of Balti. It is a plateau between Kashmir and Tibet, 13,000 feet above the sea level. It is high above the forest line or birch region, and tenanted only by the marmot, with a few dwarf willows and herbaceous species as its plants. It is a thinly-inhabited steppe between Skardo and Kashmir, belonging to Bultistan.—*Vigne.*

DEPALPOOR, a town of the Panjab.

DEPATTY NUSANTARA. See Banca Islands.

DEPHAL, Beng. Artocarpus lacoocha.—*Roxb.*

DEPHAL DAMPEL, Beng. Xanthochymus pictorius.

DER, Hind. of Chenab and Chota Lahaul, Cedrela toona, *var.* serrata ; Hill toon.

DERA. See Dhera.

DERA BULLU, a small territory in the Kuen-luen valley, in Turkistan, the valley of the Yarkand river, near this, is 16,883 feet above the sea, in L. 35° 49′ N., & L. 77° 31′ E.

DERABAND, a British district, near the Khyber.

DERBEND-I-BAZIAN, a pass near the Karadagh mountain.

DER of Chenab, Panjab. Cedrela toona, *var.* serrata.—*Royle.*

DERBENT, a town in the province of Shirwan, in Lat. 41° 51′ N., on the shore of the Caspian. Its walls are carried into ten feet depth of water, to prevent any one's passing that way : its length, from east to west, is nearly five wersts ; but its breadth is not proportionable. The town is divided into three distinct quarters : the castle, on the top of the

mountain, the foot of the mountain and the lower town. The Dar of the words Derial and Derbent, means a gate, door, or narrow pass.—*Porter's Travels, Vol.* i, *p.* 72. *Malcolm's History of Persia, Vol.* ii, *p.* 5.

DEREACHTE and Bakhtegan (also called Niriz) salt lakes in the neighbourhood of Shiraz. See Fars.

DEREAH, HIND. Bhera, MAHR. A wood of the Nagpore forests : though of great strength, it cannot, from the small size the tree attains, rank as a building material : the average logs are from 6½ to 10½ feet long and from 2 to 3 feet in girth. It has a winding and, as it were, netted grain, from which, as well as the extraordinary toughness of its fibres, butchers invariably use it for chopping blocks ; the sharp edge of the knive apparently having no effect on it.—*Captain Sankey.*

DERI, the modern Persian tongue. It is derived from the Parsi, which displaced the rougher Pehlevi, though Pehlevi is still used in the sacred writings at Sherwan. See Iran.

DERISANA, TEL. Acacia serissa.

DERSANA, a hindoo school of philosophy.

DERVISH, the darvesh of the Persians, Turks, and Egyptians, and fakir of India, religious mendicants, notorious for idleness and vice. The Nakshbandi Dervish or painters, illustrate their theology with pictures. See Darvesh.

DES, HIND., PERS., literally country, is a term applied in Rohilcund to cleared villages on the borders of the Taraee. In the Deccan it is used to signify a champaign country. Of the words derived from it and its other applications, "Des," is a native country. Desmukh and Despande, are Mahratta revenue officers. Desai, a superintendent of a district ; Par-desi, a foreigner.

DES (a Jouer). FR. Dice.

DESA, a name of Orissa.

DESARATHA, king of Ayodhya, of the solar race, a potent sovereign in ancient India, and father of Rama. See Dasaratha, Mahabharata, Vishnu.

DESATIR, or sacred writings of the ancient Persian prophets, published by mulla Feroz bin Kaus at Bombay in 1818, in 2 vols., 8vo. —*Dr. Buist's Catalogue.*

DESAVALI PENDALAM, TEL. Dioscorea purpurea.—*Roxb.*

DERMESTES, a genus of beetles in the E. Archipelago.

DESCENSUS AB UTERO. See Aka Podwal. Anandraver.

DESCHU ? Juniperus recurva.

DESERT OF KHARAZM, OR REGAN, from June to September, is liable to destructive hot winds in which man and beast perish, even the hardy camel perishing miserably. The Beluchi call it Julot or Julo, the flame, also Bad-i-Simoom, or the poison wind. There is great heat of skin quickly ending in death. The approach of the wind is ushered in by an oppressive calm in the air, and a degree of heat that affects the eyes ; the precaution then adopted by travellers, is to cover themselves over, and lie prostrate on the earth. A curious fact is established by this custom, that any cloth, however thin, will obviate the deleterious effects of the Bad-i-Simoom on the human body.—*Pottinger's Travels in Beloochistan and Sinde, pp.* 136-7.

DESERT OF GOBI. The great highway between Pekin and Europe, from time immemorial, has been the caravan tract from the western end of the great wall across this desert. The route issues from the western end of the great wall, and moving through the Kiayu Pass, has to traverse N. W. 500 miles, of a desolate sand tract to reach the city of Khamil. At this town the road bifurcates, the upper branch leading through Barkul, Urumchi and Kurkur-usu into Dzungaria; the lower through Pijan, Turfan, Karashar, and Kuchu to Aksa in Eastern Turkistan. While Chinese rule prevailed, Dzungaria and Eastern Turkistan formed the province of Ili. The belief that wildernesses are haunted places, is a very old and general one. Our blessed Lord himself in a very solemn passage (Luke xi. 24), adopts the Jewish phraseology as to this belief. Pliny says (vii. 2), that in the deserts of Africa phantoms in human shape appear to travellers and immediately vanish again. But the belief is especially prevalent among the nations of Central Asia. By them " deserts .....and the like, where nature shows herself in vast forms and in all the terrors of her influences, are held to be the especial headquarters and rendezvous of malignant spirits... hence the wildernesses of Turan, and particularly the great sand-waste of Gobi have from hoar antiquity had an evil fame. The Turks have a saying that evil spirits play at ball in desert places ; both Fa Hian and Marco Polo allude to the evil genii of the deserts of Central Asia, and Rubruquis tells of a frightful defile, where the demons were said to snatch travellers off their horses. The Affghans believe each of the numerous solitudes in the mountains and deserts of their country to be inhabited by a lonely demon, whom they call the Ghol-i-Biaban, or spirit of the waste, a gigantic and frightful spectre which devours passengers.—*Schmidt, p.* 352 ; *Yule's Cathay., Vol.* i, *p.* 157.

DESERT OF CENTRAL ASIA, extends from the Atlantic to the Yellow Sea. A strip of rich vegetation occurs in its centre, where

the Tigris and Euphrates and their affluents enrich the country. To the westward of it are the seas of sand of the Arabian and African wastes, seldom raised above, often sinking below the level of the ocean. To the eastward of the rich tract in Persia, Kerman, Seistan, Chinese Tartary and Mongolia, the desert consists of series of plateaux, having from 3,000 to nearly 10,000 feet of elevation.—*Rawlinson, Vol. i, p. 1.*

DESERT OF INDIA. Water is at an immense distance from the surface throughout the Indian desert, which, in this respect, as well as many others, differs very materially from that portion of the great African desert in the same latitudes. Water at twenty feet, as found at Mourzook by Capt. Lyon, is, in the Indian desert, unheard of. At Daismok'h, near the capital, the wells are more than two hundred cubits, or three hundred feet, in depth; and it is rare that water fit for man is found at a less distance from the surface than sixty feet, in the tracts decidedly termed *t'hul* or 'desert,' though some of the flats, or *oasis*, such as that of Mohilla, are exceptions, and abundance of brackish water fit for cattle, is found throughout at half this depth, or about thirty feet. All the wells are lined with basket-work made of *p'hok* twigs, and the water is generally drawn up by hand-lines. Water is sold, in all the large towns, by the *malli race*, or gardeners, who have the monopoly of this article. Most families have large cisterns or reservoirs, called *tanka*, which are filled in the rainy season. They are of masonry, with a small trap-door at the top, made to exclude the external air, and having a lock and key affixed. Some large *tanka* are established for the community, and this water keeps sweet for eight and twelve months' consumption.—*Tod's Rajasthan, Vol. ii, p. 202.* The Bíkaneer region is but little known to Europeans, by whom it has hitherto been supposed to be a perfect desert, unworthy of examination. And its deterioration, within three centuries since the Rajpoot supplanted the Jit, almost warrants our belief of the assertion that these deserts were once fertile and populous. The princes of Bíkaneer used to take the field at the head of ten thousand of their kindred retainers; to other causes than positive sterility must be attributed the wretched condition of this state. The commercial towns of Chooru, Rajgurh, and Rinne, as *entrepôts*, supplied the country with the productions of Scinde and the provinces to the westward, or those of Gangetic India; the same cause affected Jessulmeer, Bíkaneer, and the more eastern principalities, the Maldote of Jessulmeer and the Larkhani of Jeypoor, were as notorious as the Beedawut of Bíkaneer; and to these may be added the Sahrâ, Khosa and Rajur, in the more western desert, who, in their habits and principles, Tod describes as demoralized as the bedouins of Arabia. The line of greatest breadth of Bíkaneer extends from Poogul to Rajgurh, and measures about 180 miles, while the length from north to south, between Bhutnair and Mahajin, is about 160 miles: the area may not exceed twenty-two thousand miles. Formerly they reckoned two thousand seven hundred towns, villages and hamlets scattered over this space, one-half of which are no longer in existence. The tract to the north-west of Jaetpoor in Colonel Tod's time was perfectly desolate, and nearly so from that point to Bhutnair: to the north-east, the population was but scanty, which observation also applies to the parts from the meridian of Bíkaneer to the Jessulmeer frontier; while, internally, from these points, it is more uniform and equals the northern parts of Marwar. A census of the twelve principal towns, may furnish a tolerably accurate approximation on this point:—

Chief Towns.	*Houses.*	*Chief Towns.*	*Houses.*
Bíkaneer	12,000	Mahajin	800
Nohur	2,500	Jaelpoor	1,000
Bahaderan	2,500	Beedasir	500
Rinne	1,500	Ruttungurh	1,000
Rajgurh	3,000	Daismookh	1,000
Choorú	3,000	Senthal	50

It was estimated that there were 1,200 villages and 107,856 houses with a total of 539,250 souls, giving an average of twenty-five to the square mile. Three-fourths of the people are Jit; the rest are their conquerors, descendants of Becka, including the Sarsote brahmins, Charuns, Bards, and a few of the debased classes, whose numbers are not one-tenth of the Rajpoots.

The Jit are the most wealthy as well as the most numerous portion of the community. Many of the old Bhomia land-lords, representatives of their ancient communal heads, are men of substance.

Sarsote, properly Sarasvati, brahmins are found in considerable numbers throughout this tract. They aver that they were masters of the country prior to the Jit colonists. They are a peaceable, industrious race, and without a single prejudice of the order; they eat meat, smoke tobacco, cultivate the soil, and trade even in the sacred kine.

The Charan are the sacred order of these regions; the warlike tribes esteem the heroic lays of the bard more than the homily of the brahmin. The Charan are throughout reverenced by the Rahtore, and hold lands, literally, on the tenure of 'an old song.'

Malli and Noé, gardeners and barbers, are important members of every Rajpoot family, and to be found in all the villages, of which they are invariably the cooks.

Choora and Thaori were, in Colonel Tod's time, actually castes of robbers: the former, from the Lakhi jungle, the latter, from Méwar. Most of the chieftains had a few in their pay, entertained for the most desperate services. The Bahaderan chief had expelled all his Rajpoots, and retained only Choora and Thaori. The Choora are highly esteemed for fidelity, and the barriers and portals throughout this tract were in their custody. They enjoy a very singular perquisite, which would go far to prove their being the aborigines of the country; namely, a fee of four copper coins on every dead subject, when the funeral ceremonies are over.

The Rahtore of Bíkaneer are unchanged in their martial qualifications, bearing as high a reputation as any other class in India. The Rahtore of the desert have fewer prejudices than their more eastern brethren; they will eat food, without inquiring by whom it was dressed, and will drink either wine or water, without asking to whom the cup belonged. They would make the best soldiers in the world if they would submit to discipline, as they are brave, hardy, easily satisfied, and very patient; but in the inordinate use of opium, and smoking intoxicating herbs, are said to exceed all the *Chatees rajcula*, the thirty-six royal tribes of India. The *piálá*, or 'cup,' is a favorite with every rajpoot who can afford it, and is, as well as opium, a panacea for *ennui*, arising from the absence of all mental stimulants, in which they are more deficient, from the nature of the country, than most of their warlike countrymen.—*Tod's Rajasthan, Vol.* ii, *pp.* 196, 202.

Bhutnair, which now forms an integral part of Bíkaneer, was anciently the chief abode of another Jit community, so powerful as at one time to provoke the vengeance of kings, and at others to succour them when in distress. The Bhatti annals confirm what might have been assumed without suspicion, that to a colony of this race, Bhutnair owes its name, though not its existence. The whole of the northern part is called Nair in the ancient geographical nomenclature of Maroost'hali; and when some of the Bhatti clans became proselytes to mahomedans they changed the vowel a to u, to distinguish them from the parent stock, viz., Bhatti for Bhutti. In all probability the Yadu-Bhatti is the original Yuti colony from Central Asia; and the Jit prince of Salpoor, was the predecessor of these very races. Bhutnair has attained great historical celebrity from its position, being in the route

of invasion from Central Asia to India. It is more than probable that the Jit race who resisted the advance of Mahmood of Ghizni in a naval warfare on the Indus, had long before that period established themselves in the desert as well as in the Punjab; and as we find them occupying a place amongst the thirty-six royal tribes, we may infer that they had political power many centuries before that conqueror. In A. D. 1205, only twelve years after the conquest of India by Shahab-ud-din, his successor, Kootub, was compelled to conduct the war in person against the Jit of the northern desert, to prevent their wresting the important post of Hansi from the empire; and when the unfortunate and intrepid queen Razzia, the worthy heiress of the great Feroz, was compelled to abandon her throne to an usurper, she sought and found protection amongst the Jit, who, with their Scythic brethren, the Ghiker, assembled all their forces and marched, with their queen at their head, like Tomyris of old, to meet her foes. She was not destined to enjoy the same revenge, but gained a glorious death in the attempt to overturn the Salic law of India. Again, in A. D. 1397, when Timoor invaded India, Bhutnair was attacked for "having distressed him exceedingly on his invasion of Mooltan," when he "in person scoured the country, and cut off a tribe of banditti called Jit." In short, the Bhutti and Jit were so intermingled, that distinction was impossible. Shortly after Timoor's invasion, a colony of Bhatti migrated from Marote and Phoolra, under their leader Bérsí, and assaulted and captured Bhutnair from a mahomedan chief.

The Desert of India is known on its borders as Maroost'hali, the region of death from mri, Sans., to die; and st'hali, arid or dry land, but is also known as the desert of Rajpootanah. Maroost'hali is bounded on the north by the flat skirting the Garah; on the south by that grand salt-marsh, the Rin, and Kolíwarra; on the east by the Aravulli; and on the west by the valley of Scinde. It covers an area of 70,000 square miles. But for the Aravulli, which run N. E. & S. W., dividing Rajpootanah into two equal parts, Central India would be submerged in sand; nay, lofty and continuous as is this chain, extending almost from the sea to Dehli, wherever there are passages or depressions, there floating sand-clouds are wafted through or over, and form a little *t'hul* even in the bosom of fertility. Whoever has crossed the Bunas near Tonk, where the sand for some miles resembles waves of the sea, will comprehend this remark. Its western boundary is alike defined, and will recall to the English traveller,

who may be destined to journey up the valley of Scinde, the words of Napoleon on the Lybian desert : "Nothing so much resembles the sea as the desert, or a coast, as the valley of the Nile." This desert has small scattered spots of fertility with great arid portions called t'hul, denoting tracts particularly sterile, and therefore the converse of the Oasis of the Greeks and each with a distinct name as the t'hul of Kawur, the t'hul of Goga and others. A tradition exists to the effect that in remote ages, it was ruled by Powar or Pramara rajpoot princes, from nine fortresses, viz., Poogul, Mundore, Maroo, Aboo, Kheraloo, Parkur, Chotun, Oomarkot, Arore and Lodorva. From Bhalotra on the Looni, throughout the whole of Dhát and Oomra-i-Soomra, the western portion of Jessulmér, and a broad strip between the southern limits of Daodpotra and Bíkaneer, there is real solitude and desolation. But from the Sutlej to the Rin, a space of five hundred miles of longitudinal distance, and varying in breadth from fifty to one hundred miles, numerous oases are found, where the shepherds from the valley of the Indus and the T'hul pasture their flocks. The springs of water in these places have various appellations, ter, par, rar, dur, all expressive of the element, round which assemble the Rajur, Soda, Mangulia and Sehrai, inhabiting the desert. A traveller proceeding from the "Khuchee" or flats of Scinde to the east, sees the line of the desert distinctly marked, with its elevated teeba, or sand ridges, under which flows the Sankra which is generally dry except at periodical inundations. These sand-hills are of considerable elevation, and may be considered the limit of the inundation of the 'Sweet-river,' the Meeta Muran, a Scythic or Tartar name for river, and by which alone the Indus is known from the Punjnud to the ocean. The whole of Bikaneer and that part of Shékhavat, north of the Aravulli, are comprehended in the desert. Jessulmeer is nearly in the centre of what may be termed entire desert, is in fact an *oasis*, but the largest oasis of the desert, everywhere insulated by immense masses of *t'hul*, some of which are forty miles in breadth. The rock on which the castle is built has three peaks, or tri-cuta, Westward from this, from 400 or 500 miles, with one or two hundred miles in breadth, are little scattered oasis, on which the shepherds of the desert have their huts.

The whole of the Bíkaneer principality, with the exception of a few isolated spots, or *oases*, scattered here and there, consists more or less of sand. From the eastern to the western boundary, in the line of greatest breadth, it is one continuous plain of sand, though the *teeba*, or sand hills, commence in the centre of the country, the principal chain running in the direction of Jessulmeer, and shooting forth subordinate branches in every direction ; or it might be more correct to designate this main ridge, as originating in the tracts bordering the eastern valley of the Indus, and terminating its elevations about the heart of Bíkanér. On the north-east quarter, from Rajgurh to Nohur and Raotsir, the soil is good, being black earth, slightly mixed with sand, and having water near enough to the surface for irrigation ; it produces wheat, gram, and even rice, in considerable quantities. The same soil exists from Bhutnair to the banks of the Garah. The whole of the Mohilla tract is a fertile *oasis ;* the *teeba* just terminating their extreme offsets on its northern limit : being flooded in the periodical rains, wheat is abundantly produced.—*Tod's Rajasthan, Vol.* i, *p.* 19 & ii, *pp.* 199, 211-12, 290.

Schedule exhibiting the Fiefs of Bíkaneer.

Names of Chieftains.	Clans.	Places of abode.	Revenue.	Retainers.		REMARKS.
				Foot.	Horse.	
Berí Sal ...	Beekoo ...	Mahajin ...	40,000	5,000	100	One hundred and forty villages attached to this fief, settled on the heir of Raja Noonkurn, who consequently forfeited the *gadi*.
Abhé Sing ...	Benirote ...	Bookurka ...	25,000	5,000	200	The first of the chiefs of Bikaner.
Anóp Sing ...	Beeko ...	Jessanoh ...	5,000	400	40	
Paim Sing ..	Do ...	Baie ...	5,000	400	25	
Chyn Sing ...	Benirote ...	Sawoh ...	20,000	2,000	300	
Himmut Sing...	Raot ...	Raotsir ...	20,000	2,000	300	
Seo Sing ...	Benirote ...	Chooru ...	25,000	2,000	200	
Omed Sing Jaet Sing	Bedawut	Bedasir Saondwa	50,000	10,000	2,000	One hundred and forty *koties* (families, lit. *Chambers*) of this class.
Bahader Sing Sooraj Mull GomaunSing Athie Sing	Nanote	Maynsir Teandesir Kattur Kootchore	40,000	4,000	500	

Names of Chieftains.	Clans.	Place of abode.	Revenue.	Retainers.		REMARKS.
				Foot.	Horse.	
Shere Sing ...	Narnote ...	Neembaje ...	5,000	500	125	
Davee Sing, Omeid Sing, Soortan Sing, Kurrni Dan	Narnote	Seedmook, Kurripoora, Ajeetpoora, Beahsir	20,000	5,000	400	
Soortan Sing ...	Cutchwaha...	Nynawass ...	4,000	150	30	These two fiefs are held by foreign nobles of the house of Amber, and the ancient Pramara, (*vulg.* Powar.)
Puddum Sing...	Powar ...	Jaetsisir ...	5,000	200	100	
Kishen Sing ...	Beeko ...	Hyadesir ...	5,000	200	50	
Rao Sing ...	Bhatti ...	Poogul ...	6,000	1,500	40	The fief of Poogul was rested from the Bhattis of Jessulmeer.
Sultan Sing ...	Do ...	Rajasir ...	1,500	200	50	
Lukteer Sing ...	Do ...	Ranair ...	2,000	400	75	
Kurnie Sing ...	Do ...	Sutasir ...	1,100	200	9	
Bhom Sing ..	Do ...	Chuckuna ...	1,500	60	4	
4 Chieftains, viz:						
1 Bhonni Sing ..	Bhatti ...	Beetchnok ...	1,500	60	6	
2 Zalim Sing ...	Do ...	Gurrialah ...	1,100	40	4	
3 Sirdar Sing ..	Do ...	Soorjérah ...	800	30	2	
4 Kaet Sing ...	Do ...	Rundisir ...	600	32	2	
Chund Sing ...	Kurrumsaut.	Nokho ...	11,000	1,500	500	Twenty-seven villages dependent on this family from Jodpoor, and settled here 11 years.
Sutti Dan ...	Roopawut ...	Badilah ...	5,000	200	25	
Bhom Sing ...	Bhatti ...	Jangloo ...	2,500	400	9	
Kaitsi ...	Do ...	Jaminsir ...	15,000	500	150	Twenty-seven villages.
Issree Sing ...	Mundilah ..	Saroondah ...	11,000	2,000	150	
Puddum Sing ...	Bhatti ...	Koodsoo ...	1,500	60	4	
Kullian Sing ...	Do ..	Naineah ...	1,000	40	2	
Total...	....	... .	331,400	43,572	5,402	

The Jhalore tract is one of the most important divisions of Marwar. It is separated from Sewánchí by the Sookri and Khári, which, with many smaller streams, flow through them from the Aravulli and Aboo, aiding to fertilize its three hundred and sixty towns and villages, forming a part of the fiscal domains of Marwar. The important fortress of Jhalore, guarding the southern frontier of Marwar, stands on the extremity of the range extending north to Sewanoh.

Sewanchi is the tract between the Looni and Sookri. Macholah and Morseen are the two principal dependencies of Jhalore. Beenmal and Sanchore are the two principal divisions to the south, each containing 80 villages. Bhadrajoon, a fief of Jhalore, has a Joda chief and Meena population. The T'hul of Goga is very thinly inhabited with many sand-hills, t'hul-ka-tiba. The t'hul of Tiruroe lies between Goga deo and Jessulmeer. The t'hul of Khawar is between Jessulmeer and Barmair in the most remote angle of Marwar. Barmair t'hul, also called the Malli-nat'h-ka-t'hul, is occupied by cattle-breeders. The Kherdur or land of Kher, and Nuggur Gooroh on the Looni are the chief t'hul.

The Chohan rajpoot of the desert has, on the N. and E., the above tracts of Marwar, to the south of Koliwarah and the Runn, to the west the desert of Dhat. The sterile ridge which passes through Chotun to Jessulmeer passes west of Bankasir on to Nuggur Parkur. The wells are 65 to 130 feet deep. The Sehrai, Khossa, Koli and Bhil inhabitants are predatory races. The Chohan rajpoot does not wear the zonar and does not much respect the brahmans. The Pit'hil and Bania are farmers and traders.

The Runn or Rinn, is a remarkable feature of the desert. It is a salt marsh, 150 miles broad, into which the Loni or Looni or salt river enters and then runs on to the sea. The Looni rises in the Aravulli. In Marwar it separates the fertile land from the desert, afterwards runs through the Chohan territory, dividing it into the eastern part called Raj-Bah or Sooi-Bah, and the western part called Parkur or "beyond the Khar or Looni." The Caggar rises in the Siwalik Hills, flows under Bhutnair walls and once emptied itself between Jessulmeer and Rori Bukkur.

DESERT OF SIND lies between the frontier of Rajpootanah and the valley of the

Indus, and from Dawudputra on the north to Buliari on the Runn, 220 miles long and 80 broad or 17,600 square miles. It is one entire t'hul, with few villages and a few shepherds ; 50 miles without water, the wells 70 to 500 feet deep and the sand-hills, little mountains. It was through this tract that Hamayun sought refuge to the Dhat country and its capital, then, Oomerkote, where Akbar was born. Arore, there, is a ruined town. Oomerkote was wrested from the Soda race by the Rahtore tribe of Marwar, and since then the chiefs of the expelled clan have dwelt in Chore, 15 miles N. E. of Oomerkote. At one time, every third year brought famine. The Soda women of this desert tract of Dhatta are proverbially handsome. In this desert and in the valley of the Indus, are the Soda, Catti and Mallani, descendants of the Sogdi, Cat'hi and Malli, of Getes and Yuti, many of whom call themselves Baluch, or keep the ancient name of Numri, whilst the Zj'hut or Jut, retain their primitive appellation. Also remains of the Johya and Dahya who with the Gete, Jut or Hun, hold places amongst the 36 royal races of ancient India. The Baraha and Lohana tribes are there, the Sahrai, the great robber of the desert, the Bhatti, Rahtore, Joda, Chohan, Mallani, Kaorwa, Joshya, Sooltano, Lohana, Arorah, Khoomra, Sindil, Maisuri, Vishnavi, Jakhur, Shiag, Ashiag and Pooniah.

The origin of the mahomedan Kullora and Sahrai is doubtful, but the following professors of mahomedanism are "Nyad" or proselytes from rajpoot or other hindoo tribes : viz., Zj'hut ; Ragur ; Oomra ; Soomra ; Mair or Mer ; Mor or Mohor ; Baluch ; Lumria or Looka ; Sumaicha ; Mangulia ; Baggreah ; Dahya ; Johya ; Kairooee ; Jangurea ; Oondur ; Berowee ; Bawuri ; Tawuri ; Chrendea ; Khossa ; Sudani ; Lohana. These converts are ferocious and intolerant.

The *Soda* is scattered over the desert, some are mahomedans : the Sumaicha is a mahomedan proselyte from the Soda.

Kaoorwa, a peaceable nomade race, chiefly in the t'hul of Dhat, rear cattle.

Dhote or *Dhatti*, like the Kaoorwa, a pastoral race of Dhat, their cows give 8 or 10 seers of milk daily.

Lohana, numerous in Dhat and Talpoora, they are scribes and shop-keepers.

Arorah, a thrifty race, tradesmen and farmers.

Bhattiah, formerly martial, now traders and like the Arorah, and both these have commercial agencies all over India.

Brahman, Bishnuvi, cultivators and graziers, numerous in Dhat, some in Chore and in Oomerkote, Dharnas and Mitti.

Rebarri, a race who in Hindustan, profess mahomedanism and rear camels, here are a tribe who rear camels, or with the Bhatti, steal them.

Jakhur, *Shiag'h* and *Pooniah*, harmless, industrious, in the desert and the valley, are denominations of the Jit race, but most of these sections have become mahomedans and call themselves Z'jhut.

Sahrai, is the most numerous of the mahomedan tribes of the desert, of which he is the terror. The Khossa is a branch of the Sahrai, whom in habits he resembles, plundering on camels, but they are cowardly and faithless.

Sumaicha, converts to mahomedanism, from the Soda race, some are pastoral, some are plunderers. They are dirty, and never shave.

Rajur, a convert from the Bhatti, cultivators, shepherds and thieves and evil-livers.

Oomra and *Sumra*, are converts from the Puar or Pramara race, have mixed largely with mahomedans.

Kullora and *Talpur*, Scinde tribes, which furnished the last two ruling dynasties. The Kullora trace their descent from the Abbasside Kaliphs, and the Talpuri from Mahomed, but both seem to be Baluch, which are essentially of Jit or Gete origin. The Talpuri ("Tal" or "Tar," Borassus flabelliformis or palmyra, and "pura," a town) amount to one-fourth of the population of Hyderabad which they call Lohri or Little Scinde. There are none in the T'hul.

Noomri, *Loomri* or *Looka*, all of which mean fox, a sub-division of the Baluch race.

Z'jhut, *Jut* or *Jit*, dwell in Scinde, from the sea to Dawudputra, but not on the t'hul. They are the oldest of the proselytes to mahomedanism.

Mair or *Mer*, of Bhatti origin.

Mor or *Mohur*, do.

Tawuri, *T'hori* or *Tori*, dwell in the t'huls of Dawudputra, Beejnote, Noke and Noakote and Oodur ; they own and hire out camels, but like an Bawuri and Khengar are great thieves, and are called "bhoot" or evil spirits and sons of the devil.

Johya, *Dahya* and *Mangalya*, once rajpoots, are now mahomedans, are few either in the valley or desert, as also are the Baluch, Bairowi, Khairowi, Jangria, Oondur and Baggria, descended from the Pramar and Sankla rajpoots.

Dawudputra, founded by Dawood Khan from Shikarpore.

The intense heat and cold of deserts is explicable as follows : Among crystalline bodies, rock crystal, or silica, is the best conductor of heat. This fact accounts for the steadiness of temperature in one set dis-

trict, and the extremes of heat and cold presented by day and night on such sandy wastes as the Sahara. The sand, which is for the most part silica, drinks in the noon-day heat, and loses it by night just as speedily. The influence of the hot winds from the Sahara has been observed in vessels traversing the Atlantic at a distance of upwards of 1,100 geographical miles from the African shores, by the coating of impalpable dust upon the sails.—*Tod's Rajasthan, Vol.* i, *p.* 19; *Vol.* ii, *pp.* 289 *to* 330; *The British World in the East*; *Ritchie, Vol.* i, *p.* 7; *Mignan's Travels, p.* 32; *Curiosities of Science, p.* 165.

DESH DARRANG, a district in Assam.

DESIDERI. Pere Desideri, a missionary, started from Goa in November 1713, and passing through Delhi and Kashmere into Baltistan, arrived at Leh, or Ladak, on the 25th June 1714, and remained there for an entire year. From thence, he continued his journey, in the autumn of 1715, to Lassa, by a route of extreme elevation and great cold, which occupied from August 1715 to March 1716. Desideri found the temporal sovereignty of Lassa in the hands of a Tartar prince (a Sifan), who had recently conquered the country.—*Prinsep's Tibet, Tartary and Mongolia, p.* 15.

DESHASTH, a term by which, the Mahratta brahmins of Mahrashtra are designated. They are described as a class, of sedentary habits, extremely fond of their native place, very fond of display, and fond of rich and splendid clothes. On occasions of marriage and other festival ceremonies they are lavish.

DESHASTHA, brahmins have acquired some literary celebrity and have been largely employed under the several Governments of India, chiefly in the revenue departments. The few prakrit poets that have made their appearance are Deshasth such as 'Wamon,' 'Moropant,' and 'Jagnath.' Deshasth brahmins are better featured than the Konkanasths, and the Konkanasth brahmin is fairer.

The social and political life of the Konkanastha brahmins has undergone a complete change during the last 1½ centuries. Before that they were solely an agricultural class of people, visiting towns only on very unavoidable occasions. They possessed a good knowledge of the Vedas and Shastras, and were liberally rewarded on that account by the patrons of those branches of learning. They rarely held offices under government or in mercantile houses, on the advent of the British they were compelled to look out for employment, and they at once spread all over the extensive table-land of Sahadri, called the desh, every department of government contains Konkanist brahmins, and they have shown themselves active, intelligent, liberal-minded men.

The Deshasta from time out of mind have been in the possession of the rich tableland, and been zemindars, deshmukhs, deshpandies, &c. They have never been distinguished for their knowledge of the Vedas or the Shastras. Once they were in sole possession of government offices, but they have been greatly thrown into the background by the Konkanasth. All the lower class of offices such as village accountants, &c., are, however, still in their hands.

DESI, indigenous, belonging to the country Par-desi, a foreigner, a stranger, a native of northern India.—*Elliot; Wilson.*

DESI GOKRU, Hind. Tribulus alatus.

DESIMA, the commercial site occupied by the Dutch in Japan, it stands upon and wholly covers a little artificial fan-shaped islet, about 600 feet in length, by 240 in breadth. And is joined to the island and town of Nagasaki by a small stone-bridge, at the end of which was a strong Japanese guard-house.—*Mac-Farlane's Geo. and His. of Japan, p.* 54.

DESMANTHUS, a genus of plants of the natural order Fabaceæ, of which D. natans, D. triquetra, and D punctatus are known as native or introduced into India.

DESMANTHUS CINEREUS, *Willde*, syn. of Caillea cinerea., or Dichrostachys cinerea.—*W. and A.*

DESMANTHUS NATANS, *Willde.*
Floating Desmanthus. Eng. | Sunday kiray. Tam.

This sensitive plant floats in the tanks of southern India, the leaflets and pods are eaten by the natives.—*Jaffrey, Voigt, Thwaites.*

DESMER, Dan. Musk.

DESMODIUM, a genus of small trees and bushes of the natural order Fabaceæ, of which Voigt enumerates 28 species in India. Dr. Wight in Icones gives figures of D. cephalotes, collinum, congestum, diffusum, Gangeticum, gyrans, latifolium, patens, polycarpum, quinqueangulatum, recurvatum, rufescens, strangulatum and triflorum.

The bark of two Panjab species, "Kalanchi" and "Moorub," are stated by Dr. Cleghorn to furnish a paper-stuff, and Dr. Stewart says, according to Dr. Cleghorn, that the barks of D. argenteum and D. tiliæfolia of the Panjab are of similar use.

The leaves of D. gyrans have a singular oscillating movement.

Dr. Stewart says that the bark of D. argenteum of the Panjab ("sambar," "pri," "muss," "chiti," "mort," "murtan") is steeped in water and made into ropes which, when as thick as the wrist, bore a heavy strain

when English rope snapped. The bark of D. tiliæfolia is also made into rope, and its leaves are the Shal-purni of the Panjab bazar. Dr. Cleghorn says the Desmodium, paper shrub, is exceedingly plentiful in the districts of Chôta and Bara Banghal, and in the Ravi valley ; the plant having a wider range, and the bark being more easily stripped off, the fibre will be available in the plains at less cost than that of Daphne papyracea.—*Drs. J. L. Stewart, Panjab Pl., Voigt, Riddell, Cleghorn, Panjab Report, p.* 113.

DESMODIUM ARGENTEUM. Múss of Kunáwar. Chiefly on the Sutlej. Very strong temporary ropes made from its bark.

DESMODIUM TILIÆFOLIUM.

Chamkat of Murree. | Kalanchi of Panjab.

Grows to a large size in the Panjab, wood of a pale whitish yellow and close-grained. Its bark is made into paper.—*Powell's Handbook.*

DESMOSTEMON ZEYLANICUS, *Thw.*

Wal-kakunu-gaha. SINGH.

Central province of Ceylon, up to 4,000 feet. Timber used for ordinary work.—*Wright, Fergusson.*

DESMUKH, a hereditary native officer under the Mahratta governments, exercising chief police and revenue authority over a district.

DESPANDYA. The hereditary revenue accountant of a district.

DESSAH, JAV. A village.

DESYADES, PUNJABI. Land beyond the influence of inundation.

DETARA, BENG. Lipeocercis serrata.

DETARDANA, HIND. Seed of a species of Desmodium : also Uraria picta, not Hedysarum.

DEUS, HIND. Deutzia staminea. The Aruchi of Bassahir.

DEUTZIA, a genus of plants of the Natural Order Philadelphaceæ. The leaves of D. scabra of Japan are so rough that they are used for joiner's work.

DEUTZIA STAMINEA.

Phul kanri of Hazára. | Sai of Chamba.
Phurili of Kashmír. | Arúchí, deús, of Bassahir.

A small sized Panjab wood, white and close-grained.—*Powell.*

DEVA, S. *Dewa, Dev, Delb,* or *Deo,* a title of a god, as Devi is of a goddess. Maha-Deva, a name given to Siva by the saiva sect, the means great or supreme god, as Maha-Devi, name of Bhavani or Parvati, means the supreme goddess. Deva however may equally, by the vaishnava, be Vishnu. The word may also denote an idol, a man of high rank or sovereign, or a brahmin, as a cognomen suited to brahmans. Amongst the compounds of this word are Dewal or Deval, a hindoo temple, a house of God. Déva-Sêna, from déva, a god, and séna, a soldier. Dévajanee, from déva, a god, and jaya, a wife. Dévarshee, from déva, a god, and rishee, a sage.

DEVA, SANS., from div, to play.

DEVA-DATA or Deo-dat, a man's name, literally god given.—*Theodotus.*

DEVADHUPA, SANS. Benjamin.

DEVADIGAR, KARN. A man of a low caste, who performs menial offices in the temples of the south of India.—*Wils.*

DEVAGIRI or Deoghur, was at one time held by the Yadava race. In Mysore we find the Bellala, a Yadava dynasty, reigning at Dwarasamudram, the modern Halibidu.

DEVA-KANCHANAMU, HIND. Several species of Bauhinia, viz., Bauhinia variegata, *L.* ; also *B.* candida, B. purpurea and B. tomentosa.

DEVAKI, sister to Kansa, king of Mathura, and the wife of Vasudeva. Devaki and Vasudeva were the mother and father of Krishna, who was their 8th child.

DEVAL, HIND. A hindoo temple.

DEVALA, a brahmin attendant on idols.

DEVA-LAYA, SANS. From deva a god, and, alaya, a house, a temple, the House of God.

DEVANAGARI, an alphabet in use in India. It was introduced into Thibet form Kashmir in the first half of the 7th century of the christian era. Devanagari is the ancient alphabet of India, inscriptional, in capitals, and is a modification of the inscriptional and monitary Pali. The alphabets of the various languages allied to the Hindi, are modifications of the Devanagari alphabet. It is the character in which Sanscrit is usually written.

DEVANGANA, amongst hindoos, the celestial minstrels who perform before Mahadeva. They are also called Gandharva, also Apsarasa. Their instruments are the tambourine, cymbals, castanets, lute and violin.

DEVA-DEVI, an island in Bombay harbour, known to sailors as Butcher Island. The native name, properly Deva-dwipa, means the "Island of the gods, or Holy Island."

DEVAGURH, a town on the western coast of India ; this and Sedasheghur are the boundaries of the Concan.

DEVA-LOKA, SANS. The habitations of the Deva : in hinduism, there are six celestial worlds between the earth and the Brahma loka.

—*Hardy's Eastern Monachism, p.* 435.

DEVANAGA-VADU, TEL. A weaver.

DEVANAMPIYA PIYADASI, a name of Asoka. See Inscriptions, p. 381.

DEVA-PUTTUN, a place of great sanctity in hindoo estimation. See Krishna, p. 545.

DEVA RAJA, a name of Indra. See Inscriptions, pp. 380, 393.

DEVA PAL DEVA. From a copper tablet discovered at Monghyr, raja Deva Pal Deva appears to have reigned in the ninth century as far as the Carnatic and Thibet.

DEVA-DARA, HIND. Cedrus deodara, *Loud.*

DEVADARA, SANS. Erythroxylon areolatum ?

DEVADARAM, TAM. Sethia indica, *DC.* Guatteria longifolia, *Wall.*

DEVA-DASA, SANS.

Basava. TEL.	Dancing Girls. ENG.
Jogin. ,,	Temple ,, ,,
Murali. MAHR.	Bayadere. FR.
Hierodulæ of Babylon.	Balladeiras. PORT.

To the temple of Venus in Asia, and in later times in Greece, large bodies of "hierodulæ" were attached, who were, at once, prostitutes and ministers to the goddess. The daughters of the most illustrious families in Armenia passed from the service of the goddess Anaitis into matrimony with those of equal rank, and no stain adhered to them from their former mode of life. We find traces of the same usage in the distant settlements of the Phœnicians, on mount Eryx, and at Sicca Venerea in the Carthagenian territory. In Babylon, no woman of whatever rank could escape the obligation of once prostituting herself in the temple of Mylitta. This debt once acquitted, as the necessary preliminary to marriage, they were ever afterwards faithful to its obligations, with whatever price they might be tempted. In hindoo mythology the deva-dasa, are the courtezans of swarga, the heaven of Siva. The earthly deva-dasa women or dancing girls, in attendance at the temples of the hindoo deities, by their name of deva-dasa, call themselves the servants or slaves of the god. Next to the sacrificers, the most important persons about the temple, says the Abbé Dubois, are the dancing girls. Their profession, indeed, requires of them to receive all comers although originally they appear to have been intended for the gratification of the brahmans only. Every temple, according to its size, entertains a band of them, to the number of eight, twelve or more. The service they perform consists of dancing and singing. The first they execute with grace, though with lascivious attitudes and motions. Their chaunting is generally confined to the obscene songs which relate to some circumstance or other of the licentious lives of their gods. They perform their religious duties at the temple to which they belong, twice a day—morning and evening. They are also obliged to assist at all the public ceremonies, which they enliven with their dance and song.

They are bred to this life from their infancy. They are taken from any caste, and are not unfrequently of respectable birth. It is nothing uncommon to hear of pregnant women, in the belief that it will tend to their happy delivery, making a vow, with the consent of their husband, to devote the child then in the womb, if it should turn out a girl, to the service of the pagoda. And in doing so, they imagine they are performing a meritorious duty. The infamous life to which the daughter is destined brings no disgrace on the family. The eldest daughter of every family of the weaver caste at the small town of Tiru-kalli-kundram in the Chingleput collectorate is devoted to the temple. Till lately, temple girls were the only hindoo females in India who might learn to read, to sing, and to dance. Such accomplishments belong to them exclusively ; and for that reason have been held by the rest of the sex in such abhorrence, that every virtuous woman has considered the mention of them as an affront. These performers are supported out of the revenues of the temple ; of which they receive a considerable share. But their profession is productive. There are temples in some places, where the divinity requires to be honoured with the most unbounded licentiousness. The manufacturer commonly destines his youngest daughter for this purpose, and sends her to the pagoda before the age of puberty, where dancing and music-masters are provided. The morlidar girls of the Mahratta country correspond to the Basava of the Teling race. The Basava women are usually devoted to the god Siva, and become prostitutes. They are called Linga or Garudu Basava, according as they are devoted to one or other. They are called also Jogin also Morli, and are married sometimes to a knife, sometimes to an idol. In making female children over to the service of a temple, a girl, generally an infant, is taken and dedicated for life to the service of some idol by a ceremony called "Shej." A *khunjar* or dagger is put on the ground, and the girl, who is to undergo the ceremony, puts a garland on the knife. Her mother then puts rice on the girl's forehead. The officiating Bhutt then weds the girl to the knife, just as if he were uniting her to a boy in marriage, by reciting the 'mangalashlok,' or marriage stanzas, a curtain being held between the girl and the dagger. The girl thus becomes a Bhavin, dedicated to the service of the temple. She lives by prostitution. In many parts of the south of India, the non-Aryan races thus devote their young women, in order that they may follow prostitution openly, under the cloak of a religious rite. It is not easy to trace the

origin of this custom, but at the Myletta festivals, which were connected with the worship of Baal or Moloch, the women, as slaves to the goddess, were obliged to purchase exemption from being sacrificed by prostitution. Almost all the Jewish prophets down to Jeremiah complain that this service was carried on in the high places, by the Jews. In general, throughout the Dekhan, southwards to Cape Comorin, devoting a female child to the gods is deemed disreputable.—*Kenrich's Phœnicia, pp.* 307, 314; *Dubois' India, quoted in Cole's Hind. Myth., p.* 378; *Sonnerat's Voyage, p.* 29; *Bunsen, Vol.* iv, *p.* 210. See Dancing girls.

DEVARAM, a famous saiva poem, part of the so called Tamil Veda.

DEVASTHANAM, the superintendence of hindoo temples, conducted by trustees called Dharma Karta.

DEVATA, a divinity, a spirit, a demi-god. The Devata are benign spirits, governed by Indra, properly the inhabitants of the North Pole; for the Devata are said to have day, when the Daitya have the night, and vice versâ. Vide Suras.--*Warren's Kala Sanhita.*

DEVATADI DHETTU, Tel. Lipracercis serrata, Trin. Andropogon serratum. —*Roxb.*, i, *p.* 253.

DEVATA-DHANYAMU, Tel. Sorghum saccharatum, Pers. Andropogon sacch. Also wild rice.—*Roxb. p.* i, 271.

DEVATA-MALLE or Nalla kakasi, Tel. Randia uliginosa, *DC., W. and A.*, 1230; *Ic.* 397. Gardenia ulig., *R. Cor.* 135; Posoqueria ulig.—*Roxb.* i, *p.* 712.

DEVATHARAM, Tam. Erythroxylon areolatum?

DEVAYANAI or Devasena, one of Subhramanya's wives.

DEVEDAH, Port., Tam., Malayal, the name of a wood, known to Europeans by those of the Cedar Libanus, or Spanish cedar. This tree is to be found from Cape Comorin, in the south of Malabar, to the north part of Canara. It grows to a large size, from eighteen inches to two feet and a half in diameter, and from thirty to forty feet high. This may be considered a good wood, and might be found useful with the heavy woods in ship-building. The texture of some trees is hard, and might be converted into good plank. It is much used by the natives for house-work and furniture. It is imported into Ceylon, and to the coast of Coromandel, from Pegu and Rangoon, and named Chittagong wood.

There is also is the Vela Devedah, or white cedar, which grows in the forests of Cochin and Travancore. It may be had in great quantities, and is said to be useful and durable. It is a tough wood for boards, and planks for boats and vessels, for which purpose it is generally used, as well as for house-work. It grows to about two feet in diameter, and from thirty to thirty-five feet high: its grain resembles the red cedar, but it is closer grained and heavier.—*Edye, Mal. and Can.*

DEVENDRA, the king of the Deva. See India.

DEVER, the honorific or titular designation of the Marawa race in Ramnad and Tinnevelly. It seems identical with the Telugu Dewara or Devera, a respectful mode of address to a superior. See India, p. 332.

DEVI, Sans. The feminine of deva, a god or a goddess. It is one of the names of the hindoo goddess Durga, also known as Kali. See Chandra; Dasahra or Dashara; Kali Kerari; Linga; Lustral ceremonies; Mahadeva; Mahadevi; Parvati; Sacrifice, Satarupa; Serpent, Vishnu; Yavana.

DEVI MAHESHASURA. See Inscriptions, p. 382.

DEVICOTTA, frequently changed hands during the contests between the British and French in the 18th century.

DEVIL BIRD, the name of a bird of Ceylon, which Mr. Mitford supposes to be a goat-sucker, a cuckoo or a black bird. Its ordinary cry is like that of a hen just caught. Its screams like those of a youth in agony.

DEVI, a goddess, more especially used for Parvati

DEVIDIAR of the Chenab and Ravi. Cupressus torulosa, *Don.*: of Panjab, Juniperus excelsa, *Bieb.*

DEVIL GOAD.

Bhatamkusam. Sans. Bhutala Bhairi. Tel.	Croton oblongifolium, R. iii. 685.

The Telugu name signifies "demon-driver" or "devil goad"—and sticks made of this tree are carried as a protection against evil spirits.

DEVILS and DEVIL DANCERS. The ordinary word in use, to designate a devil, is Paisacha, or Pisacha, and the temple raised to a Paisacha is a Pekoil, but the former seems rather to be an evil spirit, and the latter a temple to an evil spirit. All the arian and non-arian hindoo and budd'hist races of India, and all the races in the Malaya and the eastern archipelagoes, recognise the existence of spirits both good and bad and the whole series of ceremonies from the date of the demise of a hindoo until the demise of his son are instituted from the belief that the spirit of the deceased is present and can accept oblations, and there are even instances where contracts have been entered into or renewed with the spirit of a deceased owner. The hindoos have a hell, "narakam," and a devil, but the non-arian races seem to refer to evil spirits.

In their belief if any good man die, his spirit may occupy a tree or stone or other locality and be an evil spirit: may even take possession of one of his votaries, in which event the screaming and gesticulating of the possessed person are attributed to the spirit in possession, and in the Urdu tongue, the phrase would be "saya uske ang bhara" the shade has filled his body, and the possessed person prophesies. In their belief every malady may be the infliction of an evil spirit. To dispossess the spirit, wild music and dancing are had recourse to, and the possessed, generally a woman, exhausted by her pythonising falls down utterly exhausted or goes into convulsions. The non arian races are constantly recognising new spirits, from amongst deceased natives of India or Europeans, particularly from amongst those whom death or accident have suddenly cut off, and they have introduced the deities of the hindoos as demons: but the "ammun" or earth-deity, is in every village throughout Southern India, and the worship of all these demon gods is by blood-sacrifices and ardent spirits. Amongst the Shanar race in the South of the peninsula of India, the belief is that sometimes demons are content with frightening the timid without doing any real harm. Failures in trade or in crops, are attributed to demons. People hear a strange noise at night; and immediately they see a devil making his escape in the shape of a dog as large as a hyena, or a cat with eyes like two lamps. In the dusk of the evening devils have been observed in a burial or burning ground, assuming various shapes one after another as often as the eye of the observer is turned away; and they have often been known at night to ride across the country on invisible horses, or glide over marshy lands in the shape of a wandering, flickering light. In all their journeyings they move along without touching the ground: their elevation above the ground being proportioned to their rank and importance. Dr. Caldwell has known a village deserted and the people afraid even to remove the materials of their houses, in consequence of the terror caused by stones being thrown on their roofs at night by invisible hands. Demons more malicious still have sometimes been known under cover of the night to insert combustible materials under the eaves of thatched roofs. Even in the day-time, about the close of the hot season, when the winds fail, demons may often be seen careering along in the shape of a whirl-wind, catching up and whisking about in their fierce play every dry stick and leaf that happens to lie in their path. In short, writes Dr. Caldwell the demons do much evil, but no good. They often cause terror but never bestow benefits, or evince any affection for their votaries. They must be placated by sacrifice, because they are so mischievous; but there is no use supplicating their favour. If in any case the hope of obtaining a benefit seem to be their votary's motive in worshipping them, further inquiry proves that it is under the supposition that the demon's malignity stands in the way of what would otherwise be obtained as a matter of course. And it may be said to be the object of the worship of all the non-arian races to avert from themselves the evils which the demons could inflict, for gratitude for good received, or resignation to the will of a Supreme, are not parts of the ammun or spirit-worship. A similar superstition respecting goblins and demons exists all over India. Every hindoo work containing allusions to native life, and the dictionaries of all the hindoo dialects, prove the general prevalence of a belief in the existence of malicious mischievous demons, in demoniacal inflictions and possessions, and in the power of exorcisms. The chief peculiarity of the superstition, as it exists amongst the Shanars, consists in their systematic worship of the demons in which all believe. In every part of India, innumerable legends respecting goblins and their malice are current; but scarcely any trace of their worship in the proper sense of the term, much less of their exclusive worship, can be discovered beyond the districts in which Shanars, or other primitive illiterate tribes, are found. In travelling down to Tinnevelly from the north, the first village which is found to be inhabited by Shanars, Virduputty, about 30 miles south of Madura, is the first place where Dr. Caldwell observed systematic devil-worship. In like manner in Travancore, devil-worship appears to commence with the first appearance of the Shanar race in the neighbourhood of Trivandrum; from whence it becomes more and more prevalent as you approach Cape Comorin. The demon worship of the Shanars and few other illiterate tribes is a degradation beneath which the human mind cannot descend. The places in which the demons are worshipped are commonly termed "Pé-cóil," or devil temples; some of the temples, especially those erected to the sanguinary forms of kali, are small, mean, tomb-like buildings, with an image at the further end of the cloister. But the majority of the devil-temples are built neither with stone nor brick; the roof is neither terraced nor tiled, nor even thatched; a heap of earth raised into a pyramidical shape and adorned with streaks of white-wash, sometimes alternating with red ochre, constitutes both the temple and the demon's image; and a smaller heap in front of the temple with a flat surface forms the altar.

In such cases a large conspicuous tree—a tamarind tree, an umbrella tree, or even a palmyra, whose leaves have never been cut or trimmed, will generally be observed in the vicinity. This tree is supposed to be the devil's ordinary dwelling place, from which he snuffs up the odour of the sacrificial blood and descends unseen to join in the feast. Turnour mentions that an ordinance of one of the kings of Ceylon commanded that a devil-dancer should be provided for every ten villages. Budd'hists of Ceylon still resort to the incantations of the devil dancers in case of danger or emergency.—*Dr. Caldwell on the Shanar.* See Demon, Peygel, Pisacha.

DEVIL'S PEPPER, Eng. Capsicum.

DEVIL'S SALEP, Eng. Cicuta virosa, also Conium maculatum.

DEV-KANCHUN, Beng. Bauhinia purpurea.

DEVKHADIR, Hind. Mimosa rubicaulis

DE VRIESE, author of various memoirs on Malayan Island plants and of a monograph of Marattiaceæ, a work of great labour.

DEVUTTARA, Sans. From deva and ootara, belonging to

DEW.

Shabnam, Hind. Pers. | H'nung. Burm.

Some one has ventured the remark that at full moon, near the equator, more dew falls than at new moon, and to this are ascribed the moon heads (man hoofden), which, however, Jansen had but once seen, during all the years which he had spent between the tropics. —*Jansen in Murray's Physical Geography, p.* 146.

DEWA, a divine being, whether resident upon earth or in a déwa loka.—*Eastern Monachism, p.* 435. See Deva.

DEWADHARI, or damsels of wisdom, &c.

DEWADURIO, Sing. Fennel seed.

DEWAK, Hind. Termes. White ants.

DEWAL, the hindoo temple, in which the idol is placed, is called, as temples generally are, Dewál, or Devál, from Deva, a deity ; and aleiya, a house, or literally a house of god. The British and other people call it pagoda, a word unknown in India beyond the reach of European colloquial instruction, but which has been derived from Butkhana two Persian words, meaning the ghost house. It may however be from Paigudi, a devil temple also from Dahgopa, a budd'hist relic shrine.

DEWAL, the principal port in Sind, with tall spires and huge domes ; Dewal is supposed to be the modern Tattah. It was called "Dewal," or "Debal," from its celebrated dewalya or pagoda and the Arabs and Persians still know it by no other name. Arore, or Alore, was the capital of Sind in remote antiquity, but a bridge over the stream which branched from the Indus, near Dura, is now almost the sole vestige of the capital of the Sogdi of Alexander. On its site the shepherds of the desert have established an extensive hamlet ; it is placed on a ridge of siliceous rock, seven miles east of the insular Bukkur and free from the inundations of the Indus. The Soda tribe, a powerful branch of the Pramara race, has ruled in these countries from remote antiquity, and to a very late period they were lords of Oomra Soomra, in which division was Arore, According to Burton, however, the site of Arore is four miles east of the Indus at Sukker and Rori. Sehl and his capital, Arore, were known to Abul Fazil, though he was ignorant of its position, which he transferred to Deba, or Dewal, the modern Tatta. This indefatigable historian thus describes it : "In ancient times there lived a raja named Sehris (Sehl), whose capital was Alore, and his dominions extended north to Cashmere and south to the ocean." Sehl, or Sehr, became a titular appellation of the country, its princes, and its inhabitants, the Sehrai. Alore appears to have been the capital of the kingdom of Sigertis, conquered by Menander of Bactria. Ibn Haukal, the Arabian geographer, mentions it ; but a superfluous point in writing has changed Arore into Azore, or Azour, as translated by Sir W. Ousely, D'Anville also mentions it ; but, in ignorance of its position, quoting Abulfeda, says, en grandeur "Azour est presque comparable a Mooltan."—*Tod's Rajasthan, Vol.* i, *p.* 42 ; *Burton's Scinde, Vol.* i, *pp.* 128, 166.

DEWALA DEVI, daughter of Kamala devi. On the fall of Nerwalla, the ancient capital of Guzerat, Kamala Devi was captured and taken into the harem of Ala ud Din ; but her daughter Dewala Devi escaped with her father. She had been asked in marriage by the son of Ram Deo, the rajah of Deo-giri (Dowlatabad), but her father, proud of his rajpoot origin, had refused to give her to a Mahratta, even though a prince. Kamala Devi, however, having expressed to Ala ud Din a wish to be joined by her daughter, Ala ud Din sent a strong army under a general to bring Dewala Devi to Delhi. In this extremity, her father accepted the Mahratta prince, and sent off his daughter under an escort, but the escort was overtaken, the fair maiden seized and carried to Dehli where she was married to Khizr Khan, son of Ala ud Din. A few years after the death of Ala ud Din, the throne of Delhi was filled by Kafoor, a converted hindoo, who put out the eyes of Khizr Khan, filled the capital with hindoo troops, put to death all the survivors of Ala ud Din's family, and

transferred Dewala Devi to his own zenana. See Camala Devi.

DEWALI, properly Depawali, SANS. from Dipa a lamp and Ali, a row, ; a hindoo religious festival held about the end of October, on the new moon of Kartik, in honor of the goddess Kali and of Lakshmí and the destruction, by Vishnu, of the demon Taraki. The hindoos, after bathing in the Ganges, or other river, anoint with oil, put on their best attire, perform a sraddha, and at night worship Lakshmí. On this festival of lamps all hindoos propitiate Lakshmí, the goddess of wealth and fortune, by offering at her shrine. In Rajasthan, on the Amavus, or *ides* of Kartic, every city, village and encampment, exhibits a blaze of splendour from lamps. Stuffs, pieces of gold and sweetmeats, are carried in trays and consecrated at the temple of Lakshmí, to whom the day is consecrated. The rana of Mewar dines with his prime minister, and this officer and his near relatives offer an oblation by pouring oil into a *terra cotta* lamp, which the sovereign holds ; every votary of Lakshmí tries his chance of the dice, and from their success in the *Dêwali*, foretell the state of their affairs for the ensuing year. On the first day of the Dewali, the whole population of an Indian city bear branches of the Sami, Tulsi and other sacred trees, in procession ; and walk round all the temples in the neighbourhood, offer salutation and prayer to their country's gods, in their several incarnations. —*Postan's Western India, Vol.* ii, *pp.* 177 *and* 178 ; *Tod's Rajasthan, Vol.* i, *p.* 70. See Leviticus, xxiii. 40.

DEWAN, AR., PERS. In India, the chief officer of the second rate sovereigns. In Persia, a Court of Justice or of other business. A reception room, is generally called the Dewan-i-Am, or public reception hall. The Dewan Khana, is the office room of the dewan, and the Dewani means pertaining to the dewan. The Dewani Adalat under the E. I. Company was a Court of Civil and Revenue jurisdiction.

DEWAN, PERS. A collection into one volume of the entire odes of an author, whether in the Persian or the Hindustani tongue. In bringing them together, they are arranged alphabetically according to the letters in which the verses terminate. The Dewan-i-Sadi and Dewan-i-Hafiz are generally known.

DEWANAGI-WANLU, TEL. Religious mendicants in southern India, who accept charity only from one or other of the goldsmith castes. See Poitu, Zonar.

DEWANI is the civil department, in contrast to the foujdari or criminal. Dewan-i-am, a privy council chamber.

DEWAN KHANA. That part of the house of a mahomedan where the master receives his visitors, and in which the men servants reside.—*Rich's residence in Koordistan, Vol.* i, *p.* 83.

DEWA POOJAH, or worship of the implements in use as the means of subsistence, observed by all the Kait caste at the Dewallee and Hooly festivals.—*Malcolm's Central India, Vol.* ii, *p.* 167.

DEEWAR, Diwar, perhaps more correctly Deehwar or Dehwar, is the god under whose special care a village is placed : the genius loci, for whom a portion of grain is always set apart at each harvest.—*Elliot.*

DEWAS, a chieftaincy in Malwa, held by a Mahratta, whose ancestors came to Malwa with the first Baji Rao. The revenue of the State is Rupees 4,25,000 ; the area 256 square miles ; and the population 25,000 souls. The chiefs have each received a sunnud guaranteeing to them the right of adoption. The chiefs are equal in rank and have an equal share in all receipts. Each receives a salute of fifteen guns.—*Aitcheson's Treaties, Engagements and Sunnuds, Vol.* iv, *pp.* 334 *and* 335.

DEWASIS. See Rajmahal.

DEWATA GASS, SINGH. Carallia lucida.—*Roxb.*

DEW-GHUR, an ancient name of Dowlatabad. See Deo-ghur,

DEWUDAR, HIND. Sethia indica.

DEWUL, SINGH. Feronia elephantum.

DEYA-DANGA-GASS, SINGH. Spathodea rheedii, *Sp.*

DEYAMIDDELLA, SINGH. Barringtonia racemosa.—*Roxb.*

DEYNGAN, HIND. Cordia macleodii.—*Hooker.* Syn of Hemigymnia macleodii.—*Griff.*

DEYRA DOON and Himalayan valleys, to moderate elevations, in climate correspond with the Mediterranean region. See Dehra.

DHA, BURMESE., the bill, in various forms, is the inseparable companion of every man among the hundred forest tribes of Trans-Gangetic India. Among the civilized Burmans, however, it is more confined to the lower orders, the peasant and boatman, except as a weapon of war. The Burman dha is a weapon about three feet long, with a slight uniform curve from end to end. About three-sevenths of this length is helve, the rest blade. The blade is generally about an inch and a quarter wide with an obtuse point. It serves every purpose that a cutting weapon can serve, from making a toothpick to felling a tree ; or killing a pig, or an enemy in battle. Very long and heavy dhas are worn by officials of the Burmese Court.—*Yule's Embassy, p.* 158.

DHA. Hind. Grislea tomentosa.

DHABBAR. Hind. Anagallis arvensis.

DHAE, Hind. A nurse. In Rajpootanah the *Dhabhae*, or 'foster-brothers,' often hold lands in perpetuity, and are employed in the most confidential places; on embassies, marriages, &c.—*Tod's Rajasthan, Vol.* i, *p.* 278.

DHAE, Beng., also DHAI, Grislea tomentosa.

DHAGOBA. See Buddha, Topes.

DHAHIMA, a tribe of Rajpoots recorded amongst the 36 royal races. They were the lords of Biana, and bore a high name for deeds of chivalry. Colonel Tod considers the tribe to be extinct, but they have three or four villages in Baghput. There are also Dhahima Aheer and Dhahima Jat in the same neighbourhood.—*Annals of Rajasthan, Vol.* i, *p.* 199.

DHAI? Duk. Sterculia colorata.—*Roxb.*

DHAIL, a river in Jeypore.

DHAING. See Kush or Cush.

DHAITI of Bombay. Grislea tomentosa. —*Roxb.*

DHAK, Hind. Butea frondosa, also called Pulas, is a plant generally diffused in India, found near many villages, forming their tracts of jungle-like land, which is the place of pasturage for their cattle. The Dhak yields firewood, and its bark and roots a fibrous matter, which is used as cordage, called Bukel, or beaten to a kind of oakum and used for caulking boats, and it is used, also, by the natives for agricultural and domestic purposes, as it is possessed of a good deal of strength. It is also used for paper-making. A ruby-coloured gum, called *Butea kino*, Pulas gond, exudes from incisions into the bark, it abounds in astringent matter, but is difficult to apply to the tanning of leather, though its colouring matter is powerful and permanent. The Dhak tree is highly ornamental and its large red flowers called *teesoo* and *keesoo*, yield a beautiful dye, which is likely to come into extensive use. From this plant, and from these flowers the name of the Pelasgi has been supposed by Mr. Peacock, in his 'Greece in India' to be derived. Its wood is valued for coating wells, and it is also much sought after for the purpose of making a hom, or sacrificial fire. The Taleef-i-Shareef says, that "when the white flowers are found, and any one shall eat the seeds, his heart will be cleansed, his understanding increased, and he shall be endowed with supernatural knowledge."—*Royle's Fib. Pl., p.* 297; *Elliot's Supp. Gloss.*

DHAK also DHAUL, Hind. Erythrina arborescens.

DHAKA, 23° 42′ 7″; 90° 20′ 3″, in Bengál, on the Bura Gánga, 150 miles N.E. of Calcutta, written Dacca. It is about 72 feet above the sea.

DHAKARA, a tribe of Rajpoots who hold a few villages in K'hundoulee in the Agra district, Juleysur in Muttra, and Dehli Jak'hun in Etawa; and are scattered over other parts of the Central Doab and Rohilcund.

DHAKUN, the *Jigger Khor* or liver-eater of Scinde, is the genuine vampire. An officer after a long chase in the valley of Oodipoor, speared a hyena, whose abode was the tombs, as well-known as the steed on which the witch of Ar, sallied forth at night. Evil was predicted: and a dangerous fall, subsequently, in chasing an elk, was attributed to his sacrilegious slaughter of the weird sister's steed. —*Tod's Rajasthan, Vol.* i, *p.* 74.

DHAKII of Kashmere, a red and white bean, Phaseolus lunatus, &c.

DHAK'HA, Hind. Butea frondosa.

DHAL, Hind., Tam., Tel. A shield.

DHAL, also Arhar, Beng. Cajanus indicus. —*Spreng.* Pigeon pea.

D'HALIZ K'HOONDLANA, treading the threshold, a mahomedan marriage ceremony.

DHAL-KULMEE, Beng. Calonyction roxburghii.

DHAL-PHOR, Hind. A class of the Kúrmí, or great agricultural tribe in Hindoostan; the words mean clod-breaker.

D'HAL SAHIB, a mohurrum allum, literally Mr. Shield.

DHAMA, Hind. Fagonia cretica.—*Linn.*

DHAMAN, Hind. Pennisetum conchroides. Grewia oppositifolia; G. elastica.

DHAMA-PADAM, a budd'hist sacred book of high authority, and gives the most faithful picture of the ethical spirit of Buddhas' teachings.—*Bunsen, God in Hist., Vol.* i, *p.* 343.

DHAMAR, Hind. Gum-resins of various trees, Shorea robusta, Canarium strictum, &c. See Dammar.

DHAMAYANGYEE, flat arches of stone and brick, are not uncommon, in Burmah Captain Yule discerned two of brick, in windows in the Dhamayangyee temple at Pagan, where no suggestion of European or Indian aid could have helped. There is one flat stone arch in the northern gate of the fort and another in a tomb, at Kurnool. There is one in the mediæval building of Roslin Castle, and in the magnificent Saracen gateway of Cairo, called Bab-el-Fitoor.—*Yule's Embassy, p.* 48.

DHAMEE, this old Rajpoot state became independent of Kuhlor after the Goorkha war. The state was bound to supply forty begar, but this was commuted to a tribute of Rupees 720. Revenue, Rs. 4,000; population, 2,863.

DHAMI, HIND. A follower of Prannath, a hindoo reformer who flourished in the 17th century in Bundelkhund.—*Wilson.*

DHAMIN, HIND., MAR. Butea Gibsonii.

DHAMMA, PALI; Dharma, SANSC. Law, Duty.

DHAMMAN, HIND. Grewia elastica G. oppositifolia.

DHAMMA OR DHARMMA, the doctrines or sacred writings of the budd'hists.—*Hardy, Eastern Monarchism, p.* 435.

DHAMMAN, PANJ. Grewia elastica, *Royle.* G. oppositifolia, *Buch.*

DHAMNA, URIA ? Grewia tiliæfolia ? A tree of Cuttack, has a reddish coloured wood, hard but pliable, strong, very plentiful in the Santhal jungles, from Rancebahal to Hasdiha or about forty miles. Used chiefly for cart wheels.—*Calcutta Engrs' Journal, July* 1860.

DHAMNI, HIND. Portulaca oleracea? P. sativa.

DHAMNOO, HIND. Grewia elastica, *Royle.* G. oppositifolia, *Buch.* G. tiliæfolia, *Vahl.*

DHAMONI, a village in the Saugor district, situated about twenty-nine miles north of Saugor, in latitude 24° 11′ 32″ and longitude 78° 48′ 34″.

DHAMTARI, the largest and most important town in the southern portion of the Raipur district. It is situated thirty-six miles to the south of Raipur, and is the head-quarters of a tahsil or sub-collectorate.

DHAMULA, SANS. Alpinia galanga. *Swz.*

DHAMUN, HIND. Green tea, in Ladakh, also brick tea, in Kashmere. Tea in cakes, both black and green, called "dhamún," goes to Kashmere only, also Khutan silk and some brocades. Velvet used to be imported from Russia but is not so now ; the direct English imports having no doubt supplanted the trade.

DHAMUNGAON. See Sanatoria.

DHAN, HIND. Oryza sativa, unhusked rice or paddy, also growing rice.

DHAN SAFAID, Grislea tomentosa.

DHAN, HIND. Buchanania latifolia.

DHAN, HIND. Wealth ; Tan, Man, Dhan, body, mind and substance.

DHAN MARRI, TEL. A rice field.—*Wils.*

DHANA. The Gond portion of a village which is always separate from the rest. Also applied generally in the north-west as Wuzra, Nugla or Poorwa.—*Elliot's Suppt. Gloss.*

DHANADA. See Inscriptions, p. 383.

DHANANJAYA, SANS. From dhana, riches and jee, to conquer. See Inscriptions, p. 374.

DHANAPATTI and Srimantoo, a romantic hindoo tale of adventures of a father and son, wealthy Bania merchants of the Ganges who travelled to Coromandel, Ceylon, Java. Both of them were imprisoned in Ceylon.

DHANATTAR, HIND. Clitorea ternatea.

DHAN DHAUTA, HIND. ? A tree of Chota Nagpore with hard, white timber.—*Cal. Cat. Ex.* 1862.

DHANDORA, HIND. Proclamation by beat of drum.

DHANDUR DHANDOSU, a town twenty-five miles south of Bhutnair.

DHANGA. Coriandrum sativum.

DHANGAPHUL, BENG. Grislea tomentosa.

DHANGAR, HIND. A people in India, who claim to be of the vesya caste, who are dairymen. The *Dhangar* of the Mahratta and Telugu countries are the Kuru-buru or Curumbar of the Canarese districts. The Dhangar, in Telingana, are in twelve tribes, who do not eat together nor intermarry. In the centre of the Peninsula, they are shepherds and wool-weavers, kitchen gardeners and labourers. In the hill country of Ramgurh and Chota Nagpore, there is a tribe of this name, some of whom descend periodically into the plains for labour. The Dhangar, in Calcutta, are labourers. Mr. Hodgson describes the Dhangar as of Mongol origin. He bids us look steadfastly at any man of an aboriginal race, an ubiquitarian Dhangar for instance, and say if a Mongol origin is not palpably inscribed on his face ? There are 8,059 of these in Oomraoti. But it is not known whether, as in Ramgurh and Chota Nagpore, they are a hill people ; in Telingana, they are cultivators ; in the south of India, they are shepherds and weavers in wool. Many of the Dhangar are settled in the towns of the south of India, occupied as labourers, kitchen gardeners and dairymen ; and the Dhangar in the south of India arrange themselves accordingly. The Tiling Dhangar are milkmen and weavers of coarse woollens ; the Mahratta Dhangar graze cattle and sheep and clarify their butter into ghee ; the Bangar Dhangar are purely shepherds, as is indicated by the term "Ban-gar," wild man or forest man. The Dhangar sheep farmer race of the Peninsular Dekhan, are of two sections, the Kota Pullia Dhangar who keep sheep, and the Barji Hatkar or "shepherds with the spears." The latter still hold much land on the borders of the Nizam's territory and, until the British domination were notorious for pugnacity and rebellion, and they still continue a quarrelsome and obstinate race. They are supposed to have come from Hindoostan in twelve tribes, and been impelled by the Gonds towards Hingoli and Bassim, which locality got the name of Bara Hatia, or the twelve tribes. They now oc-

cupy the hills on the north bank of the Pyn Ganga. To die in the chase or in war is deemed honorable, and the Hutkar who are so killed are burned. The Hutkar are fine, able-bodied men, independent but arrogant: many of them never shave or cut the hair of their face. The Ramgurh and Chota Nagpore Dhangar come periodically into the plains for employment, and some of them are engaged as labourers and scavengers. In the Peninsula, they are dark, almost black men of slender and spare forms, they are quite dissimilar from the Gaoli, in personal appearance, and all the sheep (kuru, Karnatica, a sheep) are under the Kurubaru or Kurumbar race. They are also wholly distinct from the Ydayan or Yadava Tamulian cowherd race, who are known in all the Tamul country as 'Pillai' or son, and in all probability, the dispersed Kurumbar of the Peninsula of India, some of them in towns and others almost nomade, are the fragments of the great shepherd race who held sway in the Arcot district in the early centuries of the Christian era.

The Golla employed as a cashier is said not to be a cowherd.

The Mirda are a caste of migratory shepherds in the south of India.

The cowherd and barber are of the better of the servile tribes, but the Kurumbar or Dhangar, and the Gaola dairy men, keep aloof from each other.

The Ghoonkur or Dhankur or Dhungur in the Lukti territory bordering on Udipur and Sultanpur, are a tribe of short but muscular and able-bodied men who speak a separate language. The tribe is confined to Chota Nagpur and the adjoining districts. They do not follow hindoo rites, and they have no temples, but set up near their villages a stone with some rude carvings, which they worship in times of famine or sickness or calamity. They bury but sometimes burn their dead.—*C. J. P. C. R., pp.* 6 *and* 7 ; *Campbell, p.* 33.

DHANGUR. See Kaiyu ; Chetang.

DHANI RANG, Hind. A full green colour. A person of consideration.—*Wils.*

DHANIA, Guz. Dhaniyalu, Tel. Coriandrum sativum, *L.* Coriander seed.

DHANJI. See Malwa.

DHANK, an ancient name of Mongy Pytun or Mongy Puttun in Saurashtra. The present chief is of the Balla Rajput race.

D'HAN KE KHILIAN, Hind., also K'hoee, swollen parched rice.

DHANKUR, Doonkur or Dhungur, in the Lukti territory, bordering on Udipur and Sultanpur, a tribe of short but muscular and able-bodied men who speak a separate language. The tribe is confined to Chota Nagpur and the adjoining districts. They do not follow hindoo rites and they have no temples, but set up near their villages a stone with some rude carvings which they worship in times of famine or sickness or calamity. They bury, but sometimes burn their dead.—*C. J. P. C. R., pp.* 6 and 7.

DHAN-LUNKA-MURICH, Beng. Cayenne-pepper ; Capsicum ; Capsicum fastigiatum.

DHAN-MARRI, Hind. Artificially irrigated rice fields.

DHANNEE, Tam. A dark-coloured wood of Travancore, specific gravity 0·733. Very strong, but knotty, used for common buildings. —*Col. Frith.*

DHANNIA, Guz. Coriander seed.

DHANSRI RIVER. See India, p. 311.

DHANUK, Hind. A bow-man. Dhanuk from the Sanscrit, a bow, and Danusha are the names of a race in northern India, but numerous in Bahar, employed as archers, fowlers and house guards, also in several menial occupations both of the house and field wherever they reside. The females are specially in request as mid-wives. The Dhanuk, tribe of fowlers and archers of Bahar and Hindoostan, live on their prey : they are employed as house guards, and Dr. Buchanan describes the Dhanuk of Bahar, Bhagalpoor and Puraniya as engaged in agriculture like the Kurmi. Many of them however are agricultural slaves. The Dhanuk are descended, according to the Padma Purana, from a Chamar and a Chandal woman. From the Danuk have proceeded Aherya, who are said not to eat dead carcases, as the Danuk do.

There are reported to be seven sub-divisions of the Danuk, Loungbusta Mut'hurea, Kut'hurea, Jyswar, Magahi, Dojwar and Chhilatya. These do not intermarry, or even eat or smoke together. They mix indeed so little with one another, that an individual Dhanuk is seldom able to mention more than two, or at most three, of these names as belonging to his fraternity. There are several Dhanuk in Delhi, and they are scattered over the North-western Provinces ; but Bahar is the country in which they most abound.—*Wils. Glos. ; Elliot's Suppl. Gloss. ; Postan's Western India, Vol.* i, *p.* 167. See India.

DHANWANTRA, the physician produced at the churning of the ocean. Tâkâjica-coond, or "fountain of the snake-king," is about two miles east of Naoli, near the boundary of Bhynsror and Bhanpoora. The road, through a jungle, over the flat highland or Pat'har, presents no indication of the fountain until you suddenly find yourself on the brink of a precipice nearly two hundred feet in depth, crowded with noble trees, on

which the knotted "koroo" is conspicuous. The descent to this glen is over masses of rock; and about half-way down a small platform, are two shrines; one containing the statue of "takshac," the snake-king; the other of "Dhunwantra," the physician, who was produced at the 'churning of the ocean.' The "coond" or fountain is at the southern extremity of the abyss. Dhanwantra is the Esculapius of the hindoos, but has not an attendant serpent like his brother of Greece; "the health bestowing Dhanwantra, the celestial physician, arose from the sea when churned for the beverage of immortality." He is generally represented as a venerable man with a book in his hand.—*Rajasthan, Vol.* ii, *p.* 718; *Colem.'s Hind. Myth., p.* 383; *Moore, p.* 342. See Images, Kurma, Serpent Vidiya.

DHANYA-BHEDAM, Tel. A variety of wheat.

DHANYAKA, Sans. Coriander seed.

DHANYALI, Hind. Adelia serrata.

DANYALU, Tel. Coriandrum sativum.

DHANYA-ROOPA, Sans. From dhana, rice; and rōōpa, form.

DHAO of Kangra. Conocarpus latifolia.—*Roxb.*

DHAO, Hind., or Dhon, rock containing magnetic oxide of iron in form of sand.

DHAO KA GOND, Hind. Gum of Grislea tomentosa.

DHAOLA DHAR, or outer Himalaya or White Mountain, from *Dhavala*, Sanscrit, white; a precipitous range of hills between the Byâs and Ravi in the outer or sub-Himalayas to the north of Kangra. The whole length of the outer or sub-Himalaya, nearly 300 miles from S. E. to N. W., is pierced by the Ravi, the Chenab, the Punach, and the Jehlam rivers, which divide it into separate districts. The snow-line is about 16,000 feet in height. Dhaola Dhar, is called by several names in our maps, Mani Mahes ki Dhar, or the mountains of the holy lake of Mani Mahes, and Hugel calls it Palam Kidar and Chamba Kidar. The rocks are clay and mica slate.—*Cleghorn's Punjab Report, p.* 97.

DHAR, a river near Kaisla in Baitool.

DHAR, Hind. A hill.

DHAR, 22° 35'; 75° 21', in Málwa, 33 miles W. of Mhow. The level of the railway, 1,850 ft. Dhar town, is about 30 miles S. W. of the Indus river. The Puar family was one of the most distinguished in the early Mahratta history and Anund Rao Puar is usually considered as the founder of the principality of Dhar, which with some adjoining districts and the tribute of some Rajpoot chiefs was assigned to him by the first Bajee Rao, Peishwa. For twenty years before the British conquest of Malwa, the Dhar state was subjected to a continued series of spoliations chiefly at the hands of Sindia and Holkar, and was preserved from destruction only by the talents and courage of Meena Bai. Anund Rao Puar died in 1807 and was succeeded by his posthumous son Ramchunder Rao Puar, on whose mother, Meena Bai, the administration devolved. Ramchunder died early, but Meena Bai with the consent of the neighbouring chiefs, adopted her sister's son under the name of Ramchund Puar. The Dhar state rebelled in 1857 and was confiscated, but it was subsequently restored to Anund Rao Puar with exception of the Bairsea pergunnah. The area of the state is estimated at 2,091 square miles, and the population at about 1,25,000 souls. The revenue is rupees 4,37,000. One company of the Bhopal levy is maintained at the expense of the state to garrison the fort. Dhar pays an annual contribution of Rupees 19,656-0-4 for the maintenance of the Malwa Bheel corps. The chief receives a salute of fifteen guns, and has been granted the right of adoption.—*Buch., Hamilton, Treaties, Engagements and Sunnuds, Vol.* iv, *p.* 325.

DHARA, Hind. Corchorus olitorius.

DHARAPATTAH. See Inscriptions, pp. 375,376.

DHARA SENA. See Inscriptions, p. 375.

DHARI. Grislea tomentosa.

DHARI, name of a waterfall near the Hirnphal, or Deer's Leap, on the Nerbuddah.

DHARICHA, Hind. Second husband of a widow.

DHARINJO, Uria. A tree of Ganjam and Gumsoor, extreme height 60 feet, circumference 4 feet, and height from the ground to the intersection of the first branch 8 feet. Tolerably common. No use seems to be made of the wood. The bark is used medicinally by women after child-birth; the juice of the leaves is supposed to cure itch.—*Captain Macdonald.*

DHAR KARELA, Hind. Momordica dioica.

DHAR KI KARER, Hind. Cæsalpinia sepiaria.

DHARMA or DHARMA RAJA, or Yudhishtira, the eldest of the five Pandava. See Hindoo, Inscriptions, pp. 374, 381, 386, 390; Karli, Vedas.

DHARMA, Hind., Sans. Charity, law, virtue, morality. Dharma-kari, a judge. Dharma-das, a temple servant. Dharma-karta, a temple manager. Dharma-swama, literally faith (dharma), to his lord (swama.)

DHARMA DEVA. See Inscriptions, p. 389.

DHURMA-BHANOO, Sans. From dharma, religion; and bhanoo, splendour.

DHARMA PASS. See Kunawer.

DHARMA-RAJAH, the title of the spiritual ruler of Bhutan, literally king of virtue. He succeeds by incarnation.

DHARMA-RAJAH, SANS.

Shinje, TEL. | Choigyal, TIB.

From dharma, justice; and rajah, a king. A name of Yama in his benificent form. He is the king of justice, whose countenance the virtuous only see: the wicked see him as king of the infernal regions. In the hindoo religion, he is the god of eternal justice. Antaka is an attribute of Yama or Dharmaraja, in the character of the destroyer.—*Cole's Myth. Hind., p.* 379. See Inscriptions, p. 353. Yama.

DHARMSALA. A building devoted to some religious or charitable purpose. A house for the accommodation of travellers or pilgrims or for the reception of the sick or poor. The dharmsala, or temples of the Sikhs, are in general, plain buildings. They are built by rich men, or by several uniting to defray the expense. They have a flat roof, and are sufficiently capacious to accommodate a multitude of attendants, who sit or stand during worship. Images are banished. The bunga, or temples, at Amritsur, surrounding the holy tank, are fine buildings; each missul, or association of Sikhs, has a separate bunga. The forms of prayer and praise are simple. Portions of the Adi Grant'h are read or sung; the priest says, "Meditate upon the Book," and the people reply, "Wah, Guru! Wah, Guru ki Fatah!" Guru Govind not only introduced the worship of Doorga and the sword, but, it is said, offered sacrifices at her festivals. In the Dasama Padshah ki Grant'h, Durgah is represented as the tutelary goddess of war. In the common form of a hindoo temple, the adytum containing the object of worship is invariably covered with a "shikur," or bell-shaped spire; the mundup, or ante-chamber, is open, and contains in temples of Siva a figure of the attendant bull, Nandi: Vaishnavite temples, especially, have frequently two ante-chambers, in which case the first is open and the second closed. These, as also the temples of the Jain religion, have occasionally three spires, the centre one rather higher than the other two. The temple is surrounded by a Dharamsâla, or house of accommodation for attendants and worshippers. The surrounding structure is, however, still, sometimes, especially in Jain temples, formed of numerous small spire-covered shrines, and the lodging-houses are in that case detached, but the whole mass of buildings is frequently encircled by a fortified wall. A large temple presents, in fact, the appearance of a village; the auxiliary buildings look like substantial private houses, but are more liberally adorned with carved wood-work; and sometimes nearly the whole exterior of them is covered with rude paintings, representing marriages or other domestic festivals, or more frequently the achievements of the gods. Small reservoirs of water called koond, circular wells, and more imposing wâv or bowlee, and sometimes majestic tanks are the more or less indispensable accompaniments of places dedicated to the religion of the hindoos. Like the Christian churches of the middle ages, the hindoo temples of Goozerat are usually placed in situations highly favoured by nature. The awful gloom of the grove, the romantic beauty of the mountain glen, the brightness of the river's bank, the wildness of the cloud-enveloped peak, or the solemn calm of the ocean bay, are accessaries of which the religions of Siva and of Adinâth know full well how to avail. The officiating priests are, in the temples of Siva, usually Gosâee; in those of Vishnoo, Brahmins or Virâgee; in temples of Devi low caste Brahmins or Gosâee—sometimes, as in the case of Boucherâjee, even mohammedans. The priest in a Jain temple may be of any caste, with the curious provision that he be not a Shrâwuk, or layman of that religion. Low caste brahmins, especially the class called Bhojuk, are frequently employed. The *Gosâee*, are members of a monastic order which follows Siva. They wear orange-tawny clothes; and the *teeluk*, or sectarian mark upon their foreheads, is horizontal. The *Virâgee* is a vaishnavite monk, and wears a white dress and a perpendicular teeluk. Those who are servants of the Dev add to the teeluk a *chândlo* or red spot, made with a preparation of turmeric. The Jain monk is commonly called a *Jati*, but the general name applying to all these orders is that of *Sunyâsi*, or ascetic. The Sunyâsi are often persons who have lost their property, or have been deprived of their children, or suffered some other calamity, against which they have not had resolution to bear up. The intended recluse having arranged with a *guru*, or monkish dignitary, for his reception into the order, and having ascertained the favourable day by astrological calculation, breaks the sacred cord, if he be of the regenerate classes, removes the hair of his head, assumes the monastic dress, and with alms and prayers receives initiation. The Sunyâsi are, however, sometimes consecrated at an early age; a person who despairs of having children not unfrequently vows to consecrate one son, if two be granted to his prayers; and among the Jains, when disciples are scarce, as they

frequently are, the monks purchase children for the purpose of initiating them. The markings which hindoo sects place on their foreheads, are alluded to by Moses: "Ye shall not make any cuttings in your flesh for the dead, nor print any marks upon you: I am the Lord."—Leviticus, xix. 28. Bishop Patrick notes that this imprinting of marks or signatures was understood to be fixing a badge or characteristic of the person's being devoted to some false deity.—*Forbes' Râs Mâlâ or Hindoo Annals, Vol.* ii, *pp.* 311 *to* 313; *History of the Punjab, Vol.* i, *pp.* 123 *and* 124. See Mat'h.

DHARMSALA, is a sanatorium with a soldiers' garden, containing many introduced Himalayan trees of great interest. Box, ash, and various conifers as well as many European fruit trees are adapted to this hill station; it has perhaps the only collection of indigenous Alpine trees in the Punjab.

DHARMA SASTRA, the hindoo law, the Code of Manu.—*Wils.*

DHARMA SUTRA, a term sometimes given to the Samaya charika rules.—*Müller.*

DHARMIKA SENI. See Inscriptions, p. 384.

DHARMMA, Sans. In budd'hism, both faith and practice; Practical virtue and morality. See Damon and Pythias.

DHARMA SETOO, Sans. From dharma religion, and Sétoo a bridge, or dam.

DHARMA THAKOORU, Sans. From dharma, religion; and t'hakooru, a lord.

DHARNA or Dhurna, Hind. Dharna baithna, literally to sit "Dharna," was a practice put in force in several parts of India by creditors who sat down before the doors of their debtors so as to close all exit unless over the sitter's body and thus compel a payment of their claims. The practice was formerly familiar at Benares, and may be translated "caption or arrest." It was used by the brahmans to gain a point which could not be accomplished by any other means; and the process was as follows:—The brahman who adopts this expedient for the purpose mentioned, proceeds to the door or house of the person against whom it is directed, or wherever he may most conveniently intercept him. He there sits down in dharna, with poison or a poignard, or some other instrument of suicide in his hand, and threatening to use it if his adversary should attempt to molest or pass him, he thus completely arrests the debtor. In this situation the brahman fasts; and by the rigor of the etiquette, which is rarely infringed, the unfortunate object of his arrest ought also to fast and thus they both remain until the institutor of the dharna obtains satisfaction. In this, as he seldom makes the attempt without resolution to persevere, he rarely fails; for if the party thus arrested were to suffer the brahman sitting in dharna to perish by hunger, the sin would for ever be upon his head. This practice has become almost unheard of in late years, but formerly even the interference of British courts often proved insufficient to check it, as it had been deemed in general most prudent to avoid for this purpose the use of coercion, from an apprehension that the first appearance of it might drive the sitter in dharna to suicide. The discredit of the act would not only fall upon the officers of justice, but upon the Government itself. The practice of sitting in dharna was not confined to brahman men. It was had recourse to by Benu Bhai, the widow of a man of the brahminical tribe, who had a litigation with her brother-in-law, Bal Kishen, which was tried by arbitration, and the trial and sentence were revised by the court of justice at Benares, and again in appeal. The suit of Benu Bhai involved a claim of property and a consideration of caste, which her antagonist declared she had forfeited. Originally it was practised by brahmans, but was prohibited by Res. 7 of 1820 of the Bengal Code. In the south of India it is done before idols for obtaining the object of desire. It is an ancient practice: Genesis xxiv says 'I will not eat until I have told mine errand,' and a brahman sometimes goes to a house, sits down, and refuses to eat till he has obtained the object he has in view. The *Englishman* newspaper relates that about 1850, a man named Chutterbhooj, son of a well known and respectable Charan of Oodeypore, carried to the late chief of that state certain grievances which he considered himself to be suffering in connection with his village. Failing to secure redress by ordinary measures, he took the unusual course of intruding on the chief without permission, for which breach of etiquette he was forbidden to enter the palace again. Accordingly, being under a sense of degradation, ill-feeling and annoyance, engendered by the prohibitory order, he indulged in satires and phillipics against his chief, who thereupon confiscated his village. Upon this, Chutterbhooj proceeded to Suloombur, which at that time, was at enmity with the chief of Oodeypore, and this step only incensed the chief all the more against him. Here he appears to have been provided for, but subsequently wandered about from place to place trying to obtain redress, but without being able to secure either the forgiveness of his chief or the restitution of his village. In this state of feeling he appears to have given way to the superstitious

idea, still prevailing amongst the Rajpoots, that the shedding of his own blood or the blood of his family would bring destruction upon those who had offended him if it did not secure a ready attention to his real or imaginary wrongs. In 1859 therefore, whilst travelling through the jungle with his two wives, two slave girls and a servant, together with a party of the Meena, who were his retainers, he one day dismounted and gave his horse in charge to the servant and began to smoke. Then advancing a little distance he suddenly killed the servant, and called upon the Meenas to dismount the woman. His orders were obeyed. One slave girl fled away with her boy to a neighbouring village and escaped, but the three other women were killed. The slave girl informed the villagers of what had occurred, and they went out and saw the dead bodies, and carried them away, and burnt them. The slave girl died the next year, and Chutterbhooj never turned up for six years after the offence had been committed. He then came in and confessed to having murdered the women and servant. Accordingly he was tried and convicted of murder, and the Viceroy was fully of opinion that the man deserved hanging, but that, considering the number of years which had elapsed, the prevalence of superstition, and the lawlessness which prevailed in that part of Rajpootana at the period in question when many such acts were committed with impunity, His Excellency commuted the sentence to transportation for life. The inviolability of a brahman, and the sin attached to causing the death of one, in any way, is inseparable, and to this, according to Sir William Jones, may be traced "the practice of dharna.

DHARPOSH, Hind. Saxifraga ligulata.

DHARUKU, or Dharana, Sans. From dhree to hold.

DHARUVA SENA. See Inscriptions, p. 389.

DHARUR, Hind. Dioscorea deltoidea.

DHARWAR, a town in the Southern Mahratta country in the Belgaum collectorate of the Bombay Presidency.

DHAS. See India, p, 346.

DHASAN, a river near Saugor cantonment.

DHASHT-I-KAPCHAK, The Sahara of Asia. See Dasht; Desert, Kalmuk; Khiva; Kelat.

DHASRA, religious mendicants in Southern India, who hold an iron worshipping lamp in their hands and perform on the Jangata, Tarte and Sinku. They walk before a corpse when being carried to the funeral pile.

DHAT, an isolated and now dependant chieftainship of which Oomerkote is the capital. It separates the Bhatti race from the Jareja race. Its prince is of the Pramara race and Soda tribe, ancient lords of all Sind.

The Dhote, or Dhatti, is the Rajpoot tribe, inhabiting Dhât, and in no greater numbers than the Kâorwâ, whom they resemble in their habits, being entirely pastoral, cultivating a few patches of land, and trusting to the heavens alone to bring it forward. They barter the ghee or clarified butter, made from the produce of their flocks, for grain and other necessaries of life. Rabri and Chauch, or 'porridge and butter-milk,' form the grand fare of the desert. A couple of seers of flour of bajra, jooâr, and kaijrí, is mixed with some seers of chauch, and exposed to the fire, but not boiled, and this mess will suffice for a large family. The cows of the desert are much larger than those of the plains of India, and give from eight to ten seers (eight or ten quarts) of milk daily. The produce of four cows will amply subsist a family of ten persons from the sale of ghee; and their prices vary with their productive powers from ten to fifteen rupees each. This rabri, so analogous to the koouskous of the African desert, is often made with camel's milk, from which ghee cannot be extracted, and which soon becomes a living mass when put aside. Dried fish, from the valley of Sind, is conveyed into the desert on horses or camels, and finds a ready sale amongst all classes, even as far east as Barmair. It is sold at two dokra (coppers) a seer. The poora, or temporary hamlets of the Dhattí consisting at most of ten huts in each, resemble those of the Kâorwâ.—*Tod's Rajasthan, Vol.* i, *p* 45.

DHATAKI KUSUMAMU, Tel. Dhatri-pooshpika, Sans. Grislea tomentosa.—*Roxb.*

DHATUGARBHA. See Buddha.

DHATURA, Hind. species of Datura, D. fastuosa, and D. stramonium, an intoxicating and poisonous drug. The plant is well known by its white trumpet-shaped flower: safaid dhatura is D. alba.

DHATURA, Hind.? Hyoscyamus niger?

DHATUSENA. See Mahomedanism.

DHAU, a river near Burragong in Chuprah.

DHAU, Panj. Lagerstrœmia parviflora.—*Roxb.* Hind. Conocarpus latifolia.

DHAUEN of Bombay, Grislea tomentosa.—*Roxb.*

DHAUL DHAK, Hind. Erythrina arborescens.

DHAULIA, a place in Cuttack, at which there is an inscription of the third century before Christ. It has two separate local edicts, the remaining edicts corresponding with those of Girnar. See Buddha, Girnar, Inscriptions, pp. 373, 385, 387.

DHAURA, Hind. Lagerstrœmia parviflora.

DHAURA, Grislea tomentosa, the scarlet flowers, dhau ka phool are considered stimulating and given to women in labour: are also used in dyeing. One seer costs four annas. The gum, dhaura or dhau ka gond, is white in colour, like the katira and tragacanth gums, swells in water: in dyeing cloth it is applied to those parts that the dye is not wished to touch; it is eaten in "luddoo;" one maund costs ten rupees.—*Gen. Med. Top., p.* 133.

DHAVALA or Dhavalha. See Inscriptions, p. 392.

DHAVANTARI, the physician of the gods who rose from the sea of milk.

DHAVES, Hind. Dhewus, Hind.

DHAWAN PHUL, Hind. Flower of Grislea tomentosa.

DHAWI KHURD, Hind. Grislea tomentosa: Sufed dhawi, Hind. Buxus sempervirens.

DHAWAR, Mar. A tribe who are smelters of iron.

DHAYA, Hind. Land on a river bank, subject only to the occasional overflow of water: also ridges along the dry course of a river, which has turned in another direction.

DHE, Hind., in the N. W. Provinces, a sub-division of the Jat tribe.

DHE, Hind., of the Cis-Sutlej, old mounds yielding saltpetre earth.

DHIMAR, a race, chiefly employed in fishing. They are, properly speaking, a branch of the bearer, or Kahar, caste; though they are sometimes said to be offshoots of mullah, or boatmen.

DHEKENAL, See India, p. 330.

DHELA, Hind. A Lahore grass, Scirpus maritima.

DHELA KATA, Hind. ? A tree of Chota Nagpore, with hard, yellow timber.—*Cal. Cat. Ex.* 1862.

DHENA, Beng. Vitis elongata.

DHENGI, a boat on the Ganges river. See Boat, Bhouliya.

DHENGUN, Hind. Cordia macleodii. —*Hooker.*

DHENKA, Hind. A lever of any kind.—*Wils.*

DHENKLI, a water lever, a machine for raising water, the pakotta or yettam of the Tamil countries. It consists of a horizontal lever with a weight at one end and a bucket of iron or an earthen pot at the other, slung from a bamboo, or pole; this being lowered into the well and returned to its original place, brings up a bucket of water. The name is provincially corrupted into Dhooklee, Dhiklee, and in Goruckpoor into Dheokul. The word appears to be derived from Dhulkana to roll, to overturn. The posts which act as the fulcra are called T'hoonya; the rope, Burt; and the bucket, Kurwala. The "dhenkli" is seldom used in the Punjab proper, except for the irrigation of rice fields, and in river tracts for melons and tobacco. In the peninsula of India it is in use in all the finer garden or even in field cultivation.—*Elliot's Sup. Gloss. Powell's Hand-book; Econ. Prod. Punjab, p.* 208.

DHENRUS, Beng. Abelmoschus esculentus.

DHER, a non-Arian race, dwelling as predial slaves, in many parts of India, in the Panjab, rare in the N. W. Provinces, many in the Saugor territory. In the Nagpore territory they have acquired some consideration from their employment as Dulal or writ servers. In the Deccan they are doubtless the same as the Holiar of the Canarese, the Mahr of the Mahrattas and the Pariah of the Tamil race. In the Western Provinces, though they are not often found in any numbers, but they appear to have left the remembrance of their name, for it is common term of abuse to call a man a Bura Dher'h, or a low-caste fellow. They eat dead animals, clean skins and sell them to Chamars. In Rajpootana, the Dher'h will not eat hogs, either tame or wild: the latter they hold in great abomination, notwithstanding their Rajpoot masters look upon them as a luxury.—*Elliot's Sup. Gloss.; Journal R. A. S., p.* 224. See Chepang India, Pariah.

DHERA, Hind. A station. A tent: a hamlet.

DHERI, in Sind, a bit of stone or other such material, round which the raw wool thread is twisted. The Kambo is a long cloth thrown over the right shoulder, and so fastened round the waist as to leave a place for the lambs and kids that are too young to walk.—*Richard F. Burton's Sindh, p.* 410.

DHERWARAH, the locality outside the hindoo towns where the Dher race reside.

DHERWARA, part of the budd'hist excavations at Karli.

DHEWUS, Hind. Dalbergia oojeinensis.

Dhaves, Hind. | Dhivus, Mahr.

A timber of Nagpore, of a light colour. It is liable to be devoured by white ants, and is only procurable of a small scantling, from 12 to 15 feet long and two feet in girth. Its strength, however, is considerable, and, if found of a proper size, would doubtless be valuable. The young trees are all cut down for bandy poles. It sells at 8 annas the cubic foot.—*Captain Sankey, Major Pearse.*

DHI, Hind., Sans. Sour milk.

DHIMAK, Hind. White ants; properly Dewak.

DHIMAL, a race of 15,000 souls in the sal forest of the Terai who about the close of the eighteenth century migrated to the north and east of the Kooch from Nepaul. The Dhimal dwell between the Konki and Dhonla, between the open plains and the higher levels of the mountains, and their villages, though distinct, the people not *intermarrying, are intermixed with the Bodo.* The *Dhimal* differ from the *Bodo, in their* language and their pantheon. Mr. Latham considers the terms Dhimal, Kamul and Tamil to be the same. The deities Data and Bidata preside over marriage, the feast of which is prolonged through three days and costs from 30 to 40 rupees. They bury their dead. The Dhimal of the eastern portion of the Turai, are estimated at about 15,000 souls. They are intermixed with the Bodo and lie between the Kuki and Dhonla.—*Latham's Descriptive Ethnology.* See Bodo, India.

DHIMAR, are fishermen; a branch of the bearer or Kahar race, but are sometimes considered offshoots of the Mullah or boatman race. They are chiefly employed in fishing and palanquin bearing.—*Wils. Gloss.*

DHIMEREE, Uria? A tree of Ganjam and Goomsur, extreme height 40 feet, circumference 4½ feet, and height from the ground to the intersection of the first branch, 8 feet. Bandy wheels are sometimes made of the wood, but it is chiefly firewood, being tolerably plentiful. It is considered sacred and is burnt when libations are offered. The fruit is eaten: a juice extracted from the root is used in rheumatism.—*Captain Macdonald.*

DHINDAGA, Can. Pterocarpus marsupium.

DHINGANA, vulgo Dheegana (lit., a forfeit) a demand of a forfeit at a ceremony. Dhingana Budhnee, the earthen pot used on this occasion.

DHINGAN, in Purneah an agricultural slave.—*Wils.*

DHINGRA Hind. of Kangra, Cajanus indicus.—*Spreng W. and A.*

DHIRHOR, a tribe of the Ahir in Benares and Goruckpoor. They are reckoned in the Tashrih-ul-Akwam amongst the Doab Ahir.

DHIROKOLI, See India, p. 327.

DHIVUS, Mahr. Dalbergia Oojeinensis.

DHOB, Rana Jey Sing took possession of the Gadi in S. 1737 (A. D. 1681.) A few hours only intervened between his entrance into the world, and that of another son called Bheem. It is customary for the father to bind round the arm of the new-born infant a root of that species of grass called the amirdhob, 'the imperishable' dhob, the Cynodon dactylon well known for its nutritive properties and luxuriant vegetation under the most intense heat.

DHOBI, a washerman; one of the lowest castes of Hindoos. A woman is called Dhobin. In the Upper Godavery district the present population is 54,680, of whom the Dhobi are a large part.

DHOBEE'S EARTH is a native carbonate of soda. *It is called washerman's earth, also called Sajji Matti in Hindustani, and Applacaram in Tamil and Telugu.* Dhobee's Earth is a whitish grey, sandy efflorescence, which often covers miles of country where decayed white granite forms the surface soil; this earth begins to accumulate in the dry weather; immediately after the rains, it can be scraped off the surface to the depth of two or three inches, and by repeated boiling and the addition of a little quick lime, the alkali is obtained of considerable strength. With a little care, very clean carbonate of soda can be obtained, fit for the manufacture of toilet soap, white glass, and glazes for pottery. The Nellore, Cuddapah, Masulipatam and Chingleput districts, yield this earth in great quantities, and it is also found at Poodoocottah, Hyderabad, Bellary and Mysore. The richest in alkali is from the territories of the Nizam. The quantity of anhydrous carbonate is about 67 per cent. Repeated attempts have been made to prepare Barilla from it, for exportation, and very fair specimens have been exported at different times, but the moderate price of the carbonate of soda of England prepared from sea salt will always prevent this from being a remunerative article of export. The colored frits for bangle glass, in making which it is used, have lately however become an article of export from the Madras presidency. It exists in immense quantities in many parts of India, in Bengal, especially, in the districts of Monghyr, Purnea, and Cawnpore. It contains from 40 to 50 per 100 of carbonate of soda, traces of sulphate of soda, organic matter, clay, sand, and oxide of iron. The salt can be extracted by washing the mineral without incineration, but the organic matter is dissolved at the same time, and gives a deep brown solution from which pure crystals cannot be obtained. The firing destroys this substance, and then the solution is colorless. But care must be taken not to push the heat beyond low redness, for the alkali at a higher temperature combines with the sand and clay, and the whole runs into green glass, insoluble in water. In Europe barilla is prepared either by burning sea weeds and lixivating the ashes, the product

being termed kelp and barilla, or by decomposing common salt by sulphuric acid and then roasting the resulting sulphate with chalk, saw dust, and fragments of iron. The mass when washed gives the carbonate of soda. Southern India is particularly rich in alkaline and earthy minerals, the origin of which seems to be the decaying granites of the country, but the most common form of alkali, is the Dhobee's Earth.—*Mr. R. Reynolds in Pharmaceutical Journal*, 1853, *Vol.* xii, *p.* 517—*M. E. of* 1855 *and* 1857; *Cat. M. E. of* 1857; *Beng. Phar., p.* 360.

DHOBOO, URIA. Conocarpus latifolia.—*Roxb.*

DHOFAR OR ZHAFAR, one of the now decayed ports of Arabia, on the coast of Hadhramaut.—*Yule's Cathay, Vol.* ii, *p.* 513.

DHOGREE, Kangra hill men who work at iron smelting.

DHOL OR DHAL, HIND. Cajanus indicus.

DHOL. HIND. A drum.

DHOL, HIND. Erythrina stricta.

DHOLE, HIND. The wild dog. See Canis. Dog.

DHOLEPORE, a town on the banks of the Chumbul river. Lukindar Singh, better known as the rana of Gohud, was the first of the chiefs of Dholepore with whom the British Government formed political relations. The family belong to the Jat tribe, and first rose to notice under the peshwa Bajee Rao. After the overthrow of the Mahrattas at Paniput, the uncle of Lukindar Singh rebelled and possessed himself of the fort of Gwalior. During the Mahratta war which ended in the peace of Salbye, the British in 1799 formed a treaty with him. Much discussion however arose in 1803, 1804 and 1805, but ultimately the river Chumbul became the boundary between Sindhia's territories and Dholepore. Maharana Keerut Singh lived to a great age. He died in 1836, and was succeeded by Bhugwunt Singh, who rendered assistance to the fugitives from Gwalior in 1857; but his minister Deo Huns incurred the displeasure of Government by plundering villages in the Agra district. Bhugwunt Singh received the right of adoption and was declared entitled to a salute of fifteen guns. His territory covers an area of 1,626 square miles, contains a population of 500,000, and yields a revenue of Rupees 600,000. The military force of the state consists of about 2,000 men.—*Treaties, Engagements and Sunnuds, Vol.* iv, *p.* 108.

DHOLI, a Gond tribe who dwell in jungly districts and are employed as goatherds.

DHOLKEE OR DHOLUK, a small drum.

DHOL-KULMEE, BENG. Ipomœa grandiflora.

DHOL-SUMOODRIVA. BENG. Leea macrophylla.

DHOLUK, a small drum.

DHOLWA of the Wagri. Aquila fulvescens.—*Gray.*

DHONEE, a fire lighted by fuqeers, over which they sit, imbibing its smoke.

DHONLA. See India, p. 337.

DHONPATTA, HIND. The leaf of latifolias, used in tanning.

DHOOA. In Bikaneer the six items of the revenue are:—*Khalisa, or fiscal revenue; Dhooâh; Angah; Town and transit duties;* Pusâeti or plough-tax; and Malbah.—*Tod's Rajasthan, Vol.* ii, *p.* 205.

D'HOOBA GRASS. Cynodon dactylon, flourishes in all seasons, and most in the intense heats; it is not only amara or 'immortal,' but a'khye, 'not to be eradicated;' and its tenacity to the soil deserves the distinction. —*Tod's Rajasthan, Vol.* i, *p.* 494.

DHOOB-KALA. The Indian seasons according to the Shastra, are six in number, each comprising two months. These divisions are more fanciful than real, and the common people are content to adopt the more definite division of three. Choumasa, or Burk'ha, constitutes the four months of the rainy season. The rest of the year is comprised in Seeala, Jara or Mohasa, the cold season; and Dhoobkala, or K'hursa, the hot season.—*Elliot.*

DHOOBKI, a wood of Nepaul, called Bechiacori, Sulla and Surrendhool, or Dhoobkee (on account of its resinous quality.) Its branches are used in Nepaul as torches: the fragrant turpentine which it yields is employed in sacrifices and in medicated salves, and its wood is converted into rafts for houses.—*Smiths' Five Years, p.* 67.

DHOOLIA, a civil and military station in Khandesh.

DHOOLI-BANS, BENG. Dendrocalamus balcooa.

DHOOMAVATI, SANS. From dhoomra, smoke.

DHOOMRO-LOCHANA, SANS. From dhoomra, smoke; and lochana, the eye.

DHOONA, HIND. Shorea robusta, *Roxb.*

DHOOND, a river of Jeypore.

DHOOND, HIND. A mound. Beesil-Deo, a cotemporary of Jeypal, the Tuar king of Delhi lived about A.D. 1032-1096. He seems to have become a convert to mahomedanism. There is the appearance of his subsequent expiation of this crime in the garb of a penitent; and the mound (dhoond), where he took up his abode, still exists at Kalik Jobnair, and is called after him, Beesil-ka-d'hoond.—*Tod's Rajasthan, Vol.* ii, *p.* 454.

DHOONDOOL, BENG. Luffa pentandra.

DHOON SIRIS. Panjabi. Albizzia elata.

DHOORBA, Hind. Cynodon dactylon See Graminaceæ.

DHOOP of Bhore Ghat. Canarium strictum.—*Roxb.*

DHOOS, is an expedient to hasten the compliance of a demand from a dependent. A party of horse proceeds to the township, and are commanded to receive so much per day till the exaction is complied with. If the dhoos is refused, it is considered tantamount to an appeal to arms.—*Tod's Rajasthan, Vol.* ii, *p.* 413.

DHOR, a worker in leather, a tanner, a currier. They are regarded as hindoos, and reside within the town walls, while the Dher and Chakili or Mang, reside outside the walls.

DHOR, horned-cattle ; also called gai-goru.

DHORA, Hind. One of the men required at a sugar-press.

DHOTE or DHATTI, like the Koorwa, a pastoral race of Dhat, their cows give 8 or 10 seers of milk daily.

DHOTI, Hind. Dovati, Sans. The unsewed garment with which hindoos clothe the lower parts of their persons. It is wrapped round the limbs, and by passing it through the fork, the appearance becomes that of wide or narrow trousers. The garment is passed round the waist, then between the legs, and fastened by being tucked in behind. Dhotees are waist and loin cloths, and are occasionally worn so as to fall over and cover the greater portion of the lower limbs. One of a coarse cotton commonly worn by cultivators and laborers in the field, may cost about two rupees. One of yellow silk, called putambar, is largely made at Benares. With every hindoo man of all parts of India alike, the dhotee is an indispensable garment. Should he even wear drawers or trousers, he will have a dhotee, large or small, underneath. The dhotee is a single piece of cloth, from two and a half to three and a half yards long by two to three feet broad, with ornamented ends and borders, except that the dhotee may now be somewhat broader and longer. As a general rule, there is literally no change up to the present day, from the costume of the male figures in budd'hist and hindoo sculptures of nearly two thousand years ago ; all other articles of male attire are sewn garments, cut out by tailors and made by them ; and there are, perhaps, as many varieties of vests and tunics—angréka, joobbhá, coortá, chupkun, mirzaee, and the like—as there are surtouts, paletots, cambridges, &c., fashioned in England. Many of these are worn by mahomedans and hindoos alike ; the only difference being that the hindoo ties or buttons his vest on the right side, the mahomedans on the left. Hindoo tailors are found everywhere, possibly descendants of the needle-plying handicraftsmen, who, like the weavers, smiths and carpenters, found a place in the enumeration of trades in Menu's 'Institutes' and the 'Yâgnyawalkyá.' The texture of the dhotee, saree and langhie fabrics, manufactured in Britain and sent to India, is not that required by the people ; nor what they are accustomed to. It is in general too close, too much like calico in fact, which, of course makes the garment hot, heavy in wear, and difficult to wash. Again, the surface becomes rough, and, as it is generally called 'fuzzy' in use, while the native fabric remains free. Comparatively few native women of any class or degree wear white ; if they do wear it, the dress has broad borders and ends. But all classes wear coloured clothes, black, red, blue, occasionally orange and green, violet and grey. All through Western, Central and Southern India, sarees are striped and checked in an infinite variety of patterns. Narrainpett, Dhanwar and Muktul, in the Nizam's territories ; Gudduk and Bettigherry in Dharwar, Kolapoor, Nassik, Yeola, and many other manufacturing towns in the Deccan ; Arnee in the south and elsewhere, send out articles of excellent texture, with beautifully arranged colours and patterns, both in stripes and checks.

DHOULEE of Kumaon. Hymenodyction excelsum.—*Wall.*

DHOUL PAPRI in Kumaon, Ulmus integrifolia.—*Roxb.*

DHOURA, Hind. of Kumaon and Panjab. Lagerstrœmia parviflora.—*Roxb. Fl. Ind.*

DHOUR. See Kol.

DHOURA, Hind. Chloroxylon swietenia.—*Roxb.*

DHOVA, Sans. From dhav, to cleanse.

DHOWA, Hind. Conocarpus latifolia.—*Roxb.*

DHOWA, Hind.? A whitish colored wood, close-grained and hard. Plentiful in the Santhal jungles and hills from Raneebahal to Hasdiha, a distance of about forty miles. The wood of it is chiefly used for cart wheels, beams and door posts, by the natives, also for mallets and tent pegs.—*Calcutta Engineers' Journal, July* 1860.

DHOWNA MUSTARU, also MURWA, Guz., Hind. Wormwood.

DHRITARASHTRA, an ancient sovereign. He was brother of Pandu, but was blind, and on that account was set aside from the throne but succeeded on Pandu retiring. He married Gandhari, and his sons, called Duhsasana and Duryodhana, were named Kaurava, and fell in the eighteen days' battle of Kurukshetra. Gandhari, after the battle of Kurukshetra retired with Dhritarashtra, and

his mother Kunti, to the jungle on the Ganges, where the maharajah died.— *Wh. H. of I.*

DHRITEE, Sans. From dhree, to sustain.

DHRUVA, generally the pole of a great circle of the sphere, particularly the celestial poles. Uttara Dhruva, the North Pole; also the Polar Star. Dacshiná Dhruva, the South Pole. This term is also used to signify a constant arc, referring to the distance of a planet from the beginning of the sidereal zodiac. Dhruva means more commonly an epoch to which a computation is referred. Lastly, it is the name of the Yoga Star of the 12th Nacshatra, supposed to be the same as β Leonis.—*Captain Edward Warren's Kala Sanhita.*

DHRUVA BHUTA. See Inscriptions, p. 384.

DHRUVA SENA. See Inscriptions, pp. 375, 376, 390.

DHUB, Beng. Grislea tomentosa.

DHUB GHAS, Hind. Agrostis cynosurioides.

DHUDI, Hind. Ficus caricoides.

DHUDI of Kumaon. Holarrhena antidysenterica.— *Wall.*

DHULBHUM, called also Ghatsillah, a large pergunnah east of the Kolehan, attached to the Singbhoom district, first colonised by the Bhoomij, *Dalton, p.* 156.

DHULI BANS, Beng. Var. of Bambusa balcooa.

DHUMNAR, about 40 miles S. E. from Nemuch, but close to Chundivassa, contains budd'hist caves with a brahmanical rock temple behind. Those of Dhumnar, like the caves of Ellora, contain a strong admixture of brahmanism.

DHUMMUL KOODANA, a ceremony.

DHUMRAPATRA, Sans. Tobacco.

DHUN, Hind. A low valley at the foot of a mountain. The valley intervening between the true Himalaya and the Sewalik or outer hills, as the Dehra Dhoon, Jaswundhun, &c. The fixed gradations of true Himalaya, dhún or valleys, sandstone or Sewalik range, "bhaver" or forest tracts, and lowest of all the Tarai, which consists of arid tracts or else swamps at the foot of the mountains, which are so constant and marked in the central Himalaya, are not observable at all in the Panjab.

DHUNA, Hind. Shorea robusta.

DHUNCHI, Hind.? Tam. Sesbania aculeata. Syn. of Æschynomene canabina.— *Konig.*

DHUNDHUMARA, is the name of a king of Oude of the solar line, properly called Kuvalayáswa, but termed Dhundumára from slaying a demon named Dhundhu, who annoyed the saint Uttanka.

DHUNIA, Beng., Guz. and Hind. Coriander seed. Coriandrum sativum.

DHUNIA, the lowest caste in the Himalaya, who employ themselves as gold-washers.

DHUNICHA, Beng. Indian flax, Sesbania aculeata.

DHUNJEBHOY FRAMJEE, a learned Parsee, of Bombay, author of a Zend and English and Zend and Guzeratti dictionary. At the commencement of the work is a comparative table of the Zend Alphabet with those of the Persian, Pehlvi, Hebrew, Cunieform, Sanskrit, Guzeratti, Greek and Roman languages. Plate second contains a comparison of the Zend orthography according to the different systems of sixteen Asiatic and European orientalists. Preliminary discourse on the origin and authenticity of the Zend language and Zendavesta. Parts 2, 3, 4, 5 and 6. The Pehlvi Alphabets published with observations on the Lapidary, cursive, and Numismatic, Pehlvi writings Tablets, Manuscripts and Coins.

DHUNNES, Hind. Buceros Tickelli.

DHUNSHA, Hind. Sesbania aculeata.

DHUNU, Hind. Pangi. Picea pindrow, the silver fir.

DHUNU, Hind. Taxus baccata.

DHUNYA, Duk. This is written Dhuneea also Dhunia, Coriandrum sativum.— *Linn.*

DHUP, also LUR, also SHUR, Hind. Juniperus excelsa. Incense. Dolomiæa macrocephala, Juniperus communis, Chalei ke dhup, Hind. Juniperus excelsa, jari dhup, dhupa, Hind. Dolomiæa macrocephala. The word is applied to many fragrant things, used for burning as incense offered to idols, *e. g.*, to the root of Dolomiæa macrocephala, to juniper or to benzoin, to Juniperus excelsa, J. arborea; pencil cedar.

DHUPRI, Hind. of Kamaon, &c., Juniperus excelsa, J. arborea: pencil cedar.

DHURA, Hind. Ficus caricoides.

DHURA, Hind. Zura Ar., Sorghum vulgare.

DHURGONTEE. In the time of Akbar the celebrated Dhurgontee, the queen of Gurha Mundala, whose reign extended over the Saugor and Nerbudda territories, and the greater part of Berar, was a daughter of the reigning Chundale prince of Mahoba. He condescended to give his daughter only on condition that the Gond prince who demanded her should, to save his character, come with an army of 50,000 men to take her. He did so, and "nothing loth," Dhurgontee departed to reign over a country where her name is now more revered than that of any other sovereign it has ever had. She was killed about 250 years ago, about 12 miles

from Jubbulpoor, while gallantly leading on her troops in their third and last attempt to stem the torrent of mahommedan invasion. Her tomb is still to be seen where she fell, in a narrow defile between two hills, and a pair of large rounded stones which stand near are, according to popular belief, her royal drums turned into stone, which in the dead of the night are still heard resounding through the woods and calling the spirits of her warriors from their thousand graves around her. The travellers who pass this solitary spot, respectfully place upon the tomb the prettiest specimen they can find of the crystals which abound in the neighbourhood—*Sleeman's Rambles and Recollections, p.* 254 ; *Journal of the Asiatic Society of Bengal, p.* 213.

DHURJATI, a name of Siva or Mahadeva. The term means, he who weareth his hair bound about his head in the form of a tiara, in which style it is worn by the Jogi or Sunyasi devotees and other adherents of Siva.

DHURMSALA, a Sanitarium, is situated in the Kangra District of the Panjab, in E. Long. 76° 20′, and in N. Lat. 32° 13′. The houses are built progressing up the hill, so that they are at very different elevations, the lowest being at an elevation of 4,000 feet, the highest 7,000 feet. The height of the cutcherry is 4,876 feet, that of Major Fein's house and McLeodgunge Bazar, 6,180 feet. The sanitarium is on one of the spurs, running south from the great range of "Dhaoli Dhar." This range runs east and west, at a height of from 13,000 feet to 19,000 feet, and forms a great wall on the north ; it is due to this range, that the climate of Dhurmsalla is so mild and has such a heavy rain-fall. Kangra, said by Lord Canning, to be the most beautiful district in India, excepting Cashmere, is a most lovely fertile valley, surrounded by lofty mountains, interspersed with undulating hills and situated between the rivers Ravee and Sutlej. On one side it has the territories of Cashmere and Chumba, on the other the wild but romantic hunting fields of Kulloo, Spite and Ladak. "Various races of men, belonging to distinct types of the human family, and speaking different languages, are distributed over its surface. Here are hills just raised above the level of the plain, and mountain crests higher than any peak of the Andes. Every tone of climate and variety of vegetation, is here to be met with, from the scorching heat and exuberant growth of the tropics, and barren heights destitute of verdure and capped with perpetual snow. Hills dissolve into gentle slopes, and platforms of table-land, and valleys become convulsed and upheaved, so as no longer to be distinguished from the ridges which environ them. No spot in the Himalaya can compete for beauty with the Kangra valley, and its overshadowing hills, (13,000 feet) no scenery presents such sublime and delightful contrasts. Below lies the plain, a picture of rural loveliness and repose. The surface is covered with the richest cultivation, irrigated by streams which descend from perennial snows and interspersed with homesteads buried in the midst of groves and fruit trees. Turning from this scene of peaceful beauty, the stern and majestic hills above Dhurmsalla confront us. Their sides are furrowed with precipitous water-courses. Forests of oak clothe their flank, and higher up give place to gloomy and funeral piles. Above all are wastes of snow or pyramidal masses of granite too perpendicular for the snow to rest on." Dhurmsalla, stands in the bosom of those mighty hills, circular in its outline, and commanding a view unequalled in the world perhaps, of the placid and beautiful valleys of Kangra and the noble hills behind. Dhurmsalla is divided into two stations, the lower and the upper, the one the residence of the civilians and visitors from all parts of Panjab, and the other occupied by the officers' houses and lines of a Regiment.—*Dr. W. P. Dickson,* 1870 ; *India Annals, No.* 227, 1870. *Paharee.*

DHURREE, Hind. A cotton rug made at Shahabad.

DHURU, Hind. Buddleia crispa.

DHUTTEE, the clothes or dresses with which Ullums are bedecked.

DHAYK, a race in Borneo. See Dyak ; Sacrifice.

DHYALI, a pretty pied Dhyali bird of Ceylon is the only tolerably common sylvan songster worthy of notice. See Dial-bird.

DHYANA, Singh. Religious meditation, from dhyoi, to think. In this act of devotion, the worshipper of Siva for instance, closes his eyes, places his arms before him, and repeating the names of the god, ruminates thus :—His colour is like a mountain of silver, &c., &c.—*Ward's View of the Hindoos, Vol.* ii, *p.* 67.

DIACAENA TERMINALIS. Some twenty varieties of this, the Ti-plant, are cultivated in the Polynesian islands. There is, however, but one which is considered farinaceous and edible. In Java the root is considered a valuable medicine in dysentery.—*Simmonds' Commer. Product,* 355.

DIACOPE, a genus of Fishes belonging to the section Acanthopterygii and family Percidæ. Many large and beautiful species of this genus inhabit the Indian seas. Diacope octolineata, a very beautiful species, caught off the coast of the Mauritius, is of a brilliant reddish-yellow colour, shaded into

white on the belly, and is adorned with four longitudinal blue stripes on each side of the body ; these stripes are margined with black. It is about 10 inches in length. Some of the species are known to have attained the length of 3 feet and upwards.—*Eng. Cyc., p.* 323. See Fishes.

DIAGREDIUM. See Convolvulus scammonia.

DIAL BIRD of Ceylon, Copsychus saularis.

DIALA on the Euphrates, the place of the opening of a canal running to the Tigris river. See Kasra-i-shirin, Khalis, Kooffa.

DIAMANT, Dan., Dut., Fr. and Ger. Diamante, It., Port. Diamond.

DIAMACHUS, an ambassador from the Greeks of Babylon to Mitra Gupta, son of Chandra Gupta. Mitra Gupta was known to the Greeks by the name of Alletro Chidas. Diamachus was the next Greek ambassador after Megasthenes.—*Cal. Rev.*, 1868.

DIAMER PEAK, or Nanga Parbat, in Lat. 35° 14′ 4″ N. ; and Long. 74° 34′ 5″ E. in Hasóra. Top of the peak is 26,629ft. above the sea. This peak, the highest in Hasóra, is situated close to the remarkable bend made by the Indus.

DIAMOND, Eng. Span.

Almas. Ar., Pers., Rus.	Kamala, kumala, intan, Malay.
Diamant. Dan. Dut. Fr. Germ. Sw.	Mass. Pers.
Jahalom. Hebrew.	Dyamant. Pol.
Hira. Guz. Hind.	Demant. Sw.
Diamante. It. Sp. Port.	Virum Vachira Kullu. Tam
Adamas. Lat.	

The diamond is a crystallised mineral, which, on account of its lustre and hardness, is reckoned the most valuable of all gems. The form is cubical, frequently in twin crystals, cleavage highly perfect, rarely massive. The bulk of the forms are those of the octohedron ; an octohedron having six planes on the edges ; or a dodecahedron with rhombic faces. Lustre brilliant adamantine. Colour white or colourless, occasionally with tints of yellow, red, orange, green, brown or black. Transparent to translucent when dark-coloured. Fracture conchoidal, H. 10, S. G. 3·5295 to 3·55. Exhibits vitreous electricity when rubbed. Index of refraction 2·439. Becomes phosphorescent on exposure to light, and the smaller diamonds become phosphorescent by a much shorter exposure than required for those of a larger size. The diamond is carbon in its purest form, and its combustibility was ascertained by the Tuscan philosophers. About 30 per cent. of diamonds are under half a carat, and one in a thousand may be above 24 carats. Diamonds have been obtained from India, from very ancient times. Ptolemy's Geography, said to have been composed 60 years after the time of Pliny, mentions the diamonds found on the banks of the Sumbulpoor river ; also speaks of Arcati, the capital of the Soræ or Sora-mandalum from whence corruptly Coromandel, Mesolia, the district which contains Masulipatam and the river Cauvery under the name of Chabaris. Rennell supposes Punnah to be the Panassa of Ptolemy. He mentions the Sumbulpoor mines near the Boad country and quotes the Ayeen-i-Akbari as naming Biragur on the west of Boad near the Mahanuddy river, adding that there is indeed a mine of more modern date, in the vicinity of Sumbulpoor, but this whole quarter must from very early times have been famous for producing diamonds. Ptolemy's Adamas river answers perfectly to the Mahanuddy, and the district of Sabaræ, on its banks, is said by him to abound in diamonds. Tavernier visited the Raolconda diamond mines at the confluence of the Kistnah and Bheemah rivers, which were also noticed by Cæsar Frederick, and both Tavernier and Rennell notice the diamond mines of the Pennaar river and near Gandicotta, also those of Colore (Kulur ?) on the south bank of the Kistnah, not far from Condavir.

The great sandstone formations of the south and north of India, contain the celebrated diamond mines of Parteal (Golcondah), Banganapilly and Panna, and the limestones and schists associated with them, from the latitude of Madras to the banks of the Ganges, exhibit the same characters. According to Ainslie the diamonds which are offered for sale in India were generally brought from Visiapour, Gana Purtual (Golconda), Bundlecund, the sland of Borneo, and Sumbhulpoor in Orissa and were reckoned superior in transparency and purity to those of Brazil. What is sometimes called the Maturese diamond of Ceylon, or yellow Tourmalin (Kanefie Turmali), Thunberg tells us is no other than a Topaz of a greenish yellow colour, no diamonds are found in Burmah, yet it forms one of the nine gems, which, worn together in a ring, are supposed by the Burmese to protect the wearer from evil. They are the diamond, emerald, coral, sapphire, topaz, pyrope, cat's-eye, pearl, ruby. The diamond is easily crushed in a steel mortar, and, from its lamellar texture, it is capable of being split and cleaved, by which means the jewellers are enabled to work it. The first grand experiment to prove its combustibility was before Cosmo III, Grand Duke of Tuscany, when a diamond, exposed in the focus of a great lens, was entirely volatilised. It has also been consumed by Guyton in red-hot nitre, by Professor Ten-

nant by means of melted nitre in a red-hot tube, and by M. Dumas under a powerful battery, producing an intense heat. By such experiments its true nature was ascertained, and now the fact is everywhere accepted, that the diamond is nothing but crystallized carbon. M. Dumas says, "it is simply carbon – coke, in fact." It will make a mark upon paper like plumbago, for it is really nothing more than a bit of charcoal! It is popularly supposed that the diamond is always "clear as crystal;" but there were exhibited in the Great Exhibition of 1851, brilliants of an apricot colour, of a very fine pink topaz colour, of the deepest ruby ballais colour, of a lemon colour, of a cymophane (green and orange) colour, the two tints being distinctly perceptible. Moreover, there were diamonds of a chrysolite colour, a beautiful light-green, of an aquamarine (sea-green) colour, of steel colour, of deep sapphire, blue or light-blue, of milky blue, of light orange, of brown, of dusky red, of deep garnet colour, of a jacinth colour (tawny red,) of rose colour, and of a brilliant jet-black. The value of the diamond is determined partly by its size, purity, colour, and shape, but chiefly by its weight in carats. The 'carat' is an Arabic term for a small seed, against which, it is said, these gems were first weighed. A diamond of the first water, free from flaws, and well cut, of one carat, is worth from £12 to £15 sterling.

Large diamonds are usually heir-looms in great families, and almost every Royal house in Europe has one or more celebrated gems. The Court of Holland has one of a conical shape, valued at £10,368. The buttons of the silk stole of King Joseph I of Portugal were each a fine brilliant, worth about £5,000, or, in the aggregate of twenty, £100,000. George IV of England purchased a magnificent brilliant of a blue colour, which formed the chief ornament of the crown at his coronation. It cost £20,000.

The Pigot Diamond was brought to England by Earl Pigott, on his return from the Governor-Generalship of India; and as no one was found rich enough to buy it, or people were unable or unwilling to do so, and, the Earl needing money at the time, it was disposed of, in 1801, by lottery, for £30,000. It afterwards passed into the hands of one of the Portuguese princes. It weighs 49 carats and is valued at £40,000.

In the crown of France there was, and probably now is, a rich brilliant of a sky-blue colour. It weighs 67 carats and 2-16ths. Its price is estimated at three millions of francs (£40,000).

Maximilian Diamond.—The Austrian Royal family possesses theMaximilian diamond of a yellow colour and rose-cut. It has been rated at 139½ carats; its value is said to be £155,682.

The Sanci Diamond originally belonged to an eastern merchant, from whose hands it passed into those of Charles the Bold of Burgundy. Charles wore it in his cap at the battle of Nancy in 1475, where he was killed. A Swiss mercenary prowling about the field in search of plunder, found the gem, and, ignorant of its value sold it to a priest for a florin, about twenty pence of British money. The priest sold it again for 2*s.* 6*d.* After this it came into the hands of Antonia, king of Portugal, who pledged it to a gentleman named De Sanci for 40,000 francs, and afterwards, being unable to redeem it, he sold it to the same gentleman for 100,000 francs. A descendant of this gentleman having occasion to deposit the family jewel with the Federal Government of Switzerland, entrusted it to the care of a faithful servant for that purpose. The servant disappeared for a long time, but so confident was De Sanci of his honesty that he caused search to be made in his track, and found him at last murdered and half-buried. In his stomach was found the brilliant, he having swallowed it to preserve it for his master!

The Russian Diamond, a large diamond in the crown of Russia, has a noteworthy history. Some Indian, remarkable for his superstitious piety, finding the large stone, thought he could do no better than place it in the socket of an idol's eye. There it remained for a long time, until an Irish soldier, who watched his opportunity, gouged out the optic. It was, after going through many adventures, sold to the Empress Catherine of Russia in 1775 for £90,000 in present money, an annuity of £4,000, and a patent of nobility. It is of the size of a pigeon's egg, and of a flat oval form. It weighs 179 carats, or 716 grains, and is without a flaw. Besides the stone which adorns the Imperial sceptre of Russia, there is a stone among the crown jewels valued at £369,800.

The grand *Russian diamond*, is said to have been the eye of a hindoo idol. It fell into the hands of a merchant, who sold it to Prince Orloff for Catherine, Empress of Russia, for 90,000*l.* in cash, an annuity of 4,000*l.*, and a patent of nobility. It weighs scarcely 198 carats.

The Pitt Diamond.—The grandfather of the Right Hon. William Pitt, when Governor of Madras, purchased a diamond from a native for £12,500. When re-cut it was worth twelve times the money! The small laminæ, shreds and cuttings from it, were valued at £8,000. It was purchased in 1717 by the

Duke of Orleans for £135,000, and in the negotiations £5,000 were expended. In 1791 a commission of jewellers valued the stone at twelve millions of francs, or nearly £500,000 sterling. Its original weight was 410 carats.

The Persian Court, on high days and holidays, literally blazes with gems. The celebrated stones in its possession are the "Sea of Glory," and the "Mountain of Light,"—the one valued at £145,000, and the other at £34,848.

Hyderabad Diamond. A very large diamond belongs to the Nawab of Hyderabad. It measures 2⅛ inches in length by 1⅜ inches in breadth and ⅞ths of an inch in thickness, in the rough state. The gem was found in the mud wall of a native house and was purchased for His Highness the Nizam; a small portion of the gem had been broken off one end before it was offered for sale. It weighs nearly 272 carats.

Brazil Diamond. The largest diamond known to exist does not belong to any of the great kings of Europe, but to the house of Braganza. When Don John of Portugal, arrived at the Brazils in 1808, a negro conveyed a letter to him in which he professed an ardent desire to present, *in person*, a large diamond which he had found. The Regent granted him an escort, and the negro arrived and presented the stone, the largest ever found in the Brazils. It is like a darkish-yellow pebble, kidney-shaped and oblong, about the size of a pullet's egg. Its weight is enormous —1680 carats—nearly 11 ounces! The Brazilian jewellers value it at three thousand millions of crusades, or three hundred million pounds sterling—£300,000,000 ! ! ! but it is believed to be a white topaz.

A blue diamond was lost in the French Revolution.

Koh-i-Nur ? ? The largest diamond of which we have any knowledge is mentioned by Tavernier as in the possession of the Great Mogul. It weighed originally 900 carats, or 2769·3 grains, but was reduced by cutting to 861 grains. It has the form and size of half a hen's egg. It was found in 1550, in the mine of Colone. This great diamond appears to be identical with that now known under the name of Koh-i-noor. Some doubt is thrown on Tavernier's statement of its being cut. This precious gem has seen a variety of fortunes. Its early history is mythical, but from the Great Mogul it passed into the possession of the reigning family of Cabul. When Shah Sujah was driven from Cabul he became the nominal guest and actual prisoner of Runjeet Sing, who spared no means to obtain possession of the precious gem. In this he succeeded in 1813. After the death of Runjeet the diamond was preserved for a while by his successors. It was occasionally worn by Kurruk Sing and Shere Sing. After the murder of the latter it remained in the Lahore treasury until the supercession of Dhuleep Sing and the annexation of the Panjab by the British government, when the civil authorities took possession of the Lahore treasury, under the stipulation previously made that all the property of the state should be confiscated to the East India Company, in part payment of the debt due by the Lahore government and of the expenses of the war. It was at the same time stipulated that the Koh-i-noor should be surrendered to the Queen of Great Britain. It arrived in London on the 30th June 1850, and on the 3rd July was presented to Her Majesty. Since its public exhibition in 1851 it has been submitted to the process of cutting, which has much enhanced its beauty and value.

The Nassik Diamond was sold to the Marquis of Westminster for 7,200*l.*

The Pitt, or Regent Diamond is of less size weighing but 236·5 carats, or 419¼ grains; but on account of its unblemished transparency and colour it is considered the most splendid of Indian diamonds. It was sold for 130,000*l.* to the Duke of Orleans by Mr. Pitt, an English gentleman, who was Governor of Bencoolen, in Sumatra. It is cut to the form of a brilliant, and is estimated at 125,000*l.* Napoleon placed it in the hilt of his sword of state.

The *Koh-i-noor*, or "*Mountain of Light*," the largest known diamond in the world, excepting the Brazilian stone among the crown jewels of Portugal, has lately been added to the trophies of the British sovereign. In the year 1550 this stone was discovered in the mines of Golconda. It passed in the train of conquest and as the emblem of dominion, but always carrying misfortune in its train, from Golconda to Delhi, from Delhi to Mushed, from Mushed to Cabul, from Cabul to Lahore, and from Lahore to London. When first given to Shah Jehan, it was still uncut, weighing, it is said, in the rough state, nearly 787½ carats, which were reduced by the unskilfulness of the artist to 279. It was cut by Hortensio Borgio, a Venetian, who, instead of receiving any remuneration for his labour, was fined 10,000 rupees by the enraged Mogul; In the time of Tavernier was reduced to 186 carats but cut by Coster of Amsterdam as a brilliant, weighs 106 carats. Upon the annexation of the Panjab it was given over to the East India Company for the Queen of Great Britain and brought to London in 1850. Large as the Koh-i-noor was before its recent cutting it is computed by the best judges to have

been originally three times its present size. Tavernier states that it originally weighed 787½ carats; its estimated value is not known. The Koh-i-noor was placed on the mill by the Duke of Wellington on July 16th, 1852, to be cut and was completely finished on September 7th, having taken thirty-eight days to cut, working for twelve hours per day without cessation!

The diamonds of Asia are found in Borneo, in the Cuddapah district, in Banganapilly, in the tract of country between Golconda and Masulipatam, in the Ellore district, on the Mahanuddi and at Punnah in Bundelcund. The earliest notice we have met with of the Punnah mines is in Dalrymple's Indian Repertory, Vol. ii, p. 471, and there described as on a range of hills situated about 42 coss S.S.W. of Kalpee. The hills are called by the natives Band Achil: they extend about 12 coss in length and about 2 or 3 in breadth, and are divided into 21 districts of which only the following nineteen names are given:—

Pirnah,	Pullu,	Rangpur,
Gurriah,	Raipur,	Cherriapuri,
Anwont Pokennu,	Etawa,	Attupurah,
	Maharajpur,	Merah,
Channú,	Rajpur,	Singupurah,
Birdu,	Kimmerah,	Mujiguah.
Kalliaupur,	Gadahsiah,	

Diamonds are found in all these districts, but those of Maharajpur, Rajpur, Kimmerah and Gaddahsiah, are the largest and best.

Ceded Districts.—The mines of Cuddapah and Banaganapilly about 150 to 170 miles N. W. of Madras, have engaged the attention in succession of Dr. Heyne, Captain Cullen, Dr. Voysey and Captain Newbold. Dr. Heyne tells us that diamond mines are found in different parts of the Ceded Districts, especially in the eastern and central divisions. In the Chennur Taluk, in which Cuddapah is the largest town, there are two places called Condapetta and Ovalumpilly, where diamonds occur. In the next taluk, on the west side of this, diamonds are dug at Lamdur and Pinchetgapadu. Several mines exist near Gooty, and about fifteen gow (15 days journey) from that place a famous diamond mine exists near the Kistnah river. The diamond mines near Cuddapah are about seven miles north-east from the town, on both banks of the Pennar river, where this place washes the foot of a range of hills. The country in which they occur is bounded on the east by a range of hills which run nearly north and south for about fifteen miles, with a sharp little interrupted ridge. Opposite to Cuddapah they meet another similar ridge, stretching for about eight miles from north-east to south-west. The second range running nearly due west, for about seventy miles, and forming the southern boundary of the district. To the westward, the country continues plain and open to a great extent: to the northward we see hills and ranges connected with the eastern mountains. The mines at Cuddapah have, it is said, been worked for several hundred years with various success. A large diamond was found, which produced a law suit not decided in Dr. Heyne's time. It was said to weigh 1¼ pagoda—70 grains, to be full of flaws, and on that account not to be worth more than 1,000 pagodas. These mines are within half a mile of the eastern range of hills and about as far east from the river and Condapetta, and on grounds belonging to a small village called Kanaperty. They are surrounded by cultivated fields, and have the appearance of heaps of stones and pits half filled with rubbish, in the middle of which we find a number of people at work in a new mine. The mines are pits of unequal extent and small depth, and usually have a four sided form. One in which people were at work and which had been opened only eight or ten days, was sixteen feet square. The Ovalumpilly mines are on the west side of the river, about six miles from Cuddapah, and three miles from the Kanaperty mines. They are situated on a gentle ascent, about half a mile from the Pennar, in a well cultivated country, and within a very short distance of three villages. They are chiefly on ground belonging to Ovalumpilly. They are of more recent discovery than the other mines and it is only forty years since they have been worked. They have rather the appearance of intrenchments than of mines. The soil of the fields surrounding them is sandy, with a small admixture of loam. It forms the surface of the ground where the mines lie, and is not more than a foot in thickness. The diamond bed, both here and at the Kanaperty mine, seems to follow the direction of the river, and is, at different parts, of unequal breadth. The diamonds found in it are in the form of small flat or round pebbles, and as far as I could learn from the miners, never occur crystalized. They are, however, said to be of a superior lustre and hardness, and much better than those found further westward. Hindoos distinguish four kinds of diamond, differing from each other in beauty and value, called 1 Bramha, 2 Chetra, 3 Vaisea and 4 Sudra,—names derived from the castes in which the hindoos are arranged. The Brahma diamond is described as of the colour of clear milk; the Chetra, of clear honey; the Vaisea of cream; and the Sudra, of a frog colour, or a smoky greyish white.

The following is a list of the prices in Dr. Heynes' time of the rough stones at the mines :—

Weight.	Madras Pagodas.		Weight.	Madras Pagodas.	
1 Manjaly, ⅛ of a pagoda, or 2 carrats.	Bramha	10	6 Manjaly,	Bramha	150
	Chetra	8		Chetra	140
	Vysea	6		Vysea	130
	Sudra	5		Sudra	120
2 Do.	Bramha	24	7 Do.	Bramha	250
	Chetra	20		Chetra	240
	Vysea	18		Vysea	220
	Sudra	16		Sudra	200
Weight of 3 Manjaly,	Bramha	40	8 Do.	Bramha	400
	Chetra	37		Chetra	380
	Vysea	34		Vysea	360
	Sudra	30		Sudra	350
4 Do.	Bramha	80	Two diamonds of equal size, weighing both together one manjaly, are worth of	Bramha	8
	Chetra	76		Chetra	6
	Vysea	70		Vysea	4
	Sudra	60		Sudra	3
5 Do.	Bramha	100	Three diamonds of equal size, weighing altogether one manjaly, are worth of	Bramha	7
	Chetra	90		Chetra	6
	Vysea	85		Vysea	5
	Sudra	80		Sudra	4

The Madras pagoda was ten per cent. better than a star pagoda, which is equal to eight shillings.

These were prices of stones free from speck, flaw or crack. The cut stones are valued in a different way. It is often the interest of the dealer to cut large stones into a number of smaller ones.

At the time of Dr Heyne's visit many places in the neighbourhood were considered as very promising. They pointed out one place at Condapettah, close to the spot in which they were working, and another very extensive one near Currapully. From this last spot they entertained great expectations, as the diamond bed in it is about six feet in thickness, the smaller pebbles in greater abundance, and the soil of a redder colour than anywhere else in the neighbourhood. The land belonged to a pagoda or a brahmin ; and they say it is worth more than seventeen rupees a year. The proprietor offered to give it up for eighty pagodas ready money, but Colonel Munro had refused permission to work it. This circumstance will show that the country is by no means exhausted, and that abundance of diamonds might be procured should an increased demand for them arise. From the renter he understood that the usual profits on working a mine are reckoned at 5000 pagodas on an expenditure of 2000 ; and in his opinion, it cannot be less, the undertaking being considered as a lottery, in which there are blanks as well as prizes. He adds that the different places in which the diamond has been hitherto found consist either in alluvial soil or in rocks of the latest formation, and containing such a great proportion of rounded pebbles as to have rather the appearance of a conglomerate than any other species of stone. The diamonds

are not scattered through the whole of the beds from the surface in the diamond mines to the greatest depth hitherto dug ; but confined to a single bed, always harder than the rest of the accompanying beds, and usually not exceeding a foot or two in thickness. The structure of all the places in which diamonds occur are similar, and the following is an account of the beds found in the mines at Cuddapah.

The uppermost, or superficial stratum, consists of sand or gravel, mixed with a small proportion of loam. Its thickness scarcely exceeds a foot and a half. Immediately under it is a bed of stiff bluish or black mud, similar to what is seen in places that have been inundated. It is about four feet thick, and contains no stones. The diamond bed comes next, and is easily distinguished from the incumbent bed, by the great number of large rounded stones which it contains. It is about two, or two and a half feet thick, and is composed of large round stones, pebbles, and gravel, cemented together by clay, in the dry seasons, it is as dry as the bed which lies immediately above.

In the Ellore district, the diamond stratum is covered by thick strata of calcareous tuff. There was pointed out to Dr. Heyne a variety of small stones in the heaps that were thrown away, which he was assured always indicated the presence of diamonds wherever they occur in beds, at some depth under ground. These stones were called the Tella bendu (in Telugu) pebbles of a white, earthy or chalk-like colour, rounded, the nucleus of which has a bluish brown or grey colour, while the outside is decomposed into a white pipe-clay. Sometimes they consist of jasper, coated in the same way : and sometimes they are species of felspar. The white decomposed crust of pipe-clay seems to be the grand characteristic. It was pointed out to him before, in other diamond mines, though not so forcibly.

In the northern diamond mines, particularly those of Partel, he found in the diamond bed a great number of fine calcedony and cornelian pebbles and garnets. The larger stones form the greatest part of the diamond bed.

The mode of working a diamond mine in the Cuddapah district was in Dr. Heyne's time as follows : After all the superincumbent beds, and the large stones in the diamond bed, are removed out of the mine, the small gravel and the other constituents of the bed are carried to a small distance, and put into a cistern about eight feet square and three deep. In this situation water is poured upon it, which separates the lighter loamy particles. The gravel and small stones, which sink to the bottom are then thrown into a heap close to the cistern,

from which they are conveyed to a smooth plain of about twenty feet square, made of hardened clay. Upon this plain the whole is thinly spread. The gravel in this position being slightly moistened, six or seven people go over it several times in succession. The first time, they pick out only the large stones; the second and subsequent times, the smaller gravel is carefully turned over with the flat of the hand, whilst they carefully watch for the spark from the diamond, which invariably strikes the eye.

Banaganapilly.—Captain Newbold, in No. 10, Vol. III of Madras Literary Society's Journal, describes the Banaganapilly district, as about 30 miles long from North to South and 26 in breadth from East to West, lying between latitude 15° and 16° N. in the centre of the Balaghat Ceded Districts. Its Eastern and Southern part consists of a fertile plain of the regur or cotton soil, bounded on its Northern and Southern aspects by detached ridges of hills of clayslate and sandstone, which run from Kurnool towards Ghooty, Cuddapah, and Tripati, and terminate at Naggeri, North West of Madras. General Cullen also tells us in the Madras Literary Society's Transactions that the village of Banaganapilly and the celebrated diamond deposit, is situated near the base of a low range of tabular land, running about north and south, and forming the western boundary of a great field of compact blue limestone. In the year 1808, Dr. Heyne paid a visit to the diamond mines at Banaganapilly. He tells us in his Tracts that Banaganapilly is built at the foot of a low ridge of hills, on which the diamond mines are situated; these hills run nearly east and west, and consist of distinct conical elevations from one hundred to two hundred feet of perpendicular height. The farthest east of these hills is said to yield the best diamonds, but it has been so completely ransacked on all sides, that most of the mines at present wrought are in the hill immediately on its west side. There is scarcely any vegetation on the hills, a few prickly plants excepted, which grow between the stones, and a tree or two near the first ascent. A very desultory and destructive mode of mining is followed. A man chooses a piece of ground, and if not immediately lucky, which is frequently the case, he speedily leaves it; another person succeeds, and makes an opening at the distance of a few yards, he discovers a favourable spot, and continues to work it for a little way, but finding diminution in his earnings, soon abandons it for another; by this method of proceeding much ground is wasted and much money lost. The undertaking is looked upon as a lottery, in which the enterprizers rather purchase than renew a ticket. The mines are scarcely anything else but deep holes, open at top; sometimes indeed the work is carried on for some extent under the rock, which is then supported by stone pillars. He saw none deeper than twenty feet. The gallery under the rock is so low, that the people are obliged to work in it sitting, a mode of working which an Indian prefers to every other. The miners sink to the diamond bed, which is fifteen or twenty feet under the surface: this bed extends round the whole hill, and is as regular in its thickness and extent as the other unproductive beds in the same place; it consists of a conglomerate, composed of rounded silicious pebbles, quartz, chalcedony, and jasper of different colours from white and black. This bed is seldom more than a foot in thickness, it is intimately connected with the beds both above and below it, and frequently differs from them in nothing but the greater quantity of pebbles which it contains. The nature of this bed determines the workmen either to uncover the whole, and work in open day, or to drive a gallery for a little way under the rock. This last method is had recourse to, when the diamond bed is of trifling thickness, but very productive. He adds that it is obvious that the nature of these hills is quite similar to that of the earth diamond mine described in a former part of his Tract.

The diamonds found here are of an inconsiderable size, but usually in crystals; and he thought they would be all found crystallized if another mode of extracting them were adopted. Those found in the earthy beds are mostly large, and less frequently of a regular form. This difference seems to depend upon the local institution and we may either suppose that the diamonds in the loose beds have been so long water-worn as to have been deprived of their angles, while those in the stony bed have not been subjected to so much attrition; or if such explanation be inadmissible, we must suppose that in one case the crystallization has taken place so slowly as to constitute regular figures, while in the other case it has been hurried and rapid, and has produced figures destitute of regularity. There is something in the crystallization of the diamond which distinguishes it from all other crystals—the faces are all curvilinear. He adds, that in no place, is more than one diamond bed found under the same surface, but this bed frequently varies in its depth within a very limited distance. Near Cuddapah it is within three or six feet of the surface. At Mallavilly and Partel, in the Masulipatam district, its depth is twenty feet; while at Banaganapilly it varies from

ten to twenty feet in a very small extent of ground.

In the search, the mass containing the supposed diamonds is carefully cleared from the portions of the roof and floor of the mine that may be adhering to it, it is then carried to another spot of the ground, where it is broken in pieces and gradually reduced by means of iron instruments to the size of very small gravel. It is evident that many diamonds must be broken by this mode of proceeding; indeed it is rather surprising that so many are procured in this way in regular crystals: the process followed for separating the diamonds from the rubbish is almost the same as that observed in other places. The portion wanted for immediate use is wetted, spread thinly upon a piece of ground about twenty feet square, over which the workmen go several times on their hands and knees, not losing or neglecting a fragment of diamond worth a penny: the moistening of the gravel is requisite to render the diamond conspicuous. The most common figures which Heyne had seen the diamond assume were the double pyramid, the dodecahedron, and the lens. There are more places in this vicinity where diamonds are found either in a stony bed or in loose gravel. Some of these are worked or have been worked in former times. The natives do not scruple to assign periods of thousands of years since the commencement of some of these workings. At present it is customary with these miners to go to the Kishna, in the hot season, when the waters are lowest, and to spend the rest of the year in these mountain mines.

The diamonds of these places are bought up by merchants who carry them to Madras, or to other places, where they are chiefly used in cutting those of a larger size. The large crystals would, he thought, answer the European market, and might be cut into brilliants. For a carat containing five or six diamonds of the finest water, they asked seven rupees. He remarks that all the diamond mines which he had seen can be considered as in nothing else than alluvial soil. Nor is it easy to form an accurate notion of the kind of rock from which the pebbles constituing that soil originated. Among them are stones belonging to primitive rocks, and others which are peculiar to the newest floetz trap. The strong bed at Banaganapilly has some faint resemblance to amygdaloid; but the exact similarity of its constituents to the other loose beds in which diamonds occur, renders it impossible for us to consider it as a true amygdaloid. And Captain Newbold, writing twenty years afterwards, adds that the Banaganapilly diamond mines are situated in and near a low range of hills, about ½ a mile from the town. The matrix of the diamond agreeably to the statements of Drs. Heyne and Voysey, regarding diamonds produced in the South of India, is the sandstone breccia of the clayslate formation. This Newbold found also to hold good with regard to the alluvium found at the base of the Cuddapah hills washed by the Pennar, on a visit to the diamond mines near Chinnoor and Condapettah, in the Cuddapah division. The process of mining is simply digging out the gravel, breaking up the larger pieces of the breccia, washing and sifting the fragments, and spreading them out on the ground, where the diamonds are easily detected by the practised eye of the native. He observed that many of the old heaps of rubbish had been recently sifted and re-examined; not, he was told, from the opinion that the diamond is always growing, nor that the chips and small pieces rejected by former searchers, actually increase in size and in process of time become large diamonds, as has been supposed by some; but from sheer laziness to dig fresh pits, and from its being found that stones of an inferior size and water have frequently eluded the search of former miners. He did not learn that any stones of a greater value than 3 or 400 rupees have ever been discovered here; the specimens shown him by the diamond merchants on the spot were certainly extremely poor, but from the shortness of his stay, and the duplicity and secrecy maintained by natives in matters of this sort, he considered that it would be wrong perhaps to decide that better means employed in these diamond districts would not produce better results, than has hitherto been the case.

Besides Banaganapilly, the diamond is found, according to Hamilton, at Lamdoor and Pinchetgapadoor, in the taluk next to Chinnoor. It is also found at Moonimuddagoo, in the taluk of Punchapaulum; at Ovalumpilly and Condapettah in the Chinnoor taluk—at Ramulcottah in the Kurnool territory, and formerly at Wudjrakaroor in the Ghooty division. The Ramulcottah mines are the most celebrated. These places partly furnished the diamonds, for which Golconda has been so greatly famed.

General Cullen says the sandstone of the Western and Southern chains, is of the more recent origin. Its character varies in different places from that of a coarse conglomerate to a fine grained sandstone, cemented generally by an iron shot clay. It is in strata of this kind that the diamonds at Banaganapilly are found, and from the similarity of structure in all these Western ranges, it would seem natural to look upon them as the source from

whence are derived all the diamonds found in the alluvial depositions of the plains.

He thinks that the deposition of alluvium containing diamonds at Purteal is, although rather more distant, plainly referable to the same source, from its vicinity to the Kistnah, and its little elevation above the present bed of that river: Purteal is within 4 or 5 miles of the Kistnah and not more that 50 or 60 feet above its bed. The mines at Banaganapilly are about 850 feet above the Sea; at Chinnoor, 450 feet; bed of the Kistnah, about 500 feet; Purteal, 160.

Of the mines on the North bank of the Pennar near Chinnoor, Dr. Heyne gives the three different beds of alluvium passed through in those recently opened, corresponding nearly with the appearances at Purteal. The external appearances were however very different. The mines or Pits at Chinnoor, occupied a very large space, and the size of the Pits seemed to correspond with the extent of the ground. The nodules and pebbles also were not only greatly larger, but in much greater quantity at Chinnoor, than at Purteal. In one pit at Chinnoor, rather deeper than the rest, and having been used as a well, was kept free from rubbish, the sides seemed to be a mere mass of large rounded stones, gravel, and soil, but at the bottom were apparent regular strata of greenish schist.

The diamond pits at Purteal were 7 or 8 feet deep, and 4 or 5 feet diameter. The pebbles thrown out and laying about on the surface, were all of a moderate size, seldom above that of an egg; and, of a semitransparent yellowish quartz. The corneleans, agates, chalcedonies, &c., of which there were a great variety, and some very beautiful, were probably derived from the basaltic tracts to the N. W. and the garnets, kyanite and chips of rock crystal which were also common, from the Condapillay range, where they are very abundant in the granites.

The Golcondah locality for many centuries famed for its diamond mines, is, surrounded by the territories of Her Majesty; but, by treaty, the Nawab of Hyderabad, Nizam of the Dekkan, has an exclusive right to work them. It is not, however, the fort of Golcondah, a few miles west of the city of Hyderabad, but a small town in the Northern Circars, which is thus famed. How ancient has been the fame of this diamond tract, may be known by mentioning that Ptolemy's Geography, said to have been composed about 60 years after Pliny noticed the diamonds found on the banks of the Sumbulpoor river. The history of many of the more valuable diamonds is very obscure, and thus a wide field is open for conjecture, but most

of them are believed to have been obtained from the mines of the Peninsula of India. One of them, the grand Russian diamond, weighs 198 carats and is as large as a pigeon's egg. It is said to have been the eye of an Indian idol, which fell into the hands of a merchant. By him it was sold to prince Orloff for the empress Catherine, for £90,000 in cash, an annuity of £4,000 and a patent of nobility.

Tavernier alludes to a large diamond in the possession of the Great Moghul, which weighed originally 900 carats or 2769·3 grains but was reduced by cutting to 861 grains, had the form and size of half a hen's egg, and is said to have been found in the mine of Kolone; but where Kolone is, unless it be the Kalianpur mine in Bundlecund, we have no idea.

Doubts have been entertained as to the correctness of some parts of Tavernier's information, particularly as to its having been cut, or, if correct, that diamond has disappeared. The general impression is that it is identical with the great diamond, the Koh-i-Noor, the mountain of light, which, after the Brazilian stone among the crown jewels of Portugal, is one of the largest known diamonds in the world. If this be so and the stones be identical, it was in the year 1550, before Akbar the Great's rule had formed the empire that this marvellous stone was found in the mines of Golcondah. It passed in the train of conquest and as the emblem of dominion, but always carrying misfortune in its train, from Golcondah to Delhi, from Delhi to Meshid, from Meshid to Kabul, from Kabul to Lahore, and from Lahore to London. When first given to shah Jehan it was still uncut, weighing, it is said, in the rough state, nearly 800 carats, which were reduced by the unskilfulness of the artist to 279. It was cut by Hortensio Borgio, a Venetian, who instead of receiving any reward for his remuneration, was fined by the enraged monarch 10,000 rupees. The art of cutting and polishing diamonds is supposed to have originated in Asia, but at what period is unknown. The forms into which they are now cut, are called the *Brilliant*, the *Rose*, and the *Table*. The first shows the gem to the best advantage and is always set with the table upwards. In the *Rose*, which is the form used when the spread of surface is too great for its breadth and it could not be cut into the brilliant form without great loss, the entire surface is covered with equilateral triangles terminating in a sharp point at the summit, and the *Table* is given to such diamonds as are of small depth compared to their superficial extent. The Brilliant and the Rose lose in the cutting and polishing somewhat less than half the weight. Diamonds were first cut in Europe, in 1456,

by Lewis Berquen, a citizen of Bruges. The art is still retained in that neighbourhood, an extensive cutting and polishing establishment existing in Amsterdam, said to be the only great workshop in Europe and the workmen in which, were mentioned to be all of Jewish descent.

Northern Circars.—Dr. Heyne, in his Tracts, remarks that, Mallavelly, a village sixteen miles west-south-west of Ellore, is one of seven villages near which diamond mines exist. The names of the other six villages in which diamonds are found, are Gani Partala or Partal, Atkur, Burthenypada, Pertalla, Wustapilly, and Kodavetty Kallu. They all belonged formerly to a powerful zemindar, called Appa Rao. But since the beginning of the 18th century, the Nizam has taken them under his own management. The history, or rather the tradition as to their discovery, is that about a century ago, some mountaineers found at the foot of a hill, after a shower of rain, some large stones which proved to be diamonds of inestimable value. Appa Rao becoming acquainted with this discovery, immediately set people to work upon the hill, who found a prodigious number of very large diamonds. The news of this acquisition soon reached the Nizam, who despatched his peons and took possession of the villages. Since that time persons authorised by him are alone entitled to search here for diamonds. The tradition is that as soon as Appa Rao was obliged to give up his mines, large stones ceased to be found, and that the size of the diamonds extracted from the earth never exceeded that of a horse gram or chick pea, though before that period they were as large as common flints.

Another traditional account of the discovery of the diamond mine at Kodavetty Kallu, one of these seven villages, is as follows: A shepherd one day found near a ravine in the neighbourhood, some stones which appeared to him serviceable flints. He picked up several, and used them accordingly. Sometime after, the poor fellow, while at the residence of Appa Rao, took in an unlucky moment one of these stones out of his pocket, and employed it to strike a light to kindle his tobacco. The stone was observed by one of the rajah's lambadies, who knowing its value, made inquiry how it had come into the possession of the shepherd. The good man heedlessly related all that he knew. He was conducted to the rajah, who easily prevailed upon him to point out this unknown residence of Stri Latchmi, the goddess of riches. The rajah was on this occasion so condescending as to go himself to the spot, and was not a little surprised at the riches which the goddess had reserved for him. Penetrated with grateful sentiments to the invisible harbinger of his good fortune, and to the genius of the place, he immediately ordered an offering to be brought, which for more than one reason, consisted of the head and blood of the poor shepherd. His wife and children being found, upon examination, entirely ignorant of the discovery, were spared, and taken care of by the rajah as long as the mines belonged to him. Bullock loads of diamonds were found, it is said, near that nullah, until at length the Nizam, being apprized of the discovery, claimed the ground as his own, and deprived the zemindar of it for ever. But he had been so industrious, during the short time that the mines were in his possession, that all the large gems were removed, and the Nizam was able to obtain only small diamonds of comparatively inconsiderable value. These tales may be taken to indicate that the same site in that neighbourhood, did yield large diamonds and has probably not been exhausted but forgotten. Dr. Benza remarks that, in a forsaken working, one of the villages in the neighbourhood was built over a spot which he considered likely to yield a further supply.

Mallavelly is a village 6 miles North of Appurapet, and North of the Kistnah at Bezwarah. At Mallavelly the hollow flat, where the diamond pits are excavated, was a low swampy plain. Being surrounded by a bank, or rising of the soil in a circular manner, it has the appearance of having been once a lake. The banks are formed of the red ferrugineous sandy soil, prevailing all round this place; through this plain no river or rivulet flows, and the pools in its lower part dry up about the month of March; and it is then the time when the excavations may be commenced, and not before. The few hills he could see near this place were those to the north, not above two or three hundred feet above the plain, and covered with underwood, interspread with large trees. Some miles beyond these hillocks runs another range of hills, loftier than the nearest ones, having, however, the same direction. The diamond pits are in general excavated at the north end of the bank that surrounds the hollow. Judging from some which were dry, the deepest could not be more than 12 feet; and whatever their depth was, they never came to a hard mass of rock. The strata penetrated during the search are —first, a grey clayey vegetable mould, about a foot or two thick; below this, an alluvium, composed of the following pebbles (not including the diamonds) which have evidently undergone attrition, their angles having been worn off: sandstone similar to the one already

described—quartz—siliceous iron—hornstone—carbonate of iron—felspar—conglomerate sandstone, and a prodigious quantity of kankar, or concretionary limestone. Besides the numerous pieces of this concretionary rock, scattered on the surface of the soil, and also intermixed in large quantities in the diamond alluvium, it forms regular strata, or veins we might call them, in a horizontal position, both in the vegetable earth, and in the diamond alluvium, precisely like flints in chalk. Many of the pebbles of quartz, and hornstone are not only varnished, as it were, with a ferrugineous covering, but it penetrates into their substance. This kankar contains not a trace of quartz or any other mineral; and that in strata, in the vegetable soil and in the diamond alluvium, is more friable than that exposed on the surface of the ground. It is in this alluvial detritus that the diamonds are found; his specimens were taken from a heap, on the brim of the last excavation, made five years before. From this refuse, the head-man told him were obtained as many small pieces of the gem, as might fill the hollow of the palm of the hand; no other excavation had taken place since. All the pits are of an irregular form; generally oblong; the head-man told him they were not more than ten feet deep; but this he could not verify on account of the water, with which they were partly filled. The head-man, always presides over the excavations, whether the pits are farmed or are worked on account of the Nizam. The head-man stated that the diamond is never found imbedded, or in any way attached to any of the pebbles, with which they are invariably associated in this locality. They are always found loose, mixed with the other little stones, and he said the gem was never attached to the kankar substance. On enquiring which were the pebbles most constantly associated with, and forming infallible indications of the existence of the diamond, he picked up from the heaps of detritus, the following pebbles—iron ore, hornstone and the kankar. Notwithstanding the prodigious quantity of carbonate of lime in this locality, the water did not appear to contain any traces of it; and the inhabitants used even that collected in the pits. The detritus, forming the diamond stratum, must have proceeded from the hills on the north, the only ones near this place; being probably the continuation of the sandstone range, which extends eastwardly from Banaganapilly, Condapilly and Mallavelly, in all of which localities the matrix of the diamond is a conglomerate sandstone.—*Madras Literary Journal, No.* 14.—*Jany.* 1837, *Vol.* v, *page from* 48 *to* 49.

Purtial.—Appa Rao, of Purtial, informed Dr. Voysey, (*Dr. Voysey's Private Journal*) that the pits never exceeded 18 or 20 feet at which depth, they encountered a soft earth called Noshan. No diamond had been found in any of the villages for a considerable period.

Condapilly.—He went to the diamond mines with the kurnum, near Condapilly, but saw nothing but heaps of old stones and earth by the side of the excavations. The calcareous tuffa and the pebbles of jasper and quartz were the most conspicuous in the excavations; but he was told that there was a considerable quantity of fresh ground to the north. At sunrise on the 14th February, he went to the mines which are in obliquely elevated land about a mile from the village, and found the excavations deeper and longer than those of Purtial. The depth to the diamond bed consisted of three layers of earth occupying a space of about twenty feet. The rocks in the neighbourhood appeared to be of granite, or at least resembling it. He had not seen anything of the black soil from his leaving Mylavarum. There was a considerable quantity of ground which had not been examined, the whole ground occupies a space of a coss surrounding the whole village. He was informed that the cause of the working of the mines having ceased, was want of capital, and the disinclination of the landholders to their extension. There is a formation there common to all the diamond mines that he had seen, namely, the calcareous tuffa; the more, he remarks, that I see of this the more I am convinced of its affinity to the iron clay formation, and that it will be found passing into it. Dr. Voysey, in Vol. xv, p. 120, of the Asiatic Researches, observes that a knowledge of the matrix of the diamond has long been a desideratum in mineralogy. It has he says been hitherto supposed that this mineral was only found in alluvial soil, but it is fully ascertained that diamonds have for two centuries at least been found in a *rock*, generally supposed to owe its origin to deposition from water.

Nalla Malla.—A considerable range of mountains called the Nalla Malla (Blue Mountains ?) lies between the 77° and 80° of East longitude. Their highest points are situated between Cummum, in the Cuddapah district, and Amrabad, a town in the province of Hyderabad, North of the Kistnah, and which vary in height from 2,000 to 3,500 feet above the level of the sea. The "clayslate, formation" of the Nalla Malla mountains consists of clayslate, of every variety of slaty limestone between pure limestone and pure slate; of Quartz rock; of Sandstone breccia; of Flinty slate; of Hornstone slate and of a limestone

which he calls, Tuffaceous for want of a better name containing imbedded in it, rounded and angular masses of all these rocks. All these vary so much in their composition, and pass into each other by such insensible gradations, as well as abrupt transition, as to defy arrangement and render a particular description useless. The only rock of this formation in which the diamond is found is the sandstone breccia, but he had then only visited the rock mines of Banaganapilly, a village situated about twelve miles west of the town of Nandiala. The breccia is here found under a compact sandstone rock, differing in no respect from that which is found in other parts of the main range. It is composed of a beautiful mixture of red and yellow jasper, quartz, chalcedony and hornstone of various colours, cemented together by a quartz paste. It passes into a pudding-stone composed of rounded pebbles of quartz hornstone, &c. The miners were then content to sift and examine the old rubbish of the mines, and they are the more bent on doing this, from an opinion which prevails among them, and which is also common to the searchers for diamonds in Hindoostan and to those on the banks of the Kistnah, at Parteala, Malavelly, &c., viz., that the diamond is always growing, and that the chips and small pieces rejected by former searchers, actually increase in size, and in process of time become large diamonds. The Sandstone breccia is frequently seen in all parts of the Nalla Malla mountains at various depths from the surface. In one instance he observed it at a depth of 50 feet, the upper strata, being Sandstone, Clayslate and slaty limestone. The stratification of the whole face of the rock was there remarkably distinct, and traceable through a semi-circular area of 400 yards diameter. The stratum of breccia is two feet in thickness, and immediately above it lies a stratum of Pudding-stone composed of Quartz and Hornstone pebbles, cemented by calcareous clay and grains of sand. He thought it likely that this stratum would be found productive in diamonds, and he had no doubt, that those found at present in the bed of the Kistnah, had been washed down from these their native beds during the rainy season. In the alluvial soil of the plains at the base of this range of mountains, and particularly on or near the banks of the rivers Kistnah, and Pennar, are situated the mines which have produced the largest diamonds in the world. Among them are the famous mines of Golcondah, so called from their being situated in the dominions of the sovereigns of Golcondah, although they are far distant from the hill fort of that name, —from which the province and Kut'b Shahi dynasty took their title. They were once very numerous, about twenty in number; and Gani Parteala situated about three miles from the left bank of the Kistnah, was the most famous. They were then, with the exception of two or three, quite deserted, and the names of several of those mentioned by Tavernier are forgotten. In none have fresh excavations been dug for many years; although much ground remains unopened, and many spots might be pointed out for new and productive mines.

Godavery.—Diamonds are found in the bed of the Godavery near Budrachellum. The nullahs and small rivers which run into it near that place, have their origin in a rock formation exactly similar with those above described. Voysey thought it very probable that the diamond mines of Sumbulpoor, mentioned by Ptolemy, of Pannah, and even of Bijapur, other diamond sites of India, are situated near similar rocks. Thara and Tora are two diamond washing tribes possessing sixteen jaghire villages at Sumbulpoor. They are supposed to be of African origin.—*Emmanuel*, p. 4.

The district of the diamond mines of Golcondah, was ceded to the Nizam by the British under a special treaty and is enclosed by British territory. Purtial is about 50 miles from Masulipatam, but the mines are almost exhausted, the diamonds of small size and the searchers do not earn four or five rupees a month.

Diamond formation.—From the vast extent of the rock in which diamonds are found in India, it may, says Dr. Voysey, be assumed, that there are scarcely any limits to the search for them. Even at Gana Parteala, however, the search was confined to the rubbish of the old mines at Atcur, Chintapalli, Barthenypad and at Oustapalli, all situated within two or three miles of each other. The plain in which these villages are situated is bounded on all sides by granitic rocks, which also form its basis. The average depth of the alluvial soil is about twenty feet. Its upper portion is composed of that peculiar black earth which is called by Europeans, regur or "black cotton soil," and is identical with that found on the banks of the Kistnah in other parts of its course; on the banks of the Godavery of the Manjera; Paen-Gunga and in the plain of Nandiala, arising from the decomposition of the basaltic-trap rocks, in which all these rivers or their tributary streams take their rise. Beneath this upper stratum, it is mixed with masses and rounded pebbles of sandstone, quartz rock, jasper, flinty slate, granite and large amorphous masses of a calcareous conglo-

merate, bearing no mark of attrition from the action of running water. In this stratum the diamond and other precious stones are found The excavations are 15 to 20 feet deep.

The mines of Ovalampalli and of Canparti on the right and left banks of the Pennar near Cuddapah, are in an alluvial soil of nearly the same nature, it is not quite so black, from the greater admixture of debris of sandstone and clayslate.

In many parts of the plain of Nandiala, diamonds were formerly sought for, but the mines have for a long time ceased to be productive.

The failure of the mines of the Dekkan may perhaps be principally attributed to the cheapness and plenty of Brazil diamonds. Otherwise from the vast extent of the rock in which they are found in India, there are scarcely any limits to the search for them. It may be assumed then ;

1st. That the matrix of the diamonds produced in Southern India, is the Sandstone breccia of the " Clayslate formation."

2nd. That those found in alluvial soil are produced from the debris of the above rock, and have been brought thither by some torrent or deluge, which could alone have transported such large masses and pebbles from the parent rock, and that no modern or traditional inundation has reached to such an extent.

3rd. That the diamonds found at present in the beds of the rivers are washed down by the annual rains.

It will be an interesting point to ascertain if the diamonds of Hindoostan can be traced to a similar rock.

Borneo.—Early notices of the diamonds of Borneo, occur in the writings of Sir Stamford Raffles. But the most recent writer is Mr. Low in his work on Sarawak who observes that the diamonds of Borneo have long been celebrated as equal to any from India or Brazil in abundance and beauty. They are found principally in the greatest numbers in Sangow, Landak, and Banjarmasin. They were also formerly worked at Sarawak, but never very extensively : a few years since, some fine ones were obtained by the chief Patingi Ali, in a large hole during a very dry state of the river. At the other three places they are worked to a small extent by the Chinese and Malays. The mines of Landak have supplied the Malays with diamonds ever since their first settling on the island ; those of Sangow and Banjar are more recent. It is said by Sir Stamford Raffles, that few courts of Europe could perhaps boast of a more brilliant display of diamonds than, in the prosperous days of the Dutch, was exhibited by the ladies of Batavia, the principal and only mart then opened for the Borneo diamond mines. The diamonds are found in a gravelly stratum, at various distances below the surface : in Sarawak the gravel in which they are found is in some places not more than six feet, in other as much as eighteen below the surface. They are found in abundance in the soil, but are generally small in size, though of the most brilliant water. Large ones are also occasionally met with, and it is said that at Sangow and Landak, diamonds of from twelve to sixteen carats are not uncommon. The diamond of the sultan of Matan is known to be one of the largest in the world. It is as yet uncut, and weighs 367 carats, so that if cut and polished it would be reduced in size to 183½ carats. Its value is stated by Mr. Crawfurd to be £269,378, being less by £34,822, than that of the Pitt diamond : its present shape is that of an egg indented on one side. Mr. Low was informed by a person, who supposed himself to be a good judge of diamonds, that the sultan possesses the real stone, which he had seen, but that a crystal is shown to strangers, as the sultan, who has been already robbed of his territory, fears that this last emblem of royalty will be also taken from him by his powerful and avaricious neighbours at Pontianak. The mines which Mr. Low had seen at Sarawak are of the most simple construction : shafts are sunk in the earth to the stratum that contains the diamonds (which varies in thickness from two feet to much more), at the distance of about twenty feet apart ; the soil is then extracted from each by the miner, who excavates it for ten feet on each side of the shaft, so that the workers in the different shafts, communicating with each other, the whole of the gravel is removed ; this is passed up in baskets and washed in troughs, as in the gold mines, or rather ditches, as the native word (parit) signifies The Malays of Banjarmasin and Landak are very anxious to work the diamonds at Sarawak, but being generally very bad characters, the government has not thought proper to encourage their immigration. Many diamonds are, however, obtained by the people, who wash for gold in the river, and on one occasion, Mr. Low saw a person get three small ones at one washing, together with a considerable portion of gold. With capital, and proper superintendence, it would probably turn out a gainful speculation if properly conducted, more particularly as gold is found in the same soil, though not in such abundance as in some other kinds of earth." The diamonds discovered on the west side of the Ratoos mountain in Borneo, are said to be associated with gold and platinum ; clearly the washings from some

higher strata. The diamonds of Borneo are small, but of a brilliant water: they have been hitherto chiefly found in districts occupied by the Chinese, but will probably be discovered in other localities. The equitorial position of Borneo and the character of its alluvial detritus afford a strong presumption that it is a country rich in gems. There is a tradition that a great diamond is in the possession of a petty chief, and that it is worth by weight £2,70,000. Mr. St. John heard of this wonderful diamond and was gravely informed that the prince who owned it would gladly bestow it on him if he would kill for him a rival chief and assist in a projected war. Mr. Crawfurd says, the diamond in Malay and Javanese is called intan, and sometimes kumala. The Diamond has been found in no part of the Asiatic Archipelago except Borneo, and even in that island only in a comparatively small part of it, a portion of its western coast. The principal diamond mines are in the district of Landak, in the territory of Pontiyanak, in the longitude of 109° east, about forty miles north of the equator, and they occur from thence as far as Banjarmasin, in such latitude between three and four degrees and longitude between 114° and 115° east. The mines are worked by the wild Dayaks and the Malays, but with far superior skill by the Chinese. The gems are found in a yellow-coloured rubble or gravel, which occurs at various depths, the greatest to which a shaft has been known to be sunk being between fifty and sixty feet. When a shaft of such a depth is sunk, six different alluvial strata occur before reaching the diamond-yielding one, which the Malays call the Areng. These strata are, a black mould, a yellow sandy clay, a red clay, a blue clay, a blue clay intermixed with gravel, called by the Malays "ampir" or "near at hand," and lastly, a stiff yellow clay, in which the diamonds are imbedded. The largest diamond found in the Borneon mines of late years was only of thirty-two carats. The prince of Matan, however, has long had in his possession a rough diamond of 367 carats, but its genuineness has been suspected. At present the Dutch Government are the owners of the diamond mines, and make advances to the miners, who are bound to deliver all stones at 20 per cent. below their market value, which is equivalent to a seignorage of twenty-five per cent. Under this management there were delivered in 1824 no more than 1,900 carats, and the quantity in the two subsequent years was still less.

South Africa.—According to the official return, in the "Standard and Mail" of the 4th January 1871, the diamond shipments from South Africa, during the years 1869 and 1870 were as under:

Year.	Number of diamonds.	Value.
		£.
1869	141	7,405
1870	5,661	1,24,910

To these must be added the Star of South Africa, and some others sent by private means to Europe, valued at £15,000.

A large number of the Cape diamonds in London at the beginning of 1871, were of an inferior description, and none of them were deemed equal to the old Golconda gems.—(*London Athenæum, 18th February* 1871.)

Ceylon.—Diamonds do not seem to be found in Ceylon, but in the southern part of the island is an extensive group of mountains rising to the height of 7,000 or 8,000 feet, which successive falls diminish till they rest on the alluvial plains of the low country. The S. W. face of this group forms a bold range, crowned at its western extremity by Adam's Peak called by the people Sri-pada or Holy foot, and at the eastern end of the range in Kirizalpota which rises in abrupt precipices to 8,000 feet above the plains. Ratnapoora, or city of gems, is in part of this range. It is about 60 miles from Colombo, and about 200 feet above the level of the sea. It is the centre of the gem producing district, which extends about fifty miles along the base of this mountain range, and in this district, comprising Safragam and the Three-Korles, the search for gems is a regular occupation of the people in the beds of streams and in the alluvial plains lying in the valleys, upon their banks. The gems found in that locality are the sapphire, the ruby and the topaz; the cat's eye, amethyst and beryl, and the spinel ruby is also found but is more rare. They are found in a layer of gravel fifteen to twenty feet deep to which they sink a pit, and if they meet with a thin hard crust of ferruginous stones or masses of milk quartz such are always favourable signs. The oriental ruby or red variety of corundum, is very rare: when pure in water and colour it is very valuable. The blue variety of corundum is the oriental sapphire, is in greater abundance but of inferior value, and its colours greatly vary, from the deepest velvet blue to the palest and almost imperceptible tint even losing all that and becoming colourless, and in that form are a very beautiful gem—remarkable for its whiteness and the absence of prismatic colours.

The yellow variety of corundum is called the oriental topaz which is of every shade of yellow and when pure it is highly value. But many stones have a milky opalescence which makes them valueless.

When the red and blue are mixed in the corundum, the stone is called Oriental Amethyst, half a stone will be red and half blue. The Ceylon ruby has occasionally a blue tint, which can be expelled by heat.

The opalescence occurs in rubies, sapphires and topaz. When such stones are cut *en cabochon*, at a certain angle to the axis, they form the star-stone showing, in a strong light a star of six rays, very pretty as a fancy stone, but of no value as a gem.

Mr. Low's statement that the rajah of Matan, in Borneo, though he has in his possession the real diamond, yet permits only a crystal to be shown to strangers, may explain satisfactorily the doubts expressed by Dr. Crawfurd, the historian of the Archipelago, when, in his recent dictionary of that region, he remarks that the genuineness of the rajah of Matan's diamond has been suspected. Mr. Crawfurd also informs us in the same work that the principal diamond mines of Borneo are in the district of Landak, in the territory of Pontianak, and occur from thence as far as Banjarmassan, and he tells us that they occur in a yellow coloured rubble or gravel which is met with at various depths, the greatest to which any shaft has been known to be sunk, being fifty or sixty feet. The strata encountered in working down are alluvial, or seemingly what Sir Charles Lyell would call his Post-Tertiary series. The first a black mould, and in succession, a yellow sandy clay ; a red clay ; a blue clay intermixed with gravel called by the Malay's *Ampir* or near at hand, and lastly a stiff yellow clay, in which the diamonds are imbedded, and to which they give the name of *Areng*. As to the yield of these mines we have no recent information. When Dr. Crawfurd wrote, the Dutch government were the proprietors and made advances to the miners who were bound to deliver all stones at twenty per cent. below their market value, which was equivalent to a seignorage of 25 per cent. Under this mode of management, in 1824, only 1,900 carats had been delivered, and the largest diamond found was only 32 carats. The Diamonds discovered on the west side of the Ratoos mountain in Borneo, are said to be associated with gold and platinum; clearly also the washings from some higher strata. Nothing is known as to the locality whence the celebrated Pitt or Regent diamond was obtained, but its history points to a Borneon origin. Mr. Pitt an English gentleman, who was governor of Bencoolen in Sumatra, sold it to the duke of Orleans for £130,000 and it was placed by Napoleon in the hilt of his sword of state. It weighs 236·5 carats or 419¼ grains. It is cut as a brilliant, and is still valued at £125,000, but on account of its unblemished transparency and colour, it is considered the most splendid of Indian diamonds. Mr. Crawfurd observes that the diamond had not been found in any other part of the Eastern Archipelago, except Borneo, and, as we have seen, even in that island, only in a very small part of it, a portion of its Western Coast. Sir S. Raffles, also, says that there appears to be no just foundation for the idea, that the diamonds of Borneo are inferior to those of Golcondah. Many of an inferior quality have no doubt found their way into the market, because there was perhaps less skill and judgment in the selection ; diamonds are not only found in the bottom of the Borneo rivers when dry, but at the foot of craggy hills and mountains. The *parit* or mines, are dug to the depth of from one to five fathoms only ; but experience has invariably proved, that the deeper they are dug, not only are the diamonds more abundant, but superior in size, shape and water. The soil which produces diamonds is known from a species of earth called by the natives *labor* or *labor-gig'gi*. This is sometimes black, sometimes white, red, orange, and green : it is a species of earth which stains the clothes of the labourer, and is distinguished by many names.

There seems to have always been a considerable traffic in this precious stone, carried on by the mercantile body, on the East Coast of Peninsular India. In Madras, up to about the year 1840, what may be called the country transactions with England, were conducted through European firms, amongst whom were the establishments of Messrs. Gordon & Co , Messrs. de Fries, and Messrs. Lowe & Co. The diamonds exported by them consisted of the small uncut stones, which were sent to London in packets called " Bulses," and the mercantile character of the Messrs. de Fries of Madras stood so high in the London market that their packets or bulses were sold there by weight, without examination. Latterly, however, Europeans have withdrawn from the export trade which has fallen into the hands of the Native community, amongst whom there is a considerable tendency to speculate on prices. The course of trade has thus been somewhat changed. Indeed, during the last thirty years prices have risen at least 20 per cent. If Europeans do now engage in the business, it is chiefly in importing, from London,

packets of cut diamonds for sale in Madras. Articles of such small value are doubtless often exported and imported without passing through the Customs Office and the values there recorded cannot form any data on which to rely, the more so as the entries of values in the export and import branches are merely declared not ascertained rates. The following information, however, may be interesting to many, as showing the declared values of the precious stones and gems passing through the Madras Custom House. Diamonds occasionally take the place of bullion, as remittances, but are not found a convenient substitute for the precious metals.—*Raffles, History of Java, Vol.* i, p. 238.

Exports of Precious Stones from the Madras Presidency, for 5 Official Years.

EXPORTS.		United Kingdom.	Cape of Good Hope.	China.	Ceylon	France.	Mediterranean Sea.	Penang, Singapore and Malacca.	Sumatra.	Bombay.	Calcutta.	Rangoon.	Total.	
		RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
1856-57	Diamonds	42,800	...	.....	.....	450	...	.....	...	.....	.....	.....	43,250	1,02,940
	Garnets	1,410	.	.....	... ...	.....	...	.....	...	.....	.....	1,000	2,410	
	Pearls	.....	...	.....	2,300	.....	350	.....	...	6,400	2,400	.....	11,450	
	Rubies	36,365	...	.....	600	.....	...	.....	...	.....	6,200	.....	43,165	
	Other Sorts	1,475	...	.....	.....	250	...	.....	...	.....	940	.....	2,665	
1857-58	Diamonds	49,650	...	.....	.....	.....	...	.....	...	.....	.....	.....	49,650	1,68,296
	Garnets	6,630	...	... ...	.....	.....	...	.....	...	.....	650	.....	7,280	
	Pearls	300	...	.....	600	.....	...	.....	...	2,500	9,000	.....	12,500	
	Rubies	91,511	...	.....	700	.....	...	.....	...	.....	4,900	.....	97,111	
	Other Sorts	1,413	...	.....	42	.....	...	.....	...	.....	300	.....	1,755	
1858-59	Diamonds	63,430	...	.....	.....	.....	...	.....	...	.....	.....	.....	63,430	2,29,234
	Carbuncles	.....	...	.....	.....	10,000	...	.....	...	.....	.....	.....	10,000	
	Garnets	1,056	...	.....	259	.....	...	.....	...	274	640	82	2,311	
	Pearls	700	...	600	1,825	.....	...	.....	...	75,300	9,675	.....	88,100	
	Rubies	34,085	...	.....	1,555	. ...	...	.....	...	.....	1,000	.....	36,640	
	Other Sorts	.....	...	.....	1,718	.....	...	.....	...	26,600	435	.....	28,753	
1859-60	Diamonds	10,950	...	1,500	3,455	2,200	...	75	...	800	1,000	.....	19,980	2,61,962
	Garnets	40	...	.....	1,123	.....	...	3,000	...	.....	550	.....	4,713	
	Pearls	2,325	...	1,300	8,750	.....	...	.....	...	84,500	1,08,105	.....	2,04,980	
	Rubies	3,015	...	.....	1,578	2,500	...	.....	...	.....	12,750	.....	19,843	
	Other Sorts	6,100	...	.....	1,093	.....	...	400	..	.....	4,873	... ..	12,466	
1860-61	Diamonds	11,901	...	.....	. 20	1,150	...	.....	...	.....	.....	.....	13,071	57,736
	Garnets	.....	...	.....	.....	.....	...	.....	...	.....	1,350	.....	1,350	
	Pearls	300	...	1,500	3,670	.....	...	.....	30	4,000	24,630	.....	34,130	
	Rubies	2,300	...	.....	1,398	.....	...	267	...	.....	.....	.....	3,965	
	Other Sorts	1,275	50	.....	1,284	.....	...	2,411	...	.....	1,200	.....	6,220	

Imports of Precious Stones into the Madras Territories, for 5 Official Years.

IMPORTS.		United Kingdom.	Ceylon.	China.	Penang, Singapore and Malacca.	Bombay.	Calcutta.	Rangoon.	Total.	
		RS.	RS.	RS.	RS.	RS.	RS..	RS.	RS.	RS.
1856-57	Diamonds	.....	.....	.....	.....	.....	44,400	.....	44,400	1,33,965
	Pearls	.....	.....	.....	.....	28,590	500	.....	29,090	
	Rubies	.....	.....	.....	.....	.....	11,750	5,000	16,750	
	Other Sorts	6,400	.....	.....	.....	36,325	1,000	.....	43,725	
1857-58	Diamonds	.....	.....	.....	.....	.....	28,105	.....	28,105	1,30,045
	Pearls	.....	32,400	.....	.....	14,315	18,675	.....	65,390	
	Rubies	.....	500	.....	.....	.....	33,150	.....	33,650	
	Other Sorts	.....	500	.....	.....	500	1,900	.....	2,900	
1858-59	Diamonds	4,178	.....	.....	.....	.....	10,300	.....	14,478	97,636
	Emeralds	1,250	.....	.....	.....	.....	.....	.....	1,250	
	Pearls	2,715	5,625	.....	.....	2,500	2,000	.....	12,840	
	Rubies	1,800	.....	.....	.....	.....	58,050	1,500	61,350	
	Topaz	.....	1,870	.....	.....	.....	.....	.....	1,870	
	Other Sorts	4,000	298	.....	.....	.....	1,550	.....	5,848	
1859-60	Diamonds	.....	.....	... ...	.....	.....	1,600	.....	1,600	81,350
	Pearls	.....	3,900	500	.....	5,600	9,300	.....	19,300	
	Rubies	.....	.....	.....	.....	.....	21,250	29,200	50,450	
	Other Sorts	2,500	1,097	1,275	.....	.....	6,000	.....	10,872	
1860-61	Pearls	.....	3,600	.....	.....	26,300	18,500	.....	48,400	86,213
	Rubies	.....	950	.....	788	.....	23,425	4,250	29,413	
	Other Sorts	1,400	200	.....	100	.....	6,700	.....	8,400	

It will be seen from the above that the average declared values of the total imports and exports, is only about £20,000 a year, of which the diamond traffic has averaged, from 1855-7 to 1860-1 inclusive, Rs. 37,880 of exports and Rs. 17,716 of imports, as follow ;

Diamonds.

	Exports.	Imports.
1856-57.....Rs.	43,250	44,400
1857-58.....	49,650	28,105
1858-59.....	63,430	14,478
1859-60.....	19,980	1,600
1860-61.....	13,071	...
	1,39,401	88,583

We are not acquainted with the precise terms on which the miners at Cuddapah and Banaganapilly work, but understand that all diamonds found, above a certain size, should become the property of Government, as droits. It is supposed that the large uncut diamond in the possession of the Nizam was found in the Cuddapah or Banaganapilly mines, and the same locality may have produced a diamond which within a few years, is said to have been sold for £5,000 to Messrs. Hunt and Roskall and was afterwards possessed by the empress Eugenie. The art of cutting diamonds is practiced to some extent, in Madras. A knowledge of this art, however, is not very common, as may be concluded when we mention that all Europe only possesses, in Amsterdam, one great diamond cutting establishment, filled by workmen of the Jewish race. The great diamond merchants of London, are the firm of Emanuel Brothers. In the Brazil's, diamonds and gold are found together ; and in the recent discoveries at the Cape of Good Hope, gold, diamonds and rubies have been discovered together. At the Cape of Good Hope, the diamonds seem to have been found in localities with blue and ochreous coloured clay shales, belonging to the New Red Sandstone era, capped with common blue basaltic trap or cronstone ; sometimes as at Maddelveld and Bultfontein or Du Toits pau, a thick coat of coarse sandstone is under trap and overlying the clay shales. The shale formation is often intersected and upraised and tilted by basaltic dykes. At Heyward's farm the fiery eruptions have occurred at different eras, for the clinkstone and amygdaloid have there run over the basaltic trap. At the diamond diggings below Pniel, the formations on both sides the river are similar, basaltic greenstone and quartz dykes intersecting the ground and crossing through the river from side to side. Here in a gully, about 1½ mile down the river, is an immense deposit of the underlying rock of the diamondiferous region ; it is a porphyritic gneiss, which Mr. Hübner calls

prophyritic granulite. This is the underlying rock at the diggings below Pniel, across the Vaal, the Trans-vaal and the far interior.

Tavernier in his "Travels" (pp. 135 to 149) gives accounts of the diamonds he had seen and sold, and he lays great stress on the knowledge possessed by the native diamond merchants (banya). Diamonds in the rough are unattractive pebbles. Even with those who profess to be acquainted with gems, the white sapphire and topaz occasionally pass for the diamond. Some of the "Ceylon diamonds" which the Singhalese offer for sale, are made of rock crystal ; and many of the "rubies," and other precious stones, that the Shans bring with them in their annual caravan from the north of Burmah, are made of rock crystal coloured artificially. There are heated and plunged into coloured solutions.

Diamonds.—The following are not known.

Name.	Character.	Weight, Carats.	Estimated value £ 4 where found.	Present owner.
Eugenie	Brilliant	51	£3,000 Pennar.	
Austrian	Yellow Brilliant	.....		
The Shah	Diamond	86		Emperor of Russia.
Hope	Blue Diamond	44½	.....	
Polar Star...	Diamond	.....	.....	
Sancy	Do.	53⅜	.....	Pasha of Egypt.
Pigott...	Do.	82¼	.....	
Cumberland	Do.	.....	£20,000	King of Hanover.
Maltan	Do.	367	£80,000 Borneo.	Rajah of Maltam.
Nayak	Do.	78⅜	.....	Marquis of Westminster.
Florentine...	Yellowish Brilliant...	139¾	.....	Emperor of Austria.
Nizams	Diamond uncut	288?	.....	
Dresden	Green do.	125	£87,500 Brazil.	Gaekwar.
Star of the South ...	....	76¼	Brasil.	Mr. E. Z. Dresden.
Mr. E. Z. Dresden ...	Drop shaped Brilliant	194¼	.....	Emperor of Russia.
Orloff	....	102¼	.....	Crown of England.
Koh-i-Nur	Brilliant	136¼	Madras.	France.
Regent or Pitt	Diamond		Brazil.	
Brigauza	Do...			

The art of cutting and polishing diamonds is supposed to have originated in Asia at some unknown period. Diamonds were first cut in Europe in 1456 by Louis Berquen, a citizen of Bruges.

Diamond Cutting "is effected by a horizontal iron-plate of about ten inches in

diameter, called a *schiff* or mill, which revolves from 2000 to 3000 times per minute. The diamond is fixed in a ball of pewter, at the end of an arm, resting upon the table in which the plate revolves; the other end, at which the ball containing the diamond is fixed, is pressed upon the wheel by iron weights at the discretion of the workman. The diamond is cut by taking advantage of its cleavage, and also by abrasion with its own powder, and by friction with another diamond. It is a process of great labour, and many hours are spent in producing a single facet. Diamonds are cut into various forms, called the *Brilliant*, the *Rose*, and the *Table*. The first form shows the gem to the best advantage and is always set with the table upwards. In the rose the entire surface is covered with equilateral triangles terminating in a sharp point at the summit. This form is used when the spread of surface is too great for its depth, and it could not be cut into the brilliant form without great loss. The table is applied to such diamonds as may be regarded as plates, laminæ, or slabs of small depth compared to their superficial extent. The brilliant and the rose lose in cutting and polishing somewhat less than half the weight. In the formation of either a brilliant or rose-diamond so much is cut away that the weight of the polished gem is not more than half that of the rough crystal out of which it was formed. The weight and consequently the value of diamonds are estimated in carats, each of which is equal to 3·166 grains. The diamond is used for cutting glass. It is also employed for the lenses of microscopes. It has but little chromatic aberration, but the frequent irregularity of its structure is a drawback to its employment for this purpose. Diamonds are esteemed by native jewellers as the first class of jewels. The diamonds of India are classed by them as white, yellow, red, green and black; the colored ones are extremely rare, but they are occasionally found of a white color spotted with red, which are rejected as bad. They are classed by the northern native jewellers into three kinds—"Hira-ba-rang-i-nausadir" grayish or the color of sal-ammoniac; "hira makduni," of paler color; and "almas-i-hadidi." The diamonds seen in such abundance amongst the native gentry of India are almost all cut in England, and the principal gems used in India are the lapis lazuli, rubies, emeralds, opals, garnets, and the whole family of siliceous gems.

Diamonds, in Paris, during the revolution of the 18th and 19th centuries, doubled their value and of late years, small stones are much dearer, but the prices of the rarer and larger sorts continue much the same. The value rises as the square of the weight, thus if a one carat ($3\frac{1}{2}$ grains) diamond cost £8, a two carat diamond will be $(2 + 2 \times 8)$ £32. But there is much of fancy pricing. The diamond is not acted on by any acid. Diamonds are weighed by the carat, 4-grains = 1 carat, 151½ carats or 606 grains 1 oz. troy. Diamonds frequently becomes phosphorescent on exposure to light. They are found crystalline and amorphous, and of all colours, white, yellow, orange, red, pink, brown, green, blue black and opalescent. Stones with naturally acute angles are used for cutting glass and sell at £10 the carat, for most gems will scratch but diamonds alone cut glass. The diamond is found in India, in the Dekkan, in the river Pennar, in the Cuddapah district and near Banganapilly, in the lower part of the Kistnah, formerly near Ellore and at Golcondah. The diamond lately sold to the emperor Louis Napoleon, for £5,000, was said to have been obtained in the Pennar or at Banganapilly. In Tavernier's time the mines of Golcondah are said to employ 6,000 persons, but the chief places are Pannah and the river Sonar in Bundelcund, at Sumbulpore on the Mahanuddy. It is also found in Sumatra, Australia, the Ural mountains, South Africa, Brazil, North America, Malacca ?, Borneo and Celebes ?

Diamonds of Brazil are found in quartz conglomerates, containing oxides of iron, also in alluvium, in loose and imbedded crystals, almost always of small size, and most frequent in company with grains of gold and platinum. Ordinary diamonds are mostly taken to Europe from the Brazils, but on an average, of 10,000 stones, there will not be one of 18 carats found.

The diamond was considered by the Romans a remedy against incubos and succabos: the ruby against poison: the jacinth procured sleep: the sapphire procured favour with princes, the chrysolite assuaged wrath. Each of the twelve apostles was symbolised with a precious stone, Peter by jasper, John by emerald, and so on. —*Tavernier's Travels: pp.* 135 *to* 149. *Sir S. Raffles Hist. of Java. Low's Sarawak. Rennell's Memoir pp.* 233-290. *Pennant's Hindustan, Vols.* ii, iii. *Heyne's Tracts. Tennant on the diamond in Ill. London News. Captain Cullen. Lt. Newbold. Dalrymple's Repository. Dr. Voysey's Private Journal. Dana Manual of Mineralogy; Catalogue of Great Exhibition of* 1851, (Class, xxiii.)—*Eng. Cyc., p.* 323. *Ainslie's Materia Medica. Mason's Tenasserim. Powell's Hand-book. Chambers' Journal, June.* 1868. *Tomlinson, p.* 309. *Letter of Mr. Tennant in Illustrated London News,* 31*st January* 1852, *Vol.* xx, *No.* 548. *Crawfurd's Dic., p.* 120.

DIAMOND ADDER. A serpent of Australia.

DIAMOND CANING, a mode of using coloured ratans for caning the bottoms of chairs. It was invented by Mr. Deschamp of Madras, boring the holes and putting on a first layer of rattan stripes, and a cross layer to form the diamond figures ornamented with colours and gilded, so as to imitate the splendid kinkabs of India. The colours are used, in powder, mixed with copal varnish, and the gold leaf is applied over a coat of gold size. The colour used for the sofa and chairs, above referred to is vermilion. He was the first to introduce colouring and gilding in cane-work. It has a splendid effect and being very durable owing to the peculiar hard and polished crust of the rattan but it can be applied in all sorts of rich internal decoration, as well as chairs and sofas.

DIAMOND CEMENT. See Gelatine.

DIAMOND ISLAND, in Lat. 15° 51′ N. and Lat. 94° 17′ E.

DIAMONT. Pol. Diamond.

DIANA of the Greeks, is represented in hindoo mythology, by Atavi Devi. *See* Saraswati ; Osiris ; Lustral ceremonies.

DIANTHUS, a genus of flowering plants of which several species are cultivated in the gardens of India. D. caryophyllus or clove pink clove flower, and D. chinensis are called Karnphūl : the latter is of various colours, and some mixed—they flower all the year round, and give seed immediately as it fades, and which will spring up again if sown. The double flowered varieties are much esteemed : the colours are crimson, red and white.—*Riddell.*

DIAPER.

Drel, Dut.	Tela tessuta a opere, It.
Linge ouvre, Fr.	Salfetotsschnoe, Rus.
Drell, Ger.	Manteles alemanuiscas, Sp.

A fine flowered linen, used for table cloths and napkins, manufactured in the north of Ireland, Germany, and Scotland. Diapers are also made of cotton, in imitation of the linen goods bearing the same name. The "Shot Diaper" of Masulipatam, so made that it is difficult to ascertain whether it was not shot with silk, is a cotton fabric, excellent in quality and colour.—*M. Ex. Jur. Reports., McCulloch's Dictionary.*

DIAR or DEODAR, of Hazara, Kashmir and Kaghan, Cedrus deodara, *Loud.*

DIARBEKIR, a pashalik on the north west of that of Baghdad. It is the Hollow Mesopotamia. At Diarbekir, the Tigris is often 250 yards wide. The Diarbekir branch of the Tigris passes by Rodwan and Hassan Keif, before it joins the proper Tigris. The Mahallemi Koords live in caverns hereabouts, cut in the cliffs of the Tigris. There is a prodigious number of these caves, which are said to be very ancient, and cut into different apartments. Altoonsoo, the river Caprus of antiquity, is called the Lesser Zab by Abulfeda. It joins the Tigris below Diarbekir but it is an error to call the river Altoon, which is an epithet only belonging to the bridge, from what it cost, Altoon meaning gold or money. —*Rich's Residence in Koordistan, Vol.* i, *p.* 379 *and* ii, *p.* 13. *See* Tigris and Mosul.

DIASPRO. It. Jasper.

DIAZ, BARTHOLOMEW, in the reign of John II king of Portugal, proceeded with three vessels to ascertain the southern boundary of the African continent, and, driven from the land near the south Cape he ultimately regained the African shores, east of the Cape, at a Bay which they called the Bay of Cows. The men seeing the land trend easterly here began to murmur and compelled Diaz to return. As they shaped their course homewards they rounded that famous point in August 1486, to which Diaz gave the name of the "Cape of Tempests," but which John, with more foresight as to the future importance of the discovery, changed to that of the Cape of Good Hope. Diaz was the first who, in recent times, doubled the Cape of Good Hope. He landed at Calicut, about the beginning of the 16th century, soon after the discovery of America by Columbus. He was drowned in one of four ships lost by Cabral, in his voyage from Brazil to Calicut.—*Tennant's Ceylon. See* Cabral, Albuquerque, Vasco-de-Gamez, Debul.

DIATOMACEÆ. The Hasan-i-Yusuf of the Panjab, is a minute siliceous shell of a triangular form, one of the Diatomaceæ found floating on lakes and ponds in the hills of Kashmir, whence it is skimmed off and dried. It was erroneously described by Honigberger and others, as a seed.—*Powell's Hand-book, V.* i, *p.* 384.

DIB, Hind. Typha angustifolia, also Eragrostis cynosuroides.

DIBARADANE, or Divartanai or offering of fire from dipa, a lamp and aradana to sacrifice, a daily ceremony in honour of the hindoo gods, and makes the last part of the worship. The brahman who officiates holds in one hand a small bell, which he sounds and in the other a copper lamp full of ghee, he makes it pass and re-pass round the statue of the god he worships. During this time, the dancing girls or bayadere dance and sing his praises ; after which the assistants in contemplation, with hands joined, address their vows to the idol : the brahman then breaks the garland with which the idol is adorned, distributes the fragments

to the people and receives from them the offerings they have brought to the divinity. The dance before the gods during divine service, and on festival days, was a ceremony much used by the ancients. The priests of Mars, called Salii, were held in great esteem by the Romans: they were excellent mountebanks. They danced at Delos during divine service. This dance was performed in a very singular manner among the Greeks, and the Romans: they moved from the left side of the altar to the right, meaning to intimate the course of the heavens, which moves from the east to the west; they then returned from the right side to the left side, which represented the motion of the planets. The origin of this dance is very uncertain. King David danced before the Ark, when brought back from the Philistines, and no doubt made his subjects dance to his playing on the harp. We find in Exodus, that the Jews danced before the golden calf; but there never was known a people like the hindoos, who choose girls of no virtue to dance before their idols.—*Sonnerat's Voyage, p.* 157-9.

DIBI DIBI, Eng. Cæsalpinia coriaria, *Willde.*

DIB-GRASS, Hind. Cynodon dactylon also a grass or reed, Typha angustifolia.

DIBONG. See Mishmi.

DIC, in hindoo astronomy, the four cardinal points of the compass. Asta dic; the eight principal points including the cardinal ones. The Asta dic are called the eight corners of the world, over each of which a divinity is supposed to preside.—*Warren's Kala Sanhita.*

DICE,

Taarlingen. Dut.	Dadi. It.
Dés (a jouer.) Fr.	Buwah pari; d'ad'o. Malay
Würfel. Ger.	Kosti. Rus.
Passe. Hind,	Dados, Sp.

Those used in Europe are cubical pieces of ivory, bone, or ebony, marked with dots on each of their sides from 1 to 6, according to the number of the face; and used for playing games of chance. Those used by the hindoos are oblong pieces of bone or ivory. The story of Draupadi being staked and lost by Yudishthira, the eldest of the Pandava to Duryódhana is equalled by one in Ainsworth's Old St. Pauls, and another in Massy's History of England.—*Faulkner.*

DICERAS. See Chamacea: Chamidæ.

DICHHIT, according to Professor Wilson's Glossary, is a vernacular corruption for Dikshita, a name most appropriately given to brahmans, and the title of one of the sixteen branches of the Kanojia brahmans, it is also borne by some families of Maratha brahmans; and in Gazipur and adjacent provinces by a tribe of Rajputs.

DICHIPTERA RETUSA, Juss. Syn. of Rungia repens.

DICHROSTACHYS CINEREA, *W. & A.*

Mimosa cinerea, *Linn.; Roxb.*
Deshmanthus cinereus, *Willde.*
Acacia cinerea, *Spreng.*
„ dalea, *Desv.*
Caillea cincrea, *G. & P.*

Vurtuli. Hind.	Veluturu. Tel.
Andara-gass. Singh.	Yel-tur. „
Wara-tara. Tam.	Vellituru. „
Veda-tara. „	Venuturu. „
Vadatala maram „	

A small scrubby tree or large shrub, abundant in the hot and drier parts of Ceylon, and Coimbatore and common in waste places of the inland country, in the Bombay Presidency. Dr. Gibson had not seen it near to the coast. The wood is very hard, strong and good for pegs, but too small for any other purpose.—*Drs. Wight, Gibson, Flor. Andh., Thwaites' En. Pl. Zeyl., Roxb. Cor., Pl.* 174.

DICKSONIA ANTARCTICA. See Cibotium billardieri. Ferns.

DICLIPTERA ROXBURGHII, *N. ab E.*

Kirch, of Jhelum.	Lakshmana, of Panjab.
Somni, of Beas.	

A medicinal plant, grows up to 6,500 feet in the Western Himalaya.—*Dr. J. L. Stewart.*

DICÆUM, a genus of birds of the family Nectarinidiæ, 6 gen. 36 sp., viz., 8 Arachonothera, 19 Nectarinia; 5 Dicæum; 1 Myzanthe; 2 Prionochilus; 1 Piprisoma.

DICRANOCEPHALUS ADAMSI, Pascoe, a beetle of Korea, a double-helmeted Coleoptera. It occurs also on the Himalayas.

DICRURIDÆ, a family of birds, comprising 1 gen. 5 sub-gen. 14 sp., viz., 1 Chibia; 2 Chaptia; 1 Bhringa; 3 var. Edolius, 9 Dicrurus. One of the genus Dicrurus is the Drongo shrike of the peninsula of India. Other species are D. cærulescens, D. leucopygia and D. edoliformis. See Birds.

DICYPELLIUM CARYOPHYLLATUM. See Cinnamon.

DIDDANI, Hind. Astragalus multiceps.

DIDISCUS CÆRULEUS. Australia plants, grown from seed in a light loamy soil, and the plants either reared in pots or in flower beds.—*Riddell.*

DI-DITSH:—N-GUON:—MOI;—RO-MOI and Ke-moi, rude tribes occupying the mountain ranges between Tonkin and Cochin China, and between Cochin China and Kambogia.—*Latham's Descriptive Ethnology.*

DIDO. See Hindoo.

DIDRIAN. Hind. Cæsalpinia sepiaria.

DIDYMOCARPUS, a genus of plants of which Dr. Wight gives as species, D. Humboldtiana, lyrata, ovalifolia, Rottleriana, and tomentosa, D. aromaticus, is stated by Dr.

Wallich to be used as a perfume and aromatic drug, called by the natives Kumkuma and Ranigovindi.—*Royle*, p. 294; *O'Shaughnessy*, p. 448.

DIE-DU-LET. PAN. BURM. Cotton tree. Bombax heterophylla.—*McClelland.*

DIEG, at this place a battle was fought and won by Lord Lake. See Battles.

DIEGO GARCIA, one of the Chagos Islands, is about 14 miles long and extends from lat. 7° 13½′ S. to 7° 27½′ S. It is low and generally only 8 or 10 feet above high water tides.—*Horsurgh.*

DIELEN. GER. Deals.

DIEN-NEEUNG.—? In Amherst, a timber used for rice-pounders; it is a close-grained, strong, compact, brown, hard wood.

DIER. HIND. Cocculus villosus.—*DC.*

DIER HIER. HIND. KASH. Menispermum hirsutum.

DIESPETER. See Indra.

DIE-TUK. BURM. Cotton Tree. Bombax heterophylla.—*McClelland.*

DIGAMBARA. One of the six atheistical systems of philosophy, current amongst the eastern Aryan race in India. The other five are the Charvaka, Yogachara, Sidhanta, Wai-bashika, and Madhyamica all full of indeterminate phrases and containing a jumble of atheism and ethics. The derivation of Charuvaka is from charoo, insinuating and vaka, a word. See Jains: Vidya.

DIGAMBARA. Sansc. Literally skyclad. A mendicant going about naked and a division of the Jains the members of which either go naked or wear coloured clothes in opposition to the suretambara, or those who wear white. Digambara is from dish, a point of the compass, and ambara, cloth.—*Wilson.*

DIGHI. HIND. a tank or reservoir.

DIGUE ISLAND, one of the Seychelles. It is inhabited.—*Horsburgh.*

DIG-VIJAYA, SANS. From dish, the quarters of the earth, and vijaya, conquest.

DIHONG, the principal feeder of the Brahmaputra and navigable for 3 or 4 days journey, above its junction with the Lohit. It is supposed to be the Tsan-pu of Tibet but Mr. McCosh is doubtful of this. *See* Abor; Mishmi.

DII PATRES, of the Romans, the Pitrideva of the hindoos.

DIJES. SP. also Juguetes de Ninnos. SP. Toys.

DIJLAH, a name of the Tigris.

DIKAJAKOSA, RUSS. Cervulus pygargus.

DIKAMALLEE, is the fragrant gum resin of Gardenia lucida of Roxburgh, it exudes in amber coloured transparent drops, at the ends of young shoots, and from thence it is collected. It is most useful in preventing vermin feeding in wounds and is useful in hospitals, keeping away flies from sores, by its strong aroma, and is an article in the materia of the village farrier. It deserves more attention. Dikamali, from Gardenia gummifera, is stated by D. Gibson to be produced within the Bombay Presidency, its effects in preventing the access of flies to festering wounds and running sores, is remarkable.—*M. E. J. R., Spry's Suggest, p. 67. Dr. Gibson.*

DIK'HIT. A tribe of Rajpoots inhabiting the pergunnahs of Kootea, Futtehpoor, Ekdulla, Mootour and Ghazeepoor in the Futtehpoor District, also in Oudh and Bundelkhund. —*Elliot Supp. Gloss.*

DIKSHA, S. In hindooism, sacrificial worship: initiation into sacred rites.

DIL, HIND., PERS. The heart.

DILA, HIND. Odina wodier, also Arundo phragmites, Cyperus tuberosus, Scirpus maritimus.

DILATRIS HERITIERI. See Hæmodoraceæ.

DILEMI. *See* Afghan.

Dilivaria ilicifolia, *Juss., W. Ic.*
Acanthus ilicifolius, *Linn., Roxb. Rheede.*

Paina shuh, MALEAL.	Harkūch kanta, HIND.
Koli moli cheddi, TAM.	Harkut, HIND.
Alisa, TEL.	Hakorch, BENG.
Eti chilla, TEL.	Ka-ya, BURM.

Grows in marine lagoons canals and deltas south of India. It resembles the holly; its leaves and root are used medicinally.—*Roxb. Voigt., Useful Plants.*

DILKA, or smearing with oil, is in general use by the natives of the Soudan every evening by those who can afford it, before retiring to rest; to its use is to be ascribed the entire absence of cutaneous diseases, and also their being able to resist the cold and cutting winds of winter with no other protection than a slight calico scarf or shirt.—*Egypt, the Soudan and Central Africa. By J. Petherick, F. R. G. S.*

DILL, the anise of scripture, Anethum graveolens. It is the *ανηωον* of the Greeks, and Adas manis of the malays.

DILLAET. HIND. a summons server, a peon.—*Wils.*

DILLENIACEÆ, *DC.* A natural order of handsome trees, shrubs, or under shrubs, rarely herbs, amounting to about 115 species, of which 42 belong to the E. Indies; 2 to Guinea; and 1 to New Caledonia. The Indian forms are ranged under nine genera; viz., 12 under *Tetracera*; 5-6 under *Delima*; 3 under Wormia Actinidia; 1 under *Acrotrema*; 4 under *Colbertia*; 11 under *Dillenia*; 1 under Capellia; 3 under *Acrotrema*;

and 1 under *Schumacheria*. With a few exceptions, the properties of the order are unknown.—*Voigt.*, p. 17.

DILLENIA, a genus of plants, several species of which, yielding useful and valuable timbers, grow in Ceylon, in the two peninsulas, and in the northern provinces, of India. Some, of which the timbers are described, are not yet specifically determined. The young calyces of *D. scabrella* and *D. speciosa* have a pleasant taste and are used in curries by the inhabitants of Chittagong and Bengal. The flowers of one of this genus, as it occurs in the Terai, are as large as two fists.

Dillenia angusta, Zin byewn, *Burm.* also *D. scabra*, Byew, *Burm.* and *D. speciosa*. Thab yew, *Burm.* occur in Burmah. The two first are plentiful in the forests of the Pegu district, but become scarce to the north of it, and the third species is scarce even there, but generally growing in a laterite soil. They all three have a light brown wood and afford large and good timber for house buildings. The Dillenias are not only valuable as timber trees, but for ornamental purposes. In March and April, the forests are really dazzling from the bright yellow flowers which are crowded on their leafless branches. These trees would be worth cultivation in England. A species of Dillenia always found on the borders of streams, hence called water Dillenia by the Karens, produces a large green fruit, which is brought to the bazaar and considered a favorite vegetable with the natives.

Captain Benson, says D. "ornata," D. "scabrella" and D. "speciosa, of Moulmein are very plentiful and of large girth, have strong good timber, useful for general purposes, as house and ship building. *Captain R. Benson, Deputy Assistant Commissary General.—Drs. Hooker, Him. Jour.*, p. 395; *Mason.*

DILLENIA, *Species*, Zin Pyun Nigan Burm. A tree of Moulmein, with a strong wood for any ordinary purposes. Fruit edible.—*Cal. Cat. Ex.* 1862.

DILLENIA, *Species*. Zimboon. Burm. A timber of Tavoy, used in building.—*Capt. Dance.*

DILLENIA AUGUSTA, *Roxb.* Zinbyewn. Burm. Grows in the Garrow hills, and is plentiful in the forests of the Pegu district but becomes scarce to the north of it. Its wood is of a light brown colour, and it yields a large and good timber for house building.—*Drs. McClelland, Voigt.*

DILLENIA AUREA, *Sm.* Zimbyoon. Burm. Abundant in the plains and hills and on the forests of British Burmah but more scarce to the north of it. Wood of a light brown colour occasionally used in house building, but mostly for firewood. Breaking weight lbs. 198. A cubic foot weighs 48 lbs. In a full grown tree on good soil the average length of the trunk, to the first branch is 20 feet, and average girth, measured at 6 feet from the ground, is 9 feet. It sells at 12 annas per cubic foot.—*Dr. Brandis, Cal. Cat. Ex. of* 1862.

DILLENIA DENTATA ? ? Gode para. Singh. Grows in the western parts of Ceylon where its wood is used for roofs of houses. A cubic foot weighs 51 lbs. and it is said to last 40 years.—*Mr. Mendis.*

DILLENIA ELLIPTICA. THUNB. and D. Indica, LINN. are syns. of D. speciosa. *Thunb.*

DILLENIA INTEGRA, *Thunb.*

Wormia integra, H. f. et. T., I. c. p. 68, cum syn.

Said to grow in Ceylon, but Mr. Thwaites suspects some error as to four species of the large Dilleniaceous trees growing in that island —*Thw. p.* 5.

DILLENIA ORNATA, *Wall.*

Sen-bown. BURM.

Grows plentiful and of large girth in Pegu and Moulmein, and furnishes a strong good timber, useful for general purposes in house and ship building. It has large gaudy yellow flowers.—*Dr. Mason, Captain Benson.*

DILLENIA PILOSA, *Roxb.* Grows in Assam near Goalpara, on the banks of the Megna, and furnishes a hard tough wood, much used for canoes.—*Roxb., Vol.* ii, *p.* 652, *Voigt.*

DILLENIA RETUSA, *Thunb.*

Wormia retusa, *H. f. et T.* | Goda para. SINGH.

A moderate sized tree, growing in Ceylon, to an elevation of 2,000 feet, but not abundant.—*Thw. p.* 5.

DILLENIA SCABRELLA, *Roxb.*

D. scabra, *Brandis.*

Zen-Bywon. BURM.
Kyet-sen-bown. BURM.
Byew. BURM.
Kulgul. CAN.
Kurmul. MAHR.

Grows in Chittagong also in Canara and Sunda where it is most common below the ghaut. Grows large, long, and straight. Its acid calyx leaflets used in curries. Wood seems to be used for boat planks in Canara, but it is not reckoned a choice wood in the Bombay Presidency. It is plentiful in the Pegu province, but becomes scarce to the north of it, and it is, there, of large girth, furnishes a large good timber and is useful for general purposes, as house and ship building.—*Drs. Roxb., Vol.* ii, *p.* 653, *Gibson and McClelland, Captain Benson.*

DILLENIA PENTAGYNA, *Roxb. Vol.* ii, *p.* 652.

Colbertia coromandeliana, *DC.*
Wormia coromandeliana, *Spreng.*

Bjoo-ben. BURM.	Rawa-dara. TEL.
Poon spar tree. ENG.	Rowadan. ,,
Kurmul. MAHR.	Chinna kalinga ,,
Kanagalu. ,,	Ravudana. ,,
Pinnay maram. TAM.	

This is a stately forest tree, of great value, being one of those which yield the poon spars of commerce. It is common on the face of the Western Ghauts. In Coimbatore, it is a tall tree. It is a great common tree, in the Konkun and Ghaut jungles of Bombay, but never found inland. As a tree of British Burmah, it is abundant in the Eng. Forest (the forest of Dipterocarpus grandiflora) where its wood is hard and strong, and used for rice mills. It grows in Assam. A cubic foot weighs 69 lbs. In a full grown tree on good soil the average length of the trunk, to the first branch is 20 feet, and average girth measured at 6 feet from the ground is 6 feet. It is a large timber tree in Assam where it is used for canoes, its wood there being close-grained. Captain Beddome says it is a very strong, hard wood, abundant on the Indrawatty and in jungles on the left bank of the Godavery but not known on the right bank. Dr. Cleghorn says "this is believed to be the tree, which furnishes the *poon* spars, so valuable for shipping, though *Calophyllum inophyllum* has hitherto been so considered." Dr. Wight says, in Coimbatore "the similarity of native names between this and Calophyllum inophyllum leads me me to suspect some mistake here. The wood of Dillenia pentagyna is said to be exceedingly strong and very durable even when buried under ground. Since this paper was written, adds Dr. Wight, I have been informed that this is the tree that furnishes the Poon Spars, and judging from the manner of growth, I feel satisfied that this information is correct. This is a tall, the other, a short stunted tree." "I do not find" says Dr. Gibson, "that the wood is used for any purpose more important than for the loose planks used in the decks of native boats. It is not employed in house purposes. This tree is in great request by the merchants of Bombay, from the wood splitting well. Its leaves are used for roof dunnage.—*Drs. Roxb., Vol.* ii, *p.* 652, *Wight, Cleghorn, Gibson, Brandis, Voigt, p.* 18, *Captain Beddome, Cal. Cat. Ex. of* 1862, *Useful Plants.*

DILLENIA SPECIOSA, *Thunb.* ; *Rheede* ; *W. & A. W. Ic.*

Dillenia Indica, *Linn.* | Dillenia elliptica, *Thunb.*

Chalita. BENG.	Thab-yoo. BURM.
Chalta. ,,	Thee-bew-tha. ,,
Thabyew. BURM.	Muta Kurul. DUK.
Girnar. HIND.	Uva maram. TAM.
Syalita. MALEAL.	Pedda Kalinga. TEL.
Honda-para. SINGH.	Kalinga. ,,
Ruvya. SANS.	Uvvachettu. ,,

The large flowered Dillenia is a large and ornamental tree, hardy and thrives well in compounds. It grows in Ceylon, in the two Indian peninsulas, in Bengal, Assam, Chittagong, Java and the Moluccas. It is abundant at Kotah in Ajmere and is a native of the valleys in the Circar mountains. Mr. Thwaites says it is common in the warmer parts of the island of Ceylon, up to an elevation of 2,000 feet, being most frequent on the banks of streams. Captain Beddome says it grows in the jungles of the Godavery, and furnishes a very hard wood. Dr. Brandis mentions that it grows on the banks of the mountain streams of British Burmah, but the wood is not used. A cubic foot he says weighs 41 lbs. In a full grown tree on good soil the average length of the trunk to the first branch is 15 feet, and average girth measured at 6 feet from the ground is 5 feet. Dr. Brandis is the most recent writer, but, if the same tree, his opinion does not correspond with that of Dr. McClelland who describes the "Thabyew" as scarce in Pegu, but as affording a large and good timber for house-building, and for wood of a light brown colour. And Captain Dance describes the "Thee-bew-tha" as growing in Amherst, Tavoy and Mergui, maximum girth 3 cubits, maximum length 22 feet and the trees abundant, but widely scattered all over the provinces, here and there, inland. When seasoned, it floats in water. It yields a durable, tough, light wood, seemingly very good for helves and is used for making gun-stocks, and by Burmese for building houses and sundry other purposes. Its leaves are hard and rough and are used for polishing wood. Its flowers are very large white and fragrant. It is cultivated in gardens on account of its elegant appearance. It flowers during the hot season and beginning of the rains, the seed ripens in February. The fleshy leaflets of the calyx, when the fruit is full grown have an agreeably acid taste, and are much used by the natives, where the tree grows, in their curries. They make a tolerably pleasant jelly, the wood is both hard and tough, and is used to make gun-stocks. Roxb.—*Ovai-kai*, is the Tamil name of the fruit of this large and handsome tree, and it used by the lower class of natives in their curries, having an agreeable acid flavour; and also in chatnies.—*Drs. Thwaites, Roxb., Vol.* ii, *p.* 650, *Voigt, Jaffrey, Brandis, McClelland, Riddell and Irvine, Captains Beddome and Benson. Gen. Med. Top., p.* 199.

DILLI, or Yemálle Mountains, in Lat. 12° 1′ 7″ N. and L. 75° 1′ 8″ E. in Malabar,

near the sea coast is 804 feet above the sea. It is also written Dilly, and Delly. Sonnerat relates that in his time the whole surrounding district, which extends towards the north as far as Mount Delly, was inhabited by the Molandi, who lived merely by piracy. These sea-robbers are mentioned by Pliny, Arrian, Ptolemy, and other ancient authors. They united themselves to other pirates who resided on the Angedib islands, near Goa, and captured all the small vessels which sailed from Goa to Cochin. The huts in which their wives and children live, stand on the eastern side of Mount Dilly. This mountain, which he adds forms a cape or head-land, lies in the latitude of 12° 5′; and here Malabar or Malayala, properly so called, ends.—*Voyage to the East Indies*; *Grand Tri. Survey.*

DILLI. Allas, is a village on the south coast of the island of Timor, in about Lat. 9° 23′ S. Long., 123° E. The produce of the neighbouring territory, consists chiefly of bees' wax and sandal wood and is carried overland to Dilli, the capital of the Portuguese possessions, which lies on the N. W. coast of the island in a due north direction, distant about 50 miles; or to Atapoupa, a settlement of the Dutch, also on the N. W. coast, and somewhat nearer than the former. Allas gives a name to one of the mountains on Timor, said to be 12,000 feet high.—*Journ. Ind. Arch.*

DILL SEED. Seed of Anthum sowa.

Buzr ul shalat, Shubil. AR.	Misreya, Sitasiva, Seleya, SANS.
Sowa. GUZ., HIND.	Satta-copa. SINGH.
Mungsi. JAV.	Saddacuppei. TAM.
Anethi Semina. LAT.	—Saddapa. TEL.
Adas-manis. MALAY.	

Flattened elliptical seeds with brown and slightly convex backs, and pale membranous margin. Both the fruit and the plant are much used in the East Indies as condiments and articles of diet. The carpels have a bitter aromatic taste, making them useful as carminatives. The seeds are procurable in all Indian bazars. The Indian species is the Anethum sowa. *Dill* leaves are used to flavour pickles, the seed as a carminative, and is supposed to be used in the manufacture of gin: It is raised from seed.—*Faulkner, Jaffrey.*

DILPASAND, HIND. Citrullus vulgaris, var. fistulosus.

DILWARRA, at Mount Aboo, has been famed since a remote antiquity, and pilgrims seem to have been attracted to its temples, since A.D. 1034, though no notice was taken of it in the maps of India before the year 1806. Hindoo temples seem, to have existed here in remote ages dedicated to Siva and Vishnu, but all traces of them have disappeared. Dilwarra, however, is their traditional site, and on it now stand the famous Jain temples which were built by Bimul Sah, a rich Jain merchant and others, for, in Hindoo-Jain estimation, Aboo is the holiest spot on earth.

DIMDEAU. See Kush.

DIMIYA, the great red ant of Ceylon, it bites severely.

DIMITY,

Basin. FR.	Dimite. SP.
Dobletto. IT.	

Dimity is a stout cotton cloth, white, ornamented either with raised stripes or figures, and employed for bed and bed-room furniture. *Tomlinson, p.* 490; *McCalloch's Commercial Dictionary, p.* 474.

DIMMUK, HIND. Solenanthus, *Species.*

DIMOCARPUS LONGAN, *Lour.*, Syn. of Nephelium longan, *Camb.*

DIMORPHANTHUS, Aralia edulis is employed in China as a sudorific, and its young shoots are eaten.—*Eng. Cyc.* See Aralia.

DIMRAUT, HIND. one of the twelve tribes of the Mewati.

DIMRI of Hazara, Cedrela toona, var. serrata, *Royle*, hill toon.

DIN, ARAB. Faith, as distinguished from Mazhab, Arab. sect. Din! Din! for the faith! for the faith! is the mahomedan war cry. Hami-i-Din defender of the faith.

DIN, HIND. PERS. a day.

DINA, HIND. A day, considered in a great variety of ways and durations, of which the following are the principal:

1st a Savana, or Bhumi savana dina, a natural day, being the time between two sun risings;

2d a Saura dina; of these there are two kinds; and the similarity of the name tends greatly to confuse the beginners in the study of Hindoo Astronomy. First; the absolute sense of Saura, being sidereal, the Saura dina is the time between the same point of the ecliptic rising twice; or, more precisely, the time between the equinoctial points rising twice. Second, the other Saura dina, is the time which the sun takes to describe one degree of the ecliptic. It follows therefore, that strictly speaking, neither of these kind of days are equal throughout the year: yet the former, (which is also called Nacshatra dina) are supposed to be so in the first steps of several operations. Such is also the case with the latter, but this only happens when calculating the mean elements of the planets by the Vacyam process.

3d Diva dina, is equal to a sidereal revolution of the sun.

4th Pitrya dina, to a synodical revolution of the moon.

5th Brahma dina, is equal to a Calpa, or 4,320,000,000 years, his nights being equal to his day.

Yuga dina, is another word for Ahargana, meaning the number of days expired from the commencement of a Yug.—Lastly, yuga dina means the anniversary day of that on which a yug began, which is always noticed in the Kalendar.—*Warren's Kala Sanhita.*

DINAJPUR, a district and town of Bengal, the town is 261 miles from Calcutta. It lies to the south of Darjeling and is a flat country. See Kocch.

DINAR.

Denarius. LAT. | Dinara. SANS.

DINAR, a gold coin of value 5 to 10 shillings. Though sometimes applied by Ibn Batuta to an Indian gold coin, Dinar is the only name he uses for the standard Indian silver coin. Sometimes the term used by him is Dinar Diraham, which Defremery in some instances renders "Dinars of silver" and in others "Dinars in Dirhems" sometimes the term used is Dinanir fizzat.

The Roman denarius was of silver of the unit of 60 grains:—The dinara of the Sanskrit was 32 rates or 64 grains.—*Müller, Yule Cathay I, pa.* ccxlix.

DINARUM, a section of the Bakhtiari.

DINCANU GARJUN. HIND. Dipterocarpus turbinatus.

DIND. The terms *Dind* and *Khooshâli*, though etymologically the antipodes of each other, the first meaning a 'compulsory contribution,' the other a benevolence, or voluntary, have a similar interpretation in Rajpootana. *Dind* is coeval with Hindoo legislation. The bard Chund describes it, and the chronicler of the life of the great Sidraj of Anhulwarra, "who expelled the seven *Didda*" or 'great evils,' whose initial letter was *d*, enumerates *dind* as one of them, and places it with the *Dholi* and *Dhakun* or minstrels and witches. Zalim Singh, regent of Kotah, in 1817, abolished the Dind and commanded a stone to be raised in the chief town of every district of his country, on which was inscribed the edict of perpetual abolition of *dind*, with the denunciation of eternal vengeance on whoever should revoke it. The effigies of the sun, the moon, also of the cow, and the hog, animals reverenced or execrated by all classes, were carved in relief to attest the imprecation.—*Tod's Rajasthan, Vol.* ii, *pp.* 208-570

DINDASA. HIND. Juglans regia.

DINDIGUL, a town in the south of the Peninsula, in a beautiful and fertile valley in Madura, extending along the foot of the ghats.

DINDUGA TREE, ANGLO-CAN.

Dinduga. CAN. | Bayla Nava maram. TAM

According to Dr. Roxburgh, a species of Andersonia. A large and valuable tree of the Wynaad.—*Ains. Mat. Med., p.* 218.

DINGER, HIND. Cajanus indicus.

DINGHI, HIND. A small boat in use on the Ganges.

DINGRI, HIND. Pluchea, species.

DINGO a species of dog. See Canis.

DINSA, HIND. Ilex dipyrena.

DINTE, GER. Ink.

DINTENA, TEL. Clitoria ternatea.—*W. and A.*

DIN-UL-ISLAM, the faith taught by Mahomed, literally the faith of safety, Islam, Arabic, is from "sal'm," from which is the word "salam" or peace; also "muslim" a person following the faith of Islam, and its plural "musulman," the usual term for a mahomedan. See Din.

DIO, HIND. Pteris aquilina.

DIOCLESIAN ERA or Martyrs era dates from A.D. 284, the year of that emperor's accession.

DIODATUS. See Greeks of Asia.

DIODON. Globe fish of the Fam. Gymnodontidæ. There are 6 Diodon; 23 Tetrodon; 1 Triodon of Asiatic Seas.

DIODORUS SICULUS. The first authentic account of Ceylon or Taprobane is given by Onesiculus, the Macedonian admiral, who lived B.C. 329 or 330. Diodorus Siculus, B.C. 44, gives an account of it. Strabo also mentions it, and Dionysius, who flourished A.D. 36, confirms former accounts, and alludes to its elephants. Sinbad also speaks of it in the volume, perhaps a compilation and in part a romance, as does Abdoor Razaq: Ribeiro also gives a notice of it. In the reign of Claudius Cæsar, a roman publican, who farmed the custom's duties of the Red Sea, was driven from Arabia by storms on to Ceylon, where he found a flourishing kingdom and an enlightened sovereign, whom he persuaded to send an embassy of four envoys to Rome, by way of the Red Sea, for the purpose of negotiating a commercial treaty. See Ceylon, Khetri, Megasthenes, Perim, Yavana.

DIŒCIOUS SNAKE GOURD. Trichosanthes dioica.

DIEGO, DE CONTO, who wrote the Asia Portuguesa, was born in Lisbon in A.D. 1542, and died at Goa A.D. 1616, aged 74. He went to India when 14 and remained ten years, and then returned to Europe, but after a short stay he again came to India where he lived till his death.—*Bickmore.*

DIOMEDA a genus of birds of the family Procellaridæ of 6 gen. 12 sp. viz., 4 Diomedea; 4 Procellaria; 1 Prion; 1 Pelicanoides; 1 Puffinus; 1 Thalassidroma. The birds are known as the albatross and several species with

this name are familiar to all travellers in the southern seas, the common albatross, the Diomedea exulans of Linnæus, being very common. D. fuliginosa of Latham is also to be seen, and D. chlororynchus *Lath.* also met with. Mariners distinguish them by other names, for instance Diomedea exulans, *Linn.* is the wandering albatross. D. spadicea, is the green-bill or Nelly of sailors. D. chlororynchus, their molly-maux or yellow-bill, and D. fuliginosa, the sooty albatross. D. cauta, *Gould,* the cautious albatross ; D. brachyura, *Gould,* the short-tailed albatross ; D. culminata, *Gould,* the culminated albatross ; D. fulginosa *Lath.* or sooty albatross ; D. melanophrys, *Gould* is the black-browed albatross, and other species, D. gibbosa ; D. nigripes ; D. olivaceo-rhyncha and D. spadicea.

Diomedea exulans.—Linn. Is abundant and equally numerous in all parts of the ocean between 30° and 60° S. lat., but it ranges much farther south, even to within the Antarctic circle.

Diomedea melanophrys.—Temm. Is the most abundant species of the southern seas ; equally numerous in every part between the 30th and 60th degrees.

Diomedea cauta.—Gould. This species was procured by Mr. Gould off the south coast of Van Diemen's Land.

Diomedea chlororhynchus.—Lath. Occurs between 30° and 60° S. lat., in both the Atlantic and Pacific Oceans.

Diomedea culminata.—Gould. Is rather abundant both in the Pacific and Atlantic Oceans, between 30° and 50° S. lat.

Diomedea fuliginosa.—Gmel. Occurs in all parts of the ocean between 30° and 60° S. lat., equally common off Van Diemen's Land, Cape Horn and the Cape of Good Hope.

Diomedea brachyura.—Temm. Found in the North Pacific Ocean.

Diomedea gibbosa.—Gould. An inhabitant of the North Pacific Ocean.

Diomedea olivaceorhyncha.—Gould. China seas (?).

Mr. Gray, in his 'Genera of Birds,' also gives *D. spadicea* as a species. He also makes *D. gibbosa* (Gould) synonymous with *D. nigripes,* Audubon, 'Biog.,' vol. v, p. 327, and adopts the latter name as having the priority.—*Eng. Cyc., p. 553.* See Albatross ; Birds, p. 526.

DIOMEDES. See Greeka of Asia.

DION CASSIUS. See Polyandry.

DION EDULE. See Cycadaceæ.

DIONYSIUS. See Greeks of Asia.

DIONYSUS, a name of Bacchus, said to be Rama son of Cush who invaded India. See Bacchus, Hindoo, Vishnu.

DIOSCOREA, a genus of plants which furnish the tropical esculents called yams. It is the type of the natural order *Dioscoreaceæ.* The best account of the species is that of Dr. Roxburgh, who cultivated seventeen sorts in the botanic garden, Calcutta ; others are known to botanists, but far from perfectly though the following Eastern species are generally recognized ;

aculeata,	dæmona,	purpurea.
acutangula,	fasciculata,	pulchella.
alata,	glabra,	rubella.
anguina,	globosa,	sativa.
atropurpurea,	heterophylla,	tomentosa.
belophylla,	nummularia,	triphylla
bulbifera,	oppositifolia,	versicolor.
cirrhosa,	pentaphylla,	verticilata.
crispata,		

The dioscorea yam plant is universally cultivated among all the tribes in the Eastern Archipelago, and generally most so where rice is least abundant, but it no where forms the chief bread of the people, as rice, maize, or sago do. The batata, indeed, and Crawfurd thinks justly, is preferred to it. Its Malay and Javanese name, rubi or uwi, extends not only to the languages of the Malay and Philippine Islands, but to those of the Pacific, and to Madagascar. In the Philippine languages the name is identical with that in Malay ; in the Tonga it is ufi ; in the Tahiti eui ; in the New Zealand the same as in Javanese, namely, uwi ; in the language of New Ireland u, and in the Madagascar vwi. With all these varieties of pronunciation there can be no doubt of the virtual identity of the name. It is probable that several species of dioscorea are natives of the Malayan Archipelago, but that the culture originated with one people, and was directly or indirectly disseminated by them, seems likely from the universality of the name. It may be remarked, that in the language of Madagascar, a wild yam is called uvi-ala, which is, without doubt, the uwi-alas—the wild or forest yam of the Javanese, with the elision of the final consonant, conformably to the genius of Malagasi pronunciation. The word ubi, besides being applied specifically to the yam, is used as a generic for farinaceous roots. Thus the batata, or Convolvulus batatas, is called by the Malays uvi-jawa, or the Javanese yam, to distinguish it from the Dioscorea. It is not a little remarkable that while so many species are nutritious in this genus, some should be highly dangerous ; but such is unquestionably the fact. *D. dæmonum* and *D. triphylla,* both ternate-leaved species, have very nauseous and dangerous tubers. Eatable sorts are numerous. In Otaheite the *D. bulbifera,* which bears small fleshy angular tubers along the stem in the axils of the leaves, is the favorite species. The Elephant-foot-yam,

a species of dioscorea with a tuber about the size and shape of an elephant's foot, is white, and often as light and agreeably as a potato, it abounds in Karen gardens but is rarely seen among the Burmese, or in the market.—*Eng. Cyc.* p. 355. *Crawfurd Dict.*, p. 448. *Mason, Voigt, W. Icones.*

DIOSCOREA ACULEATA.—*Linn. Roxb. W. Ic.*

Mu-alu, BENG. HIND.	Kaku-kukulalu. SINGH.
Chota Pindalu, DUK.	Sirru vullie Kelangu, TAM.
Goa Potato, ENG.	Kanta-kalangu, ,,
Prickly stemmed yam ,,	Kummara baddu, TEL.
Kata-kelenga, MALEAL.	Dampa, ,,
Pudiekelengu, ,,	

This small yam is a very valuable and delicate root, somewhat resembling the sweet potato in appearance ; tubers of an oval form and very white, generally weighing about two pounds. The taste is like that of a fine dry yam. Mr. Jaffrey is not aware if this yam be much cultivated in Madras.—*Roxb., Vol.* iii, *p.* 800, *Voigt., Ainslie, p.* 251, *Jaffrey.*

DIOSCOREA ALATA, *Linn. Rheede. Roxb., W. Ic.*

Kam Alu ; BENG. HIND.	Perin-Valli-Kelanga, MAL.
Khum-alu, ,, ,,	Katsji kelanga. ,,
Myouk-phoo. BURM.	Yams-kelang, TAM.
Wing-stalked yam. ENG.	Cachay Kalangu. ,,
Ubi. JAV. MALAY.	Niluvupendalum. TEL.
Rosa kanda. SINGH.	

This yam grows wild in both the Concans, but is cultivated on the coast of Coromandel and in Bengal it is esteemed next best to D. globosa.—*Ainslie. Roxb., Voigt.*

DIOSCOREA ATROPURPUREA, *Roxb.*

Dark purple yam. ENG. | Myouk nee. BURM.

A yam with a dark purple root is one of the best yams. It is extensively cultivated both by Karens and Burmese. It is cultivated at Malacca, tubers are large and irregular, and grow so near the surface of the ground as to appear in dry weather through the cracks that they make in the soil by raising the earth over them.—*Mason* : *Eng. Cyc.*

DIOSCOREA BATATAS, the Chinese yam, was introduced into Europe about the year 1849, having been sent from Shanghai, by M. de Montigy, the French Consul. It is everywhere cultivated in China and bears the names of *Chou-yu ; Tou tchow ; Chan-chou ; Chan-yo and Chan-yu*, which signifies the "Arum of the Mountain." At Nankin, it is very large and of excellent *flavour ; that of the* Chou district is still better, but for medicinal purposes, the Chinese prefer that of the Hoai-king district, where the Chou-yu root is laxative and sweet. It is particularly worthy of a place in the kitchen garden, as well as in field culture, on account of its perfectly féculent flavour, and the absence of any after-taste of sweetness, acidity, or spiciness, such as is often found in other plants ; as also on account of the ease with which it may be cultivated and the facility of preserving it from decay. *Agricultural Rep. to Commissioners of Patents to House of Assembly for* 1854.

DIOSCOREA BULBIFERA, *Linn.*

Karu-karinda of Bombay.	Panu-kodol. SINGH.
Bulb-bearing yam. ENG.	Malaka kaya pendalam.
Katu-katsjil. MALEAL.	TEL.

A native of New Holland, but grows in both the Concans and is cultivated on the Western Coast of India. The root is edible and is applied externally to ulcers. The leaves are used as greens.—*Voigt., Jaffrey.*

DIOSCOREA CRISPATA, *Roxb.* Myouk Kya Burm.

DIOSCOREA DÆMONA.

Wild Yam. | Ko-wæ. BURM.

There are several indigenous species of yams, which though very acrid are eaten by the Karens in times of scarcity. This one is remarkable for its large ternate leaves, of which the leaflets are sometimes nearly a foot long, and six inches wide.—*Mason.*

DIOSCOREA DELTOIDEA, *Wall.*

Dioscorea bulbifera, *L. ?*

Kniss, Jhelam, Kashmir.	Tardi, Tharri, Bias.
Kriss, Kashmir, Chenab.	Kans, Gungru, Sutlej.
Tar, Kithi, Chenab.	Kaspat, Trans-Indus.
Kheli. ,,	Parwatti ,,
Kithi, Ravi.	Bazar leaves.
Dharus, ,,	Tarar pattr.

There is some doubt as to whether all these are the same plant but, if so, it grows abundantly in many parts of the Punjab Himalaya, from as low as 2,000 up to 9,200 feet, and is found Trans-Indus. The root is used in Kashmir for washing the pashm for shawls, and there and on the Chenab and Sutlej for washing woollen cloth. The root of this or a variety (?) a yam which grows to several pounds weight, after steeping in ashes and water to remove acridity is largely eaten cooked, by various classes in parts of the Siwalik and outer hills, but in other places is not used and once Dr. Stewart was told that the tongue would rot from eating it ! Honigberger says that it is used medicinally.—*Dr. J. L. Stewart, Punjab Plains, p.* 229.

DIOSCOREA FASCICULATA, *Roxb.*

Karen potato. ENG. | Ka dwæ oo. BURM.

This small yam is not much larger than a kidney potato, which it much resembles both in appearance and taste. It is cultivated extensively by the Karen race, and being more like a potato than a yam, has acquired the name of the Karen potato, but is sometimes called the Tavoy potato. It is the best vegetable the Karens have, but unfortunately it can be obtained during a few months only

in the year. Dr. Mason is not aware that it is ever found wild on the Tenasserim Coast; and it appears to him to be either identical, with or nearly related to Roxburgh's D. fasciculata, which is largely cultivated in Bengal, for food and to make starch.—*Mason, Voigt., Roxb., Vol.* iii, *p.* 801.

DIOSCOREA GLOBOSA, *Roxb., W. Ic.*

Chupri alu. BENG. HIND. | Guna pendalam. TEL.

Is the most esteemed of all the Indian yams. Its flowers are highly fragrant; the tubers are white internally; it has arrow-headed cordate leaves.—*Drs. Roxb., Vol.* iii, *p.* 797, *Mason, Voigt.*

DIOSCOREA PENTAPHYLLA, *Linn. Roxb. W. Ic.*

Kanta-alu. BENG. HIND. | Nureni Kelengu. MALEAL.
Oolsie of Bombay. | Nuran Kelangu. TAM.
Five leaved yam. ENG. | Mullu pendalam. TEL.
Shenorvail-chand. MAHR. | Pandi mukku dampa. ,,
On-do. MALAY.

This yam grows wild over all the East Indies and throughout the Archipelago, the flowers are used as greens, and the tubers as an esculent. In some parts of Southern India is called kaat vulli kalung or Wild Yam. It appears to be the Nooren kalengu of the Hortus Malabaricus and the On do of the Malays. Rumphius tells us that previous to preparation it contains much acrimony, adding, "Creator sapienter hanc impraegnavit radicem hoc succo, ut ab apris intacta hominibus cibo inserviret."—*Ainslie, p.* 249; *Roxb., Vol.* iii, *p.* 806.

DIOSCOREA PURPUREA.—*Roxb.*

Rukto-guranya-alu, BEN. | Puthuschary vulle Kelangu, TAM.
Sweet potato of Pondicherry, ENG. | Dêsaváli pendalam, TEL.
Lal-Guranya alu, HIND.

This plant holds the third rank amongst the yams and is cultivated to some extent throughout India, being boiled and eaten like a potato. The tubers are permanently stained purple throughout, immediately below the cuticle; it is much esteemed; its tubers are sometimes three feet long; its flowers are fragrant.—*Roxb., Vol.* iii, *p.* 799. *Jaffrey, Voigt.*

DIOSCOREA SATIVA. *W.*

Common yam, ENG. | Yamskolung, TAM.
Perin vullie-kelengu, MAL., TEL. | Rata-kodol, SING.

This is eaten all over India by both Europeans and Natives.—*Ainslie, p.* 251.

DIOSCOREA TOMENTOSA, SPR. KOEN.—*Rox., W. Ic.*

Subb-a dumpa, TEL.

This grows in the peninsula of India, at Travancore and at Gingee.—*Voigt.*

DIOSCOREA TRIPHYLLA. *Linn.*

Mar-chaina of Bombay, BENG. | Three leaved yam, ENG.
Tsiagri nuren, MAL.

Used to render the Cocoanut tree toddy more intoxicating.

DIOSCORIACEÆ, a natural order of plants including the genera Testudinaria and Dioscorea.

DIOSCORIDES. See Conium maculatum: Galbanum.

DIOSCURI, the greek analogue of the Aswini. See Aswini. Hindoo:

DIOSPOLIS the present modern Lydd.

DIOPSIS, a genus of Dipterous Insects of the family Sepsidæ, and remarkable for the immense prolongation of the sides of their head. The head itself is small, and appears as if it were furnished with two long horns, each having a knob at its apex; these horn-like processes, however, are not analogous to the parts, usually termed antennæ, but are in fact prolongations of the sides of the head, the knob at the apex of each being the eye of the insect.—*Diopsis Sykesii*, of Gray, is one of the largest species of the genus, and possesses the longest eye-stalks; these processes in this insect are of a pitchy red colour, and the body is of the same tint. The head and thorax are black, and the wings are coloured with brown. But little is known of the habits of these insects. Colonel Sykes, collected great numbers of the above species during his residence in India, when near the hill fort of Hurreechunderghur, in the western ghauts of the Deccan at an elevation, of 3,900 feet above the level of the sea, 19° 23′ N. lat., 70° 40′ E. long."—*Eng. Cyc. Vol.* ii, *p.* 354.

DIOSPYRACEÆ, a natural order of plants, called by Ventenot and Lindley the Ebenaceæ, or Ebony tribe. They consist of trees or shrubs and include eight genera and upwards of one hundred species amongst them the genera Diospyros, Maba, Royena.

DIOSPYROS. A genus of plants, belonging to the natural order Diospyraceæ or Ebenaceæ. The species form large trees with alternate, thick, and, often, leathery leaves. They are found in the Mauritius, Ceylon, and every part of the East Indies, and are remarkable for the woods and fruits they afford. The Karens have distinct names for four different species of Tenasserim ebony trees. The salt water swamp ebony, the water ebony, the yellow ebony, and the true ebony. Dr. Mason never met with the trees in flower, so as to be able to distinguish the species but he has seen specimens of the wood in the southern provinces, not inferior to the ebony of commerce. Some of the species of these countries, the woods of which have been noticed are, as yet, not described specifically. There are 42 species of Diospyros, in the East Indies, in both peninsulas of India, and in the islands of the Archipelago, in the Himalaya and in the Khassya mountains. They

are remarkable for the hardness and the blackness of the wood of some species and for the edible fruits of others, the woods being the ebonies and iron woods of commerce. The fruits are noted for their extreme acerbity before arriving at maturity but they are sometime brought from China as a preserve. Diospyros kaki is common to Nepal, China and Japan, D. ebenaster is a native of Ceylon ; D. melanoxylon and D. chloroxylon, of the mountains of the peninsula. D. embryopteris, found with them, extends from Silhet and Bengal near to the Deyra Doon along the foot of the mountains, and D. montana to the borders of the Ruenka Lake near Nahn. D. cordifolia seems to be common in every part of India, and D. tomentosa first described by Dr. Roxburgh, from the northern parts of Bengal, extends to the Kheree jungle, and the foot of the lower hills ; the same species appears also to exist in the central range. D. Roylei, Wall. Cat. N. 4134, is a nearly-allied species, growing in abundance near Adjeeghur and the Bisrumgunge ghaut, and is interesting as an indication of the nature of the little known Flora of Central India. Wight in Icones gives Diospyros Candolleana, capitulata, chloroxylon, dubia, ebenum, glutinosa, kaki, montana, obovata, orixensis, ovalifolia ; racemosa ; ramiflora, tomentosa, (fem.) (mas.) and tetrasperma.—*Eng. Cyc., Dr. Mason* ; *Royle Ill. Him. Bot.*, p. 262 ; *Wight Icones.*

DIOSPYROS, *Species.* Kurwul. CAN. Grows in Canara and Sunda in the great jungles in the Ghats above, chiefly to the south. Ripe wood particularly good, as it has the ebony heart.—*Dr. Gibson.*

DIOSPYROS, *Species.* Muchi twikee *Tel.* of the Godavery forests Warungul. A very hard light colored wood.—*Captain Beddome.*

DIOSPYROS, *Species.* Ouk-khyin-za. BURM. A beautiful wood of British Burmah, white and black mottled, used for house posts. A cubic foot weighs lbs. 41. In a full grown tree on good soil the average length of the trunk to the first branch is 30 feet, and average girth measured at 6 feet from the ground is 9 feet. It sells at 8 annas per cubic foot.—*Dr. Brandis.*

DIOSPYROS, *Species.* Ghoot. BURM. In British Burmah, a small tree : small quantities of black heart wood (Ebony) are occasionally found near the centre of very old trees of this and another kind nearly related to it (Tayben.) A cubic foot weighs lbs. 49. In a full grown tree on good soil the average length is 15 feet and the average girth measured at 6 feet from the ground is 3 feet—*Dr. Brandis.*

DIOSPYROS, *Species.* Moulmein ebony, —an inferior kind of ebony often seen at Moulmein, which the natives do not call by the same name that they do the trees which produce the good ebony, though evidently a product of the same genus. A similar wood at Tavoy is often denominated iron wood.—*Dr Mason's Tenasserim.*

DIOSPYROS (?) *Species* ? Rayamucha ? Used in house building at Martaban.

DIOSPYROS, *Species.* Tai. BURM. Maximum girth ½ to 1 cubit, maximum length 8 feet. Found, very scarce, from the forest in the direction of Shuay Ghben. When seasoned it sinks in water. This wood was much sought for, by Captain Dance, but could not be procured in Moulmein in sufficient abundance for it to be made suitable for any ordnance purpose.—*Captain Dance.*

DIOSPYROS, *Species,* Kendhoo. URIA ? A tolerably common tree of Ganjam and Goomsur, extreme height 60 feet, circumference 4½ feet, height from ground to the intersection of the first branch, 30 feet. A hard wood blacker than the Sisoowa. Boxes, &c. are made of it. The fruit is eaten.—*Captain Macdonald.*

DIOSPYROS ACUTA, *Thwaites.* A middle sized tree of Pasdoon Corle, in Ceylon. *Thw. En. Pl. Zeyl.*, p. 182.

DIOSPYROS AFFINIS, *Thwaites.* A middle-sized tree growing at Ooma Oya, on the lower road from Kandy to Badulla, in Ceylon ; branches sub-glabrous. The timber is suitable for building purposes.—*Thw. En. Pl. Zeyl., Vol.* iii, p 179.

DIOSPYROS ATTENUATA, *Thwaites,* A middle-sized tree of Pasdoon Corle, in Ceylon.—*Thw. En. Pl. Zeyl.*, p. 182.

DIOSPYROS CALYCINA. (Bedd.) A good sized tree, everywhere glabrous, leaves dark shining green. This very curious species of Diospyros has only been observed in the Tinnevelly district and southern portions of Madura, where however, it is very abundant in the ghat forests from the foot up to 3,000 feet elevation ; it is called Vellay Toveray and yields a valuable light colored wood, which is much in use in the Tinnevelly district.—*Bedd. Ic.Plant.*

DIOSPYROS CANDOLLEANA, *Wight, &c.* Homedereya-gass. SINGH. In Ceylon, a middle sized tree, in the Saffragam district and Hinidoon corle.—*W. Ic., Thw. En. Pl. Zeyl.*, p. 181.

DIOSPYROS CHINENSIS, *Bl.*, syn. of Diospyros kaki, *Linn.*

DIOSPYROS CHLOROXYLON *Roxb.*

Nullaulemara wood. ANGLO-TEL.
Ullinda. TEL.
Nellarulemara kurra. TEL.
Peddi illinda. TEL.
Nalla ulimera. "
Illinda. "
Pedda ulimera. "

Grows to a large tree on the Circar moun-

tains, and gives a very hard useful wood, whereas it is generally a shrub about the Godavery forests. The fruit is edible.—*Voigt, Captain Beddome.*

DIOSPYROS CORDIFOLIA, *Roxb.*

Diospyros montana, *Wight ? ?*

Ban-gab. BENG.	Nalla ulimera. TEL.
Goundhan. MAHR.	Kaka ulimera. ,,
Vuckan maram. TAM.	Nalla urimida. ,,

Grows in Ceylon near Jaffna, in the peninsula of India, in Coimbatore, in the Bombay forests, and in Bengal. It yields a hard, heavy, strong wood, of a dark brown colour and difficult to work. Not uncommon in the Bombay side of India, but more in ravines and waste places than in forests. Dr. Gibson had never seen a tree that would turn out a log 4 inches square. The wood is strong and durable.—*Drs. Wight and Gibson, Thwaites, Voigt.*

DIOSPYROS CANARICA, *Bedd.* A good sized tree, glabrous, leaves oblong to obovato-oblong. South Canara, plains, near the foot of the ghats, called Kara-mara, allied to D. Arnottiana.—*Mig. in Bedd. Ic. Plant.*

DIOSPYROS CORDIFOLIA, Bān-tendu HIND. This tree furnishes a valuable astringent and styptic for fresh wounds, also occasionally used in intermittent fever. The fruits furnish a kind of a glue, used to cover the bottom of boats.—*Powell's H. B., Vol.* i, *p.* 359.

DIOSPYROS CRUMENTATA, *Thw.* A very large tree of the Central Province of Ceylon, branches glabrous, leaves glabrous, oblong, abruptly and obtusely acuminate; growing at an elevation of 2,000 to 4,000 feet.—*Thwaites' En. Pl. Zeyl., Vol.* iii, *p.* 179; *Bedd. Ic.* See D. quæsita, D. oocarpa.

DIOSPYROS DISCOLOR., *Willd*, syn. of Diospyros mabola, *Roxb.*

DIOSPYROS EBENASTER, *Retz.*, syn. of Diospyros ebenum, *Linn.*

DIOSPYROS EBENUM, *Linn.; Retz.; W. Ic*, p. 188.

Diospyros ebenaster, *Retz.*	D. hebenaster, *Rumph.*
Abnoos. AR. PERS.	Ebenus. LAT.
Kurre mara. CAN.	Kal oowara gass. SINGH.
Ebony. ENG.	Kal woora gass. ,,
Steinholz. GER.	Kadu beriya? ,,
Εβενος. GR.	Tai maram. TAM.
Habenim. HEB.	Kaka-tati. ,,
Abnoos, the Ebony. HIND	Tumbi maram ,,
Tendu, Tendua the white wood. HIND.	Tuki. TEL.
	Kendhoo. URIA.

This great tree, in Ceylon, yields the best kind of Ebony wood. In Ex. xxvii, 15, it is mentioned as brought with ivory by the men of Dedan and seems to have been then brought both from Ethiopia and India, though Virgil appears to have been unaware of this, for he says, (Georg, ii, 115),

——sola India nigrum
Fert ebenum.

It was highly esteemed by the ancients. In Ceylon it is found not uncommon up to an elevation of 5,000 feet, in great abundance in the north of the island, and to some extent in the Kandyan country. The great weight of the timber renders its transport very costly, unless where water conveyance can be obtained, which is seldom the case but during the rainy months, and though immense forests of this wood still exist in the island, they are, to a great extent too far from a port of shipment to be available. The exports of ebony have varied much of late years from 15,000 to 5,000 cwts. It is said to grow in the Denkencottah forest, in the Salem collectorate, and, writing in 1850, from the Coimbatore cellctorate, Dr. Wight says of the Acha maram, *Tam.* that this name was copied by him from Ainslie but "that he was still uncertain whether this is the species that yields the ebony of the Palghaut jungles, as there is reason to believe more than one species contributes wood black enough to pass current for ebony. The plant produced to him, under that Tamool name, was Bauhina tomentosa, a widely different tree but having a very dark or black-heart wood." Dr. Gibson says that D. ebenum, is found near Oopenputam in Canara; also below the Woolwee Ghaut. Ebony, from this tree, of very superior quality is procurable in Madras districts as well as in the Northern Circars, where Mr. Rohde received 16 inch planks of a fine uniform black. In Nagpore, this tree, which yields a very fine ebony, has very little of the blackwood, when young: as it advances in age the blackwood increases, and eventually nothing but blackwood is found. From the ease with which the white wood bends, natives employ it in the manufacture of buggies, carriages, &c., &c., but, as it soon loses its essential oil, the unseasoned timber is preferred for such purposes. White ants attack the whitewood readily, and it is nearly always beetle bored. In strength it excels teak, yet from the above circumstances, as well as from the fact that it is very seldom obtainable of more than 6 inches square, he rejected it as a building material. It grows in the Dekhan and in the Kotah jungles of Ajmeer. Ebony is much affected by the weather, on which account European cabinet makers seldom use it except in veneer, and its use is restricted to delicate and costly cabinet work. The Atcha maram, which yields one of the ebonies of Madras, is the Bauhinia tomentosa. D. ebenum; D. exsculpta, D. Wightiana, and D. embryopteris are valuable timber trees in Southern India,

D. assimilis is perhaps only a variety of ebenum; D. candolliana of the Nilgiris, D. dubia of the foot of the Sevagherries and Courtallum, D. montana of the eastern and western side of the Peninsula of India, D. ovalifolia throughout the western forests, D. chloroxylon, capitulata, *Wight*, and cordifolia, Eastern side, and obovata locality not given, have all been figured by Dr. Wight, D. acuta, *Thw.*, is a Ceylon tree.—*Drs. Gibson, Wight, Cleghorn, Riddell and Irvine, p.* 196, *Voigt, Thwaites, Mr. Rohde, Capt. Sankey, Tredgold, Holtzappfel; Ainslie's Mat. Med., p.* 206; *Malcom's Travels in South-Eastern Asia, Vol.* i, *p.* 186, *Eng. Cyc.*; *Smith's Dictionary of the Bible, Vol.* i, *p.* 471. See Ebony.

DIOSPYROS EMBRYOPTERIS, *Persoon*; *W. Ic.* 843, 844.

Diospyros glutinosa, *Kon.*, *Roxb.*, *Rheede.*
Embryopteris glutinosa, *W. Ic.*, *Rheede.*
glutinifera, *Roxb*

Tumika. BENG.	Maha Timbiri. SANS.
Yendaik. BURM.	Timberee-gass. SINGH.
Gab. BENG. HIND. SANS.	Panichi maram ? TAM.
	Tumbikai. ,,
Timburi. DEKH.	Tubiki. TEL.
Sindica. SANS.	Tinduki. ,,
Timbiri. ,,	Tumiki.

Grows in Ceylon, in damp forests, towards the South of the island; also, in the peninsula of India, in the Circars, at Hurdwar, in the Dehra Doon, all along the foot of the Himalayas, to Silhet and Assam, and is said, by Honigberger to be seen at Lahore. Its resin is dark coloured in the mass, and approximates in appearance to the black dammer but is not so vitreous in its fracture; fruit rusty coloured abounding in a viscid glutinous astringent juice, obnoxious to insects and used by book binders, also for paying boats bottoms and also in infusion for soaking fishing nets as it contains much tannin. In Ceylon the fishermen bark their nets with this. Thwaites describes three varieties,

Var. β. atrata; foliis membranaceis, gemmis, pedunculis calyceque nigro-pilosis.

Var. γ. nervoia; foliis brevioribus, coriaceis, utrinque valde prominentim venosis, basi rotundatis; gemmis, pedunculis calyceque nigropilosis; lobis calycis fructiferi erectis.

Var. α. is very abundant in the hotter parts of the island. *Var.* β. Less common, but generally distributed. *Var.* γ. In damp forests towards the south of the island. Wood of an indifferent quality and not much used.—*Roxb.*, *Mr. Rohde's MSS. Voigt. Thw. En. Pl. Zeyl.*, *Vol.* iii, *p.* 178.

DIOSPYROS GARDENERI, *Thw.* Kadoombaireya-gass SINGH. A middle-sized tree of Ceylon, in the Saffragam and Kornegalle districts, and less commonly near Kandy up to 2,000 feet of elevation. It is a middling sized tree with branches terete glabrous. It yields a valuable timber for building and cabinet purposes.—*Bedd Ic. Plant*; *Thw. En. Pl. Zeyl.*, *p.* 181. See Ebony.

DIOSPYROS GLUTINOSA, *Kon.* syn. of Diospyros embryopteris, *Persoon*, the Embryopteris glutinifera, *Roxb.*

DIOSPYROS GOINDU, *Dalz.* is the Goindu of Bombay.

DIOSPYROS HEBENASTER, *Rumph.* syn. of Diosyyros ebenum, *Linn.*

DIOSPYROS HIRSUTA, *Linn fil.*

Calamander wood tree. ENG.	Koul-midvie. SINGH.
Calu midiriya. SINGH.	Calamander maram. TAM.

A middling-sized tree of the forests of Ceylon in the Saffragam and Galle districts, young leaves and inflorescence ferrugineo-tomentose, leaves subcoriaceous elliptic or oblong more or less abruptly acuminate. This tree furnishes one of the Calamander woods of commerce. Its density is nearly 60 lbs. to the cubic foot. Tredgold mentions that the figure is between that of a rose-wood and zebra-wood; the colour of the ground is usually of a red hazel brown, described also as chocolate brown, with black stripes and marks. It is said to be so hard as almost to require grinding rather than cutting; but, this is not strictly accurate, as the veneer saws cut it without difficulty: it is a very handsome furniture wood and turns well; Mr. Layard says that there are three varieties of it;—the Calamander or Coromandel, which is the darkest, and the most commonly seen in England; the Calemberri, which is lighter coloured and striped, and the Omander, the ground of which is as light as English yew, but of a redder cast, with a few slight veins and marks of darker tints. He says the wood is scarce and almost or quite limited to Ceylon; that it grows between the clefts of rocks, this renders it difficult to extract the roots, which are the most beautiful parts of the trees. A cubic foot weighs lbs. 57, and it lasts 80 years: even in Ceylon, it is a scarce though beautiful wood, close-grained and the most valuable for ornamental purposes in that island. It is exceedingly hard, and finely veined, with different shades of black and brown. Thunberg was inclined to believe that this was the true ebony, but Koenig afterwards discovered that to be from a different tree.—*Ain's. Mat. Med.*, *p.* 211, *Th. p.* 181, *Tredgold, Holtzappfel. Mr. Faulkner.* See Calamander; Diospyros quæsita; D. oocarpa. *Thw. En. Pl. Zeyl.*, *p.* 181.

DIOSPYROS INSIGNIS, *Thw.* Gonagass. SINGH. A very large tree of the damp forests of Ceylon, growing up to an elevation

of 2,000 feet, also in the dense forests of the Anamallay's; young branches slightly pilose.—*Thw. En. Pl. Zeyl.*, p. 180.

DIOSPYROS KAKI, *Linn.*

D. Chinensis, *Bl.* | Embryopteros kaki, *G. Don.*

Tay, Tee, BURM.
Tee-Tee; Tay-tee. ,,
Chinese date, ENG.
Date plum of China.
Keg fig of Japan.
Chinese fig.
,, persimon.

A tree of Nepal, Burmah, Cochin-China, and celebrated in China and Japan: specimens introduced into the Botanic Garden of Calcutta were found to be identical with others from Nepaul. The fruit is described by Dr. Roxburgh as being tolerably pleasant, is esteemed in Japan and China, where it attains the size of an orange, and is frequently sent to Europe in a dried state. The tree is occasionally cultivated by the Burmese, but it bears fruit very sparingly, and is by no means equal to a good apple.—*Mason, Eng. Cyc.*

DIOSPYROS LANCEOLATA. See Diospyros ebenus.

DIOSPYROS LOTUS. Amlok or Malok. HIND., is common in Kaghan and in the hills and gardens of Murree and Hazára. In parts of Hazára the male plant is called "gwalidar," and the female "amlok." Timber good, but the tree is only available in Hazára, where it is known and valued chiefly for its fruit, which is purple in color, and about the size of a pigeon's egg: it is eaten either fresh or dried. The tree is not uncommon in the western part of the Jhelum basin from 2,500 to 6,000 feet, and appears to be common in some part of the northern Trans-Indus hills; and one or two specimens were grown at Peshawar. It is a handsome little tree, growing generally to 3 or 4 feet in girth, the largest seen being one of 6 feet girth and 35 feet high at Jared in Khágán, and another about the same size on the Kishenganga. There are three trees (probably introduced by fakirs) at Juggatsúkh (6,000 feet) in Kúllú, and there called Bissahripála, the largest of which is a remarkably fine tree of 12 feet girth. Griffith remarks that the fruit is "not worthy of any notice," but when fresh or even carefully dried, it is sweet and pleasant enough, and the Affghans, &c., prize it, large quantities being brought to the Peshawar bazár from Swát, &c. Bellew mentions that it is eaten plain or with rice, or is used in sharbats. It has the appearance of a dried cherry, but darker in color. Irvine states that, in the Panjab, spirits are distilled from the fruit. See Diospyros melanoxylon. —*Drs. J. L. Stewart, Cleghorn.*

DIOSPYROS MABOLA, *Roxb.*

Diospyros discolor, *Willd.*
Embryopteris discolor, *G. Don.*
Cavamillea Philippensis, *Desrouss.*

Often called "Mangosteen" under which name it is cultivated extensively in gardens at Vizagapatam. It is a small tree, native of the Philippine Islands, wood black, very compact. The fruit, called *Mabola*, is brown, with a pink-colored, fleshy rind, about the size of a quince; its flavour is said to be agreeable.—*G. Don's Mill. Dict., Vol.* 4, *p.* 40; *Madras Ex. Jur. Reports.*

DIOSPYROS MELANOXYLON, *Roxb.*

Abnus, ARAB. PERS.
Kendu, Kiu, BENG.
Ouk-chin-ya, BURM.
Balsi? CAN.
Coromandel Ebony tree, ENG.
Ebony tree, ,,
Godavery ebony, ,,
Tendu, HIND.
Lignum nigrum, non variegatum, LAT.
Tumbai maram (ebony,) TAM.
Tumbali maram, TAM.
Tumma chettu, TEL.
Tumida, ,,
Tummeda, ,,
Tummika, ,,
Tunki chettu, ,,
Tuniki chettu, ,,

D. melanoxylon, is described and figured by Rumph, iii, 'Corom. Plants,' 1 to 46, by Dr. Roxburgh, and is the Ebony-Tree of the Coromandel coast. It is found on the mountains of that coast as well as on those of Malabar and Ceylon. It grows to be very large, particularly the male tree of which the wood is also most esteemed. The leaves, which are subopposite, oval, oblong, obtuse, and villous, are deciduous in the cold season, the new ones appearing with the flowers in April and May; as in other species, it is only the centre of the large trees that is black and valuable, and this varies in quantity according to the age of the tree. The outside wood, which is white and soft, time and insects soon destroy, leaving the black untouched. The ripe fruit is eaten by the natives, though rather astringent, as is also the bark.

It grows in Coimbatore, north Canara, in Malabar and Orissa, is the Toonkee of the Godavery and the Tookee of the Circars, and in Pegu it is found very plentifully throughout the forests, seldom, however, of greater girth than three or four feet. It is a very large tree, in Coimbatore, the outer wood being white like that of other species of Diospyros, and the inner black, very hard, heavy, and susceptible of a high polish. It is seldom obtained of great size. Its white wood is used for common purposes. Dr. Gibson says that he has not seen the tree in any of the Bombay forests, but that it is found sparingly in those of North Canara, as below the Woolwa Ghat, and near Meerjan inland. It occurs plentifully, in the Southern forests of Pegu, from fifteen to eighteen inches in diameter and fifty to seventy feet in length and might afford spars for naval purposes. The authority for the last point is Dr. McClelland's Report, but Dr. Brandis does not mention this as a Pegu tree. The fruit is called Toombee pullum,

Tam. and is eaten by the poor people.—*Drs. Ainslie, p.* 233; *Roxb., Wight, Gibson, McClelland, p.* 10, *Voigt*; *O'Shaughnessy, p.* 428; *Crawfurd's Dictionary*; *Captain Beddome, M. Ex. Jur. Report.* See Ebony.

DIOSPYROS MICROPHYLLA. *Bedd.* A lofty tree of the Anamalays dense forests up to 3,000 feet elevation; very common in South Canara, forests of the ghats and plains (Sooleya) Wynaad, trunk very straight, young branches verticellate, it has the habit of Leucoxylon buxifolium.—*Mig.*

DIOSPYROS MOLLIS Ma-kleu, BURM. one of the black-dye plants. The blossoms of the shoe-flower plant are used by the Chinese to dye leather black, the juice of the cashew-tree gives a black to linen, and the fruit of the melastoma affords a black dye. The celebrated vegetable Shan black dye, is made from the fruit of this species of ebony, which is said to grow on the mountains that separate the Province of Tavoy from the Siamese territories. Isolated plants may be seen in the gardens of Tavoy, and Maulmain, but Dr. Mason has never seen one in flower, or fruit.—*Mason.*

DIOSPYROS MONTANA.

Diospyros cordifolia, *Roxb., W. Ic.*

Kendu of Beas and Doab. | Hirek; Pasendu, PANJAB.
Teemroo MAHR. | Erra gadda, TEL.
Teemboorni, MAHR.

A middle-sized, handsome, tree of the Circar mountains, in the hills eastward from Panwell, extending northwards to Ruenka Lake, near Nahu; very common in the larger Bombay jungles, both near the coast and elsewhere, and it would be one of the most common of their mountain trees if allowed to grow; but it is generally cut off for burning material, or such like worthless purposes: It is not uncommon along the Sivâlik tract up to near the Râvi, and occasionally out in the plains westward from Delhi to near Sirsa. Wood dark and strong. Fitted for agricultural implements, in-door work, &c. Does not bear exposure, and could not be creosoted. Dr. Roxburgh says it is hard and durable, and is variegated with dark and white colored veins. Dr. Stewart says it ordinarily grows to about 3 feet girth, but he had seen two trees of 7 feet. The wood is used for native roofs, &c. The fruit is not eaten, and he had heard it called "poisonous." In some places it is applied to the hands for the boils, to which the bhisti are subject.—*Drs. Ainslie, Voigt, Gibson, J. L. Stewart.*

DIOSPYROS MOONII, *Thw.* A middle-sized Ceylon tree near Cultura and Pasdoom corle. Branches terete slightly pilose when young but soon glabrous.

DIOSPYROS NIGRICANS, *Dalz.* A tree of the Bombay Ghats; Arboreous, glabrous turning very black in drying, leaves membranaceous glabrous.—*Bedd. Ic. Plant.*

DIOSPYROS NILAGIRICA, *Bedd.* A middling-sized tree of Sispara ghat, Nilgiris, allied to D. Candolliana of Wight.—*Bedd. Ic. Plant*; *Thw. En. Pl. Zeyl., p.* 182.

DIOSPYROS OOCARPA, *Thw.*, Kalookadoombaireya-gass, SINGH. A middle-sized Ceylon tree of the Kornegalle district, and at Haragam, near Kandy at no great elevation. It furnishes one of the Calamander woods.—*Thw. En. Pl. Zeyl., p.* 180. See D. hirsuta and D. quæsita.

DIOSPYROS OPPOSITIFOLIA, *Thw.* Kaloomidereya-gass, SINGH. A middle-sized tree of Ceylon at Hinidoon corle, up to an elevation of 1,000 feet, leaves opposite slightly pilose when young. The timber much resembles the true calamander wood.—*Thw. En. Pl. Zeyl., p.* 181; *Bedd. Ic. Plant.*

DIOSPYROS OVALIFOLIA, *Wiyht Ic. t.* 1,227. A middle-sized Ceylon tree at Jaffna, in the Central province, at Hewahette and below Hapootelle, at an elevation of 2,000 to 4,000 feet.—*Thw. En. Pl. Zeyl., p.* 181.

DIOSPYROS PANICULATA, *Dalz.* A middling-sized tree, branches glabrous, leaves glabrous lanceolate, grows in Bombay ghats and in the Carcoor ghat, Wynaad at 2,000 to 3,000 feet elevation.—*Bedd. Ic. Plant.*

DIOSPYROS PRURIENS, *Dalz.* A small or middling-sized tree, young branches densely hirsute with long yellow hairs, very common throughout the Wynaad up to 3,000 feet elevation also in the Anamalays, the South Canara ghats and plains, Tinnevelly and Bombay ghats, also found in Ceylon.—*Bedd. Ic. Plant.*

DIOSPYROS QUÆSITA, *Thw.*, Kaloomidereya-gass, SINGH. A great tree of Ceylon, at Singherajah and other forests between Ratnapoora and Galle. This species produces the most valuable of the timber known as Calamander wood so much esteemed for ornamental cabinet work. Its branches are glabrous, leaves glabrous prominently reticulated, D. quæsita is nearly allied to D. crumenata, but its larger leaves and fruit, and its pentamerous flowers, well distinguish it.—*Thw. En. Pl. Zeyl., Vol.* iii, *p.* 180. See D. hirsuta and D. oocarpa.

DIOSPYROS RETICULATA, The *D. Tesselaria* of Poir, is a native of Mauritius, an elevated tree, of which the heart-wood forms ebony.

DIOSPYROS ROYLEI. Syn, of Diospyros ebenus: Diospyros melanoxylon.

DIOSPYROS SAPOTA. Syn, of Achras sapota.

DIOSPYROS STRICTA, *Roxb.* A tree of Tipperah.—*Voigt.*

DIOSPYROS SYLVATICA, *Roxb., Pl. Cor. I, p.* 38 to 47.

Soondoo Kadoombaireya-gass, SINGH. | Tella-goda Telugu.

A middling-sized tree, common in the Peninsula in many of the Western Coast forests up to about 3,000 feet, also in the forests of the Northern Division and in Ceylon, in the damp forests in the Hantani district and near Ratnapoora, up to an elevation of 4,000 feet.—*Thw. En. Pl Zeyl., Vol.* iii, *p.* 178.

DIOSPYROS THWAITESII, *Bedd.* A middling-sized tree, branchlets, young leaves and inflorescence rufo-tomentose grows in Ceylon, at no great elevation; allied to, but quite distinct from D. candolliana of Wight.—*Bedd. Ic. Plant.*

DIOSPYROS TOMENTOSA, *Roxb.; W. Ic., Cleg.*

D. lotus, *Linn.*

Tumal, Kiu. BENG. | Kendu. PANJAB.
Tumal. HIND. | Kaka tanduka. SANS.
Mit'ha tendu. ,, | Chitta tumiki. TEL.

This tall elegant tree grows in the northern part of Bengal, in the Panjab, in Kullu and Kangra, and is common in the Sewalik tract, westward near to the Ravi and extending to the Kherre jungle. It attains full size in 60 years. Length of trunk to first branch 8 or 10 feet, and girth 4 feet. The wood of young trees is white, but that of old trees is black, and is termed "abnus;" sap-wood soft: when the heart-wood, becomes black, it is fine, extremely hard and black, but somewhat brittle and is used by zemindars for ploughs, and for the wood-work of their houses. It carves well, and insects are said not to touch it. In and near the Rohilkund Siwalik tract handsome work-boxes, &c, are made from the wood; combs are made from it in the Ambala district; in Kangra, &c., it is used for ploughs, in house-building and for small boxes. The fruit, which is said to ripen in June with the mango, is eaten, being sweetish and astringent, and not unpleasant. Raspings of the wood called Burad-i-abnus are officinal, being given as an alternative.—*Lt.-Col. Lake, Dr. Cleghorn, Kullu and Kangra, Dr. J. L. Stewart.*

DIOSPYROS TOPOSIA, *Ham.*

D. racemosa, *Roxb. Fl. Ind. II. p.* 536; *W. Ic.* Embryopteris racemosa, *G. Don.*

Kaha-kaala. SINGH. | Tovaray. TAM.

A middling-sized tree of Ceylon, of the Tinnevelly hills, and of Silhet, glabrous, leaves coriäceous, not uncommon in damp forests, up to an elevation of 4,000 feet.—*Thw. En. Pl. Zeyl., Vol.*, iii, p. 179.

DIPA, SANS. a lamp.

DIPAWALI, Dipali or Diwali, a hindoo festival in honour of the hindoo god Kartakeya, held on the new moon of the month Kartik in September or October, when lamps are lighted by every one, after a little oil is put on the head to commemorate the killing of Narakasura by Krishna.—*Wilson.*

DIPA MALA, a Sikh festival means a garland of lights: a pillar in front of a temple, on which lights are put: Dipara dhana or Dipdan is the lamp sacrifice to an idol. In the Dipdan a lighted lamp is suspended from a tree for ten days after the death of a relative to light the spirit on its way to Yamapuri the city of Yama, the judge of the dead. Also a lighted lamp is sent floating on the Ganges and its duration is watched, as indication of a good or evil future. The Dipmal pedestal is an essential part of every large hindoo temple. It is often of great height and furnished with niches or brackets, each of which holds a lamp on festivals, especially on that of the Dewali, the feast of lamps celebrated in the autumn in honour of the hindoo goddess, Bahwani or Kali.—*Wilson*

DIPANGA, a district of Bawean whose people employ the Javanese language.

DIPHYLLEIA CYMOSA, *Mich.* A tree of Japan.

DIPLOPELMA, a genus of reptiles of the Section Bufonia, and Fam. Rhinodermatidæ.

Gen Diplopelma ornatum, *D. & B.* Goalpara.
,, ,, pulchrum, *Gunth.* Aracan.
,, Engystoma Berdmorei, *Blyth.* Pegu.
Fam. Bufonidæ.
,, Bufo melanostictus *Schn.* Ceylon, Mergui.
,, ,, Kelaarti, *Gunth.* Ceylon.
,, ,, asper, *Schl.* Mergui.
,, Scutiger Sikkimmensis, *Blyth.* Sikkim.

DIPS OR DIBS, *Ægypt.* Honey of sugar: Raisins.

DIPSADIDÆ, a family of reptiles, comprising the genus Dipsas.

Dipsas cynodon, *C. & V.* Thayetmyo, Tenasserim.
,, trigonata, *Schn.* Subathoo, Jessore.
,, forsteni, *D. & B.* Bengal.
,, nigro-marginata, *Blyth.*
,, bubalina, *Klein.*
,, multimaculata, *Schl.* Hongkong.
,, multifasciata, *Blyth.* Subathoo.
,, hexagonotus, *Blyth.* Andamans.
,, boops, *Gunth.* Bengal, Borneo.
,, dendrophila, *Reinw.* Penang.
,, gokool, *Gray.* Bengal, Penang.
,, Ceylonensis, *Gunth.* Ceylon. See Dipsas.

DIPLICUS and MIMULUS. Monkey flower.

DIPLOLEPIS. See Galls.

DIPSACEÆ. See Scabiosa elegans.

DIPSACUS FULLONUM, Teasle, or Fuller's Thistle, is, according to Royle, the *Dunsakoos* of the Indian Materia Medica.—*O'Shaughnessy*, p. 404.

DIPSAS *(Laurenti)*, Bungarus *(Oppel,)* a genus of serpents, placed by Cuvier under the great genus Coluber. Body compressed, much less than the head ; scales of the spinal row of the back larger than the others. *Dipsas hexagonotus*, BLYTH is well distinguished from *D. trigonata* by a series of broad hexagonal scales, commencing at the occiput and continued along the whole back. The lateral scales (towards the abdominal plates) are distinctly grooved. Head as in *D. trigonata* and various affined species. Colour bright ruddy-ferruginous, inclining to coral-red ; paler below, and mottled, with black bordering some of the scales of the upper parts. Head green, the throat white, and the labial plates posterior to the eye yellow : a slight blackish occipital streak. Scutæ 247 : Scutellæ 126 pairs. Rows of scales 21. Length of a young specimen 18 in., of which tail 4 in. It probably grows to a large size, and may become wholly green. *Dipsas indica*, CUVIER : Coluber bucephalus, Shaw. Black, annulated with white.—*Eng. Cyc., Vol.* ii, p. 360. See Dipsadidæ.

DIPSAS, a genus of Lepidopterous insects, the larvæ of which have several curious modes of working. Those of D. isocrates occupy the interior of a pomegranate which they enclose in a web, to prevent it falling.

DIPSACEÆ, *Juss.* The Scabious tribe of 3 Gen. 16, Sp., viz., 7 Dipsacus ; 4 Scabiosa ; 5 Morina.

DIPTERA, an order of Insects,

Sec. Athericera,
Fam. Muscidæ, comprising,

Diopsis Westwoodii, *De Haan*, Java.
„ sub-notata *Westw*, Philippines.
„ sphryracephala, Hearseina, *Westw*, Neemacha India.
„ achias, maculipennis *Westw*, Java.
„ colax variegatus *Westw*, Java. See Insects.

The "*Peepsa*"—a troublesome Dipterous insect, very small and black, floats like a speck before the eye. The bite of this leaves a small spot of extravasated blood under the cuticle, very irritating if not opened. *Journal of the Asiatic Society of Bengal, No. XXIX, p* 426.

DIPTERIX ODORATA.

Tonkin bean, Coumarouna odorata.

A native of the woods of Guiana, used as a perfume for snuff.—*O'Shaughnessy.* p. 304,

DIPTERIS HORSFIELDII and Mationia pectinia are two ferns of Mt. Ophir in Malacca. They bear large spreading palmate fronds on slender stems six or eight feet high. *Wallace*, p. 31.

DIPTEROCARPACEÆ, the Camphor tree tribe of plants, a natural order generally of large trees, arranged in five genera and 35 species, 33 of which grow in the East Indies and Java, viz., 11 of Dipterocarpus ; 10 of Hopea ; 5 of Vatica, and 4 of Vateria. More than two-thirds of the species inhabit mountainous or hilly parts of the two peninsulas. Almost every species abounds in a balsamic resinous juice, known as dammer and piney, when hardening on exposure, and wood oil when remaining liquid. That from the genera Vatica and Vateria, hardens on exposure, but the exudations from the Dipterocarpi retain their fluidity and are the wood oils of the bazars. Some of the species produce a fragrant resin which is used as incense in the temples. Dammer is used in India, for most of the purposes to which pitch and resin are applied in Europe. Wood oil alone, or thickened with dammer supplies a useful varnish for wood, possessing the valuable property of repelling for a long time the attacks of white-ants as well as of resisting the influence of the climate. Dr. Wight observes that the trees of this order growing in Madras are all natives of the hilly tracts of the Balaghaut. In Sylhet, Chittagong and Pegu, where they abound, they occupy the plains. In Java one species, *Dipterocarpus littoralis* is found on the sea shore. The natural order abounds in Sumatra, Java, and Borneo, which are the chief sources of the dammer of commerce. The Borneo tallow is said to be obtained from the seeds of a Dipterocarpus tree, and is generally run whilst melted into joints of bamboo. It has a pale greenish tint, is very hard, and approximates nearly to a vegetable wax. Several trees of the genus Dipterocarpus produce a nut, that, when compressed, yields a fatty oil, which having been recently sent to England, has been used extensively under the names of vegetable tallow and vegetable wax. Three species of this genus are common in Sarawak, under the name of 'mencabang ;' one of them, 'mencabang pinang,' is valued for its close-grained timber, the others do not grow so large in size, but have larger leaves and fruit. The one most valued for producing the oil, is a fine tree growing on the banks of the Sarawak river ; it attains the height of forty feet ; the leaves being large, and the branches drooping towards the water, give it a very beautiful appearance : its fruit is produced in the greatest profusion about December and January, being as large as a walnut, with two long wings to the seed. These nuts are collected by the natives, and yield a very large proportion of oil, which, on being allowed to cool, takes the consistence of sperm, and in appearance very much resembles that substance. The natives at present only value this as a cooking oil ; but when the demand

for it in Europe becomes better known to them, they will doubtless increase ther manufacture of it. In England it has proved to be the best lubricating substance for steam machinery, far surpassing even olive oil ; and it has been used in Manilla in the manufacture of candles, and found to answer admirably. As it becomes more common, it will doubtless be applied to many other purposes. From the quickness of its growth, and the great profusion with which it bears its fruit, it will, should the demand for it continue, become a profitable object for cultivation, by which the quality and quantity would most likely be improved and increased. It is also found in Java and Sumatra, and a similar substance has been lately sent from China. In Borneo the oil is called by the natives indifferently 'miniak mencabang,' or 'miniak tankawan.'—*Wight, Voigt*, p. 124; *Crawfurd Dictionary*, p. 118; *Lowe's Sarawak, London Ex.* 1862.

DIPTEROCARPUS, a genus of enormous trees with erect trunks, growing in Ceylon, Assam, Tipperah, Burmah, Pegu and Tenasserim where D. turbinatus, *Roxb.;* D. costatus, *Gærtn.;* D. incanus, *Roxb ;* D. alatus, *Roxb.* and D. trinervis, *Blume*, are known to occur. They abound with resinous juices, called wood oils, which dissolve caoutchouc, and have medicinal properties similar to Copaiba. D. lævis, D. turbinatus and "*hanyee-nee*" D. alatus ? are all nearly identical and are useful for planking when not exposed to wet, extensively used in the Straits for this purpose in house-building. They are magnificent forest trees growing straight to the height of 250 feet and more ; an incision in the form of a cup is cut into the lower part of the trunk of the tree, which acting as a natural reservoir, collects the oil as it descends. —*Voigt, McClelland.*

DIPTEROCARPUS, *Species.* Doon, SINGH. Grows in the central province of Ceylon, where its timber is used in housebuildings. A cubic foot weighs 29 lbs., and it lasts 50 years.—*Mr. Mendis.*

DIPTEROCARPUS, *Species.* Kaungmhoo, BURM. A tree of British Burmah, of an immense size used for canoes. In a full grown tree on good soil the average length of the trunk to the first branch is 100 feet and average girth measured at 6 feet from the ground is 12 feet. It sells at 8 annas per cubic foot.—*Dr. Brandis.*

DIPTEROCARPUS, *Species.* Kyau-thoo, BURM. A large tree found in the hills of British Burmah, wood used for canoes and cart wheels. A cubic foot weighs lbs 43. In a full grown tree on good soil the average length of the trunk to the first branch is 80 feet and average girth measured at 6 feet from the ground is 20 feet.—*Dr. Brandis.*

DIPTEROCARPUS, *Species.* Kanyoung, BURM ? A tree of Akyab. Used in housebuilding, and sometimes for posts. This tree grows to a large size, and is not very plentiful. —*Cal. Cat. Ex.* 1862.

DIPTEROCARPUS, *Species.* The sour wood oil tree, a large tree, grows on the Karen mountains, but it produces comparatively very little wood oil.—*Dr. Mason.*

DIPTEROCARPUS ALATUS, *Roxb.*

Battee Sal. BENG.	Aing? BURM.
Ka-Nyin. BURM.	Wood oil tree. ENG.

A magnificent forest tree of Pegu and the Mascal islands, rising 250 feet in height. It is found chiefly to grow on laterite in the Tounghoo and Prome districts. Its wood is of a light brown colour. A cubic foot weighs lbs. 38. In a full grown tree on good soil the average length of the trunk to the first branch is 100 feet and average girth measured at 6 feet from the ground is 25 feet. It sells at 4 annas per cubic foot. This timber is excellent for every purpose of house-building, especially for posts. It is useful for planking when not exposed to wet and is extensively used in the Straits, for house-building : when exposed to wet, however, it rapidly decays, and canoes made of it do not last over 3 or 4 years.—*Drs. Roxb., Vol.* ii, *p.* 609, *McClelland, Brandis, Voigt, Captain Benson.*

DIPTEROCARPUS ANGUSTIFOLIUS, *W. & A.*

D. costatus, *Roxb.*	Tilla garjan, RAKH.

A large tree of Chittagong, furnishing a wood oil in the largest quantity.—*Voigt, Roxb., Vol.* ii, *p.* 613.

DIPTEROCARPUS COSTATUS, *Roxb.*, Syn. of Dipterocarpus angustifolius, *W. & A,*

DIPTEROCARPUS GLANDULOSUS. *Thw.* Dorana, SINGH. A large Ceylon tree, growing in the Saffragam and Ambagamowa districts, at no great elevation.—*Thw.*

DIPTEROCARPUS GRANDIFLORA, *Wall.*

Eng, En. BURM.	Kunnean phiu. BURM.
Ain ? ,,	Large flowered Dipterocarpus. ENG.
Ain tha. ,,	

An immense tree of Burmah, Pegu and Tavoy which grows on the sandy plains near the sea-shore, and on a similar soil in the interior. This tree, in company with a few other kinds, forms extensive forests which cover upwards of 2,000 square miles in the province of Pegu. The wood is somewhat more durable than that of "Kanyin" D. alatus, and is used for canoes, house posts, planking, &c. A cubic foot weighs 55 lbs. In a full grown tree on good soil the average length of the trunk to the first branch 60 feet and average girth measured at 6 feet from the

ground is 10 feet. It sells at 8 annas per cubic foot. It grows also in Tavoy.—*Drs. Wallich, Brandis and Mason, Col. Frith.*

DIPTEROCARPUS GRANDIS? Tngtha, BURM. A tree of Moulmein, the wood of which is converted into planks for building.—*Cal. Cat. Ex.* 1862.

DIPTEROCARPUS HISPIDUS, *Thw.* Boohora-gass, SINGH. An immense tree of Ceylon, growing in the Saffragam district, at no great elevation.—*Thwaites.*

DIPTEROCARPUS INCANUS. A tree of Chittagong.—*Roxb., Vol.* ii, *p.* 614.

DIPTEROCARPUS INSIGNIS, *Thw.* An immense tree of the Saffragam district, in Ceylon.—*Thwaits.*

DIPTEROCARPUS LÆVIS, *Buch.*

Dipterocarpus turbinatus, *Roxb.*

Tilea gurjun. BENG.	Ka nyeen phyu. BURM.
Ka nyeen tha? BURM.	Wood oil tree. ENG.
Ka nyeen nee. ,,	Horre, SINGH.?

This majestic tree grows to a height of 250 feet. It is met with in Assam, Tipperah, Chittagong, Burmah and Pegu. Found very abundant all over the provinces of Amherst, Tavoy and Mergui, where its wood is used similarly to D. alatus. Dr. Mason says it is a very useful timber, which is sawn into boards at Tavoy and Mergui, and used in house building. Where not exposed to the wet, they answer as well as teak, and are sold at half the price; they are, however, not impervious to white-ants. But Captain Dance, who tells us that it is used for rafters and planks, adds that it is an inferior wood, by no means durable as it rots as soon as it is exposed to water and shrinks readily. He says that Dr. McClelland speaks of this wood more favourably, but thinks he must mean some other wood, as this is decidedly bad, very porous, and when kept, the oil oozes out and stands in globules over it, it warps to a great extent, and though used for cases does not last for more than about two years. In the cold weather the tree is largely notched near the ground, and the wound charred. After this the oil or balsam begins to ooze out, sometimes 40 gallons daily, a balsam that compares favourably with balsam of copaiva, maximum girth 6 cubits, maximum length 70 feet. When seasoned, floats in water.—*Roxb. Vol.* ii, *p.* 612, *Drs. Mason, Voigt, Captains Dance and Benson.* Vide No. 81, page 135 of Dr. McClelland's Report.

DIPTEROCARPUS OBLONGIFOLIUS, *Thw.* A great tree near Ratnapoora, in Ceylon.—*Thwaites.*

DIPTEROCARPUS SCABRIDUS, *Thw.* A great tree near Ratnapoora, in Ceylon.—*Thwaites.*

DIPTEROCARPUS UINER, *Blume,* A tree of Java. It yields a resin which is substituted for Copaiva like wood oil.

DIPTEROCARPUS TUBERCULATUS, *Roxb.* and D. of Chittagong, pelosus of the Muscat Islands are also known.

DIPTEROCARPUS TURBINATUS, *Roxb.*

Dipterocarpus lœvis, *Hamilton.*

Shweta-garjan. BENG.	Hora-gaha. SINGH.
Ka-nyin. BURM.	

A native of Chittagong, Tipperah, Pegu, &c., to the eastward of Bengal where it grows to be an immense tree. This tree is famous all over the Eastern parts of India and the Malay islands, on account of its yielding a thin liquid balsam, commonly called wood oil. To procure the balsam a large notch is cut into the trunk of the tree about thirty inches from the ground, where a fire is kept up until the wood is charred, soon after which the liquid begins to ooze out: a small gutter is cut in the wood to conduct the liquid into a vessel placed to receive it. The average produce of the best trees during the season is said to be sometimes forty gallons. It is found necessary every week to cut off the old charred surfaces and burn it afresh. In large healthy trees abounding in balsam they even cut a second notch in some other part of the tree and clear it as at first: these operations are performed during the months of November, December, January and February; should any of the trees appear sickly the following season, one or more years respite is given them. The D. costatus, Roxb., is a native of the coast south of Chittagong where it is called Tileagurjun. The 'D. incanus, gurjun' of Chittagong, "D. alatus" of Pegu and Mascal island, also yield the oil. At Hazaree ke hath, in Chittagong, 100 feet above the level of the sea, large myrtaceous trees are common, and show a tendency to the Malayan flora, which is further demonstrated by the abundance of Gurjun (*Dipterocarpus turbinatus*). This is the most superb tree to be met with in the Indian forests: it is conspicuous for its gigantic size, and for the straightness and graceful form of its tall unbranched pale grey trunk, and small symmetrical crown: many individuals are upwards of 200 feet high, and fifteen in girth. Its leaves are broad, glossy and beautiful, the flowers are not conspicuous; the wood is light-brown, hard, close-grained and durable, and a fragrant oil exudes from the trunk, which is extremely valuable as pitch and varnish, &c., besides being a good medicine. The natives procure it by cutting transverse holes in the trunk, pointing downwards, and lighting fires in them, which causes the oil to flow. This tree furnishes timber of great

size and strength. It is fit for any purpose for which "saul" is employed, being of the same family. It is chiefly employed for canoe and boat building. It is found in all the forest districts, except Prome, where it is scarce. It is found throughout the southern as well as all the Sitang forests, disappearing curiously enough wherever the *Acacia catechu* appears. Thus, where the latter is in perfection, in the northern part of the Tharawaddy and Prome districts, the wood-oil trees are rarely seen, and where the latter is found in perfection, as in the southern forests and throughout the forests of Tounghoo, west of the Sitang, there is no *Acacia catechu*. The wood oil tree grows in light sandy soil, near the banks of streams, and in dense forests; frequently attaining 18 feet in girth, with a proportionate height. The oil is extracted by cutting a large notch in the tree, a few feet from the ground, and occasionally stimulating the secretion by scorching the surface of the scar, which is generally converted into charcoal and gives the oil a dirty black appearance.—*Roxburgh Flora Indica, Vol.* ii, *p.* 612. *Rhode's MSS. Hooker, Him. Jour., Vol.* ii, *p.* 348. *McClelland.*

DIPTEROCARPUS ZEYLANICUS, *Thw.*

Hora-gass. SINGH.

A great tree in Ceylon, abundant up to an elevation of 3,000 feet. A cubic foot weighs 45 lbs., and its timber, which is used for the roofs of common buildings, lasts 15 years.—*Thwaites, Mr. Mendis.*

DIPUC, a supposed reversed mode of writing cupid. See Kama.

DIRASANA, TEL. Acacia odoratissima, —*Roxb., Willd*, also A. speciosa, *Willd. W. and A.*, also Albizzia lebbek, *Benth.*

DIRISANA GUM. The *Acacia sirissa* yields a large quantity of this clear gum.—*M. E. J. R.*

DIRASANA, See Bhagavat-gita.

DIRECTION ISLAND, called by the Malays Pulo Paneekee Ketchell in lat. 0° 15′ N., long. 108° 5′ E. and 50 miles from St. Barbe.

DIRGHADEVA, See Inscriptions.

DIRGHA TAMAS, See Kakshivat.

DIRHAM. Patariya Dirhams are mentioned by Idrisi as current at Mansura and in the Malay Archipelago about A. D. 900. Mr. Thomas supposes them to be coins of the Tahir dynasty then ruling in Khorasan. Vide Weights.

DIRYA KA KEKRA. HIND., properly Darya. The Sea Crab. See Cancer.

DIRYA-KA-KAF. DUK. Bone of cuttle fish.

DISA KALU. TEL. Setaria, sp.

DISC, Aureole or Gloire encircling the heads of gods and saints signifies perfection. It was originally intended, in the Sabæan worship, to represent the solar orb, but in the course of time, the symbol was multipliedly added to and its meanings similarly increased and, in its changes, it has represented the sun, the moon, and the whole planetary system; it has been an emblem of monotheism, tritheism and polytheism, of particular local divinities as well as of those with universal dominion. In Egypt the Delta △ or triangle sign, was originally the type of Baal, afterwards of Siva or Mahadeva and was presently when placed with its apex upwards △, used to denote fire, the element consecrated to the first named god. When placed with its apex downwards ▽, it typified Vishnu or water, and there were many other meanings attached to it, some of them very gross.

DISCS of steel, from 6 to 9 inches in diameter, and about an inch of breadth of rim were worn by all Sikh soldiers. The edges are ground very sharp, and after having gained velocity by being rotated on the forefinger of the right hand they are projected to a distance of 50 or 80 yards, with considerable force, therefore, but with such want of dexterity or impossibility of regulating their flight that the bystanders are more in danger than the object of the aim. The Chakra, the *discus* of the god Vishnu, resembling a wheel or quoit, is whirled round the middle finger. The Chakra is mythologically described as a circular mass of fire, darting flames in all directions, which, thrown by the gods, slays the wicked, and then returns to the hand from which it issued. The Sikh Akali usually have several of them on their conical caps. They are expensive and are almost useless weapons. See Akali, Chakra, Hindoo, Siva, Namam, Kasambi, Vishnu.

DISCOBOLI, a family of fishes.

FIRST GROUP.—Cyclopterina.
Gen. 3 Cyclopterus.

SECOND GROUP.—Liparidina.
Gen. 8 Liparis.

DISCOGLOSSIDÆ, a family of reptiles, comprising

Megalophrys montana, *Kuhl.* Ceylon.
„ gigas, *Blyth.* Sikkim.
„ guttulata, *Blyth.* Pegu.
Xenophrys monticola, *Gunth.* Sikkim, Khassya.
Cacopus systoma, *Schn.* C. globulosus *Gunth.* Russelconda, Carnatic.

DISTEGOCARPUS CARPINUS, *S. & Z. Carpinus japonica, Bl.*, D. laxiflora, *S. & Z. Carpinus, Bl.*, are Japan trees.

DISTICHODONTINA, a group of fishes of the family Characinidæ, which may be thus shown;

FAM. 2.—Characinidæ.

FIRST GROUP.—Erythrinina.

Gen. 4 Macrodon, 5 Erythrinus, 1 Lebiasina, 1 Pyrrhulina, 4 Corynopoma.

SECOND GROUP.—Curimatina.

Gen. 15 Curimatus, 12 Prochilodus, 2 Cænotropus, 3 Hemiodus, 1 Saccodon, 1 Parodon.

THIRD GROUP.—Citharinina.

Gen. 2 Citharinus.

FOURTH GROUP.—Anostomatina.

Gen. 8 Anostomus, 2 Rhytiodus, 14 Leporinus.

FIFTH GROUP.—Tetragonopterina.

Gen. 2 Piabucina, 4 Alestes, 5 Brachyalestes, 38 Tetragonopterus, 1 Scissor, 1 Pseudochalceus, 2 Chirodon, 1 Chalceus, 10 Brycon, 4 Chalcinopsis, 2 Bryconops, 1 Creagrutus, 4 Chalcinus, 3 Gastropelecus, 2 Piabuca, 1 Agoniates.

SIXTH GROUP.—Hydrocyonina.

Gen. 7 Anacyrtus, 1 Hystricodon, 3 Salminus, 3 Hydrocyon, 1 Sarcodaces, 1 Oligosarcus, 7 Xiphorhamphus, 5 Xiphostoma, 3 Cynodon.

SEVENTH GROUP.—Distichodontina.

Gen. 7 Distichodus.

EIGHTH GROUP.—Ichthyborina.

Gen. 2 Ichthyborus.

NINTH GROUP.—Crenuchina.

Gen. 1 Crenuchus.

TENTH GROUP.—Serrasalmonina.

Gen. 1 Mylesinus, 13 Serrasalmo, 18 Myletes, 1 Catoprion.

DISCOMYCETES. See Fungi.

DISTILLATION. The principal matters distilled from, in India, are Toddy, Date, Sugar, Rice, Mahwa flowers, barks, cereals, and substances yielding perfumes. The Bombay toddy or arrack-still is a most simple and clumsy contrivance. The still consists of a large earthen jar, of the shape of that used by water carriers, but many times more capacious. The receiver is of the same form and material as the still, but somewhat smaller in size,—the former being two and a half, the latter one and a half feet in diameter. The still mouth is plugged up with a piece of wood luted with clay—a hole is cut in the side of the still near the top, and into this is fastened a wooden spout, which conveys the spirituous vapour to the cooler. This last stands on a tressle or frame of wood, placed over a pit for holding water, and cooling is effected by a man lifting successive fills of water from the well in a cocoanut ladle, and pouring it on the top of the cooler. A vessel of water with a small spout or drip is occasionally resorted to. A cocoanut tree will yield about four seers of toddy or sap a day: seventy-five seers of toddy or the produce for one day of eighteen cocoanut trees, furnish a charge for a still, yields twenty-five seers of liquor on a first distillation—on the second it affords eight seers of liquor considerably under proof. The process of distillation just described is nearly as unskilful as can be, and a third, if not a half, might be added to the returns were a little more care and attention bestowed on the matter. A strong liquor, called "Mahwah," in popular repute amongst the natives, especially the Parsees, in Western India, is distilled from the berries of the Mahwah tree, the Bassia latifolia. The berries are about the size and form of marbles. In Surat, they are first steeped or mashed in casks. So soon as they get into a state of active fermentation, the fermented liquor is drawn off and carried to the still, and more water poured over the berries, successive charges being added so long as the worts are strong enough to ferment. A sufficient number of casks, or mash tuns as they may be called, are employed in the work so as to permit a charge of the still to be supplied on each drawing off from the fermenting tuns: as it takes a couple of days to complete the process of fermentation, but worts already drawn off would sour were this to be waited for before the first run was run off. The still consists of a wooden tub, with a copper bottom, built over a surface of brickwork:—over the mouth of this is placed a huge copper saucer, the centre of the bottom terminating in a nipple. This is placed over the mouth of the tub which contains the liquor, and is fitted tight after the still has been charged: it is then filled with cold water, a fresh supply of which is poured into it from time to time as the original fill gets heated. A bamboo spout passes through the side of the tub just above the level of the liquor inside—it terminates in a flat shovel or ladle shaped dish under the nipple. Into this the spirit, condensed in the under side of the saucer, trickles down—it is run off and removed into a suitable receptacle outside. A second or third distillation is resorted to when the liquor is required to be made very strong.

The Portuguese in India for the purpose of rectification use a very neat and serviceable variety of still, by them called an Alembic. It consists of a common cooking pot as a boiler, with a cylindrical head of the same diameter, and generally about the same depth, as the boiler The bottom of this is a cone closed in at the apex, the mouth of which covers that of the boiler. Around its inner edge is a slight turned up ledging or flange, from which a pipe or worm leads off the spirit. The cylindrical portion of the top being filled with cold water, the spirituous vapour is condensed by it in the inside of the cone, and, trickling down, is caught by the flange and carried off by the pipe. This is a convenient and serviceable implement, and may be so

used to give very excellent results. In the Panjab, the first spirit that passes over is called "phul" and "ek-atisha" or once distilled. This is collected in vessels and distilled again in another still, when the spirit passes over it is called "do-atisha," or "double distilled." This is of two qualities, according to strength. The spices and flavorings, or "masalah," used in distilling, are the following:—"Sak," or bark of the kikar, which is often erroneously supposed itself to yield a spirit on distillation, it is only added to promote and accelerate the fermentation of the molasses, &c. Triphalla the three Myrobalans, mixed together as an astringent. Rose leaves; Lotus flowers (nilofar); Gaozaban. (Cacalia kleinii); Violets; Badyan, anise seed; Limes and lemon peel (sangtara); Saffron; Sandalwood, red and white; "Mundi buti" (Sphœranthus); Kashnuz (coriander); Adrak (ginger); Ilachi (cardamoms); Musli; Darchini (cassia or cinnamon); Gajar (carrots) dry and fresh; Motya (jessamine); Seb (apples); Naspati (pears); Shir (milk); Raughan, ghi; Meat, (?) Misri (sugar); Tamal patr (aromatic leaves); Taj (aromatic flavoring leaves); Bed-musk (willow flowers); Kasturi (musk); Ambar (ambergris); Khawi (Anatherium muricatum); Khas (root of the latter); Chob-chini, (Smilax china); Salep misri. Intoxicating drugs.

Distilled waters contain a little of the volatile principles of plants, and may be distilled either off the plants, or by distilling some essential oil with water.—The following waters may be obtained by using 2 lbs. of fresh or 4 lbs. dried leaves to two gallons of water; of the seeds, one pound.

Ajwain water....	From seeds, Ptychotis ajwain..	Ajousin, Javanee-Beng. Hind. Nankhoah Pers. Ameoos Arab.
Anise	Seeds	Sonf.
Marjoram	Dried leaves	Murva.
Cajeput	Fresh leaves	Kyapooti.
Celery	Seeds	Hurufs.
Coriander	Seeds	Duniya.
Indian dill	Seeds	Soya.
Hemidesmus.	Roots, 2 lbs.	Ununtamul.
Juniper	Berries	Hoober.
Musk hibiscus	Seeds	Hub-ul-musk.
Sandal	Wood, bruised 1 lb.	Sufed sandal.
Sassafras, Camphora glandulifera	Bark, 1 lb.	
Tulsi, white	Fresh leaves	Sufed tulsi.
Tejpata, Cinnamomum tamala, Folia malabathri	Leaves	

—*Powell's Hand-Book, Vol.* i, *pp.* 311 *to* 315. *O'Shaughnessy.*

DITA. A tree of Mindoro, its sap mixed with an infusion of the Abyab or rind of the fruit of the Sago palm, (cabo negro) is used by the wild tribes of Mindoro, to poison their arrows.

DITI, the wife of Daksha.

DITI one of the two wives of Casyapa (Lamech) mother of the Asura or Daitya who were destroyed by the flood.—*Taylor.* See Garuda, Sacti, Serpent.

DIT'HWUN. The *Ekadashi*, or 11th, of the bright half of the month *Katik*, is a day also known by the name of *Bodini.* On this day a ceremony is observed in celebration of *Vishnu's* return from his slumber of four months, during which he is represented to have been with *Raja Bul* in *Patal* or the infernal regions. The Mudra Rakshasha, a Sanscrit play, says,

May *Vishnu's* shrinking glance
Yield peace and joy—as waking from his trance
His opening eyes are dazzled by the rays
From lamps divine that blaze:
Those eyes that with long slumber red
Ambrosial tear-drops shed,
As pillowed on his snake-couch mid the deep
He breaks reluctant from his fated sleep.

No marriages and but few festive ceremonies have taken place in the meantime, and the *Dit'hwun* is the signal for their commencement. Houses are cleaned, and smeared afresh with cow-dung, and the fruit of the *Sing'hara*, *Ber* and *Chunaka-sag*, and other dainties of the season may be lawfully enjoyed.—*Elliot's Suppl. Gloss.*

DITREMA, a genus of fishes of the family Embiotocidæ, in which there are 16 species of Ditrema and 1 of Hysterocarpus.

DIU on the south coast of Kattywar, is a castle, town and district belonging to the Portuguese. The town has been repeatedly besieged by rulers of Guzerat and the Dekhan but it continues in the power of the Portuguese. Diu Head or Diu Point is the southern-most point of the province of Guzerat. Diu Island is in lat. 20° 42′ N. and L. 71° 0′E. Diu Town stands on the east end of the Island of Diu, the fort being in lat. 20° 43′ N. and long. 70° 59′ E.—*Postan's Western India, Vol.* i, *p.* 112; *Horsburgh.*

DIURNÆ, a tribe of birds, of the order Raptores, which may be thus shown:

ORDER II.—Raptores or Birds of Prey.

Tribe I.—Diurnæ.

Fam. Falconidæ.

Sub-Fam. Falconidæ, 2 gen. 2 sub-gen. 15 sp. viz., 5 Falco, 2 Hypotriorchis, 5 Tinnunculus, 3 Hierax.

Sub-Fam. Perninæ, 2 gen. 3 sp., viz., 2 Baza, 1 Pernis.

Sub-Fam. Elaninæ, 1 gen. 1 sp., vis., 1 Elanus.

Sub-Fam. Circœtinæ, 2 gen. 3 sp., viz., 1 Circœtus, 2 Hæmatornis.

Sub-Fam. Circinæ, 2 gen. 6 sp., viz., 5 Circus, sp. 1 Poliornis.

Sub-Fam. Accipitrinæ, 3 gen. 6 sp., viz., 3 Accipiter; 1 Micronisus and 2 Astur.

Sub-Fam. Thrasaetinæ, 2 gen. 5 sp., viz., 1 Pseudastur; 4 Spizaetus.

Sub-Fam. Aquilinæ, 4 gen. 8 sp., viz., 1 Eutolmaetus; 5 Aquila; 1 Ictinaetus; 1 Hieratus.

Sub-Fam. Buteoninæ, 2 gen. 4 sp., viz., 1 Archibutes, 3 Buteo.

Sub-Fam. Haliaetinæ, 6 gen. 7 sp., viz., 1 Pandion; 2 Pontoaetus; 1 Blagrus, 1 Haliætus; 1 Haliastur, 1 Milvus.
Fam. Vulturidæ.
Sub-Fam. Vulturinæ, 2 gen. 2 sp., viz., 1 Vultur, 1 Otogyps calvus.
Sub-Fam. Gypinæ, 1 gen. 3 sp., viz., 3 Gyps.
Sub-Fam. Sarcorhamphinæ, 2 gen. 2 sp., viz., ; Sarcorhamphus: 1 Neophron percnopterus.
Sub-Fam. Gypaetinæ, 1 gen. 1 sp., viz., 1 Gypae. tosbarbatus.

Tribe II.—Nocturnæ.

Fam. Strigidæ.
Sub-Fam. Buboninæ, 5 gen. 12 sp., viz., 1 Nyctea; 4 Bubo; 2 Asio; 2 Scops; 3 Ketupa.
Sub-Fam. Atheninæ, 2 gen. 9 sp., viz., 1 Ninox scutatus; 8 Athene.
Sub-Fam. Syrniinæ, 1 gen. 3 sp., viz., 3 Syrnium, Indrani, Sinense and nivicolum.
Sub-Fam. Striginæ, 3 gen. 3 sp., viz., 1 Phodilus badius; 2 Glaux flammea and Javanica.

DIVAKARA, Sans. From diva, day, and kara, from kree, to do.

DIVADATSI or Divadratsa, Tam. Vitis vinifera.

DIVE PARRE, Singh. A wood of the western province of Ceylon, used in common house-buildings. A cubic foot weighs 44 lbs. and the timber lasts 20 years.—*Mr. Mendis.*

DIVIAN-DIVA, Sans. Senna.

DIVI-DIVI, also dibi-dibi, also libi-libi. Cæsalpinia coriaria, a plant of South American origin, belonging to the natural order "Cæsalpineæ," naturalized in India and now grown at several stations in the Madras and Bengal Presidencies, Bangalore, Hoonsoor and Guntoor. The seed pods have been extensively used for tanning leather, and for this purpose are considered superior to all the Indian astringents. Leather tanned in this way is considered equal to that of the best of Europe manufacture. A good sized tree in the West Indies is said to produce about 80lbs. annually. Its leaves are doubly pinnate, and the leafleats of twelve pair without a terminal one; they are oblong, obtuse, smooth, very entire. The flowers are disposed in spikes issuing from the extremities of the branches; they are small, yellowish and slightly fragrant. To these succeed oblong compressed somewhat obtuse pods curved laterally, the inner side being concave and the other convex. The seeds rarely exceed three or four in each pod, and are of a brownish color. It is to the curved pod of this leguminous shrub that the commercial term of Divi-Divi, or Libi-Libi, is given. The average produce of pods from a full grown tree has been estimated at 100lbs. weight, one-fourth of which consists of seeds or refuse, leaving about 75lbs. of marketable matter. "Divi-Divi" pods are of a dark brown color externally, when ripe, transversely wrinkled and curled, from 1 to 2 inches long, and ¾ of an inch wide. The outer skin of the pods is very thin, and peels off easily if the pods are ripe. Underneath it, and separated from the seeds by a layer of woody fibre, is a considerable thickness of astringent matter of a light yellow color. Each pod contains from 2 to 4 seeds in separate compartments. The astringent matter in the walls of the pod, is almost pure tannin. An excellent tannin, slightly darker in color than that manufactured from galls, may be prepared by a separate process. About 60 or 65 per cent. of the whole pod, (excluding seeds) consists of impure tannin. The remainder being made up of woody fibre, starch, and gum. The powder of the pods is of a light yellow color, taste purely astringent, and strongly resembling tannin, as met with in commerce. At an interval of six feet apart, an acre of ground will contain 1,210 trees, yielding an average of 810 cwts., and 30 pounds of divi-divi, or above 20½ tons of marketable matter, worth, at only £5 per ton, £200. Should the interval between the trees be extended two feet more, we shall, still have 680 to the acre, the produce of which would not improbably be increased by the increased space given for the extension of the branches. The ground in which this tree admits of being cultivated is that which is least adapted to the staple products of tropical agriculture; guinea grass may be profitably raised beneath its shade, and as with the exception of the three years which precede the commencement of its bearing, there is hardly any deduction to be made from its returns, it promises to be among the most valuable objects of a planter's attention. Divi-Divi resembles a dried pea-shuck curled up filled with yellow powder, and a few dark brown seeds. Its tannin differs materially from that of nutgalls. The quantity of mucilage it contains precludes it from the use of dyers, but the experiments of Mr. Rootsey of Bristol showed the pods to contain 50 per cent. of tannin, and it is largely used by curriers. It appears also from trials made that one part of Divi-Divi is sufficient for tanning as much leather as four parts of bark and the process occupies only one-third of the time. The selling price ranges from £8 to £13 per ton. The imports into the United Kingdom from 1844 to 1850 ranged from 10 tons to 3,900 tons. The seed pods of this tree being known to contain a large percentage of astringent matter, induced Dr. Cornish to use them in fever. *Juror's Report, Madras Exhibition* 1855—*Indian Annals, No. VII, p.* 120. *Simmonds Comm. Products, p.* 503.

DIVI LADNER, the forbidden fruit of the Ceylonese, is the produce of a species of Tabernæmontana.—*Eng. Cyc., Vol.* ii, p. 365.

DIVINATION is a regular science among Malays who resort to diviners on all occasions of importance—as for instance the almost universal custom in all nations of fixing on a propitious day to commence a journey or any undertaking. The commonest system is analogous to the Roman "sortes"—a Koran is used for this purpose: they have also books filled with sentences and words, the person consulting them cuts in with a kris and the sentence marked by the kris point is interpreted to suit the wants and wishes of all parties. In the Allu ordeal of the hindoos of Guzerat, a cloth or a raw hide is dedicated to one of the forms of Durga, the claimant of a disputed boundary puts it over his shoulders and walks over the contested limits. In Sind'h the "son" or "sugum" is a kind of divination by means of the position of birds and beasts, their cry, the direction of their flight and other such particulars. The divination, by lots, auguries, and omens, by flights of birds, as practised by the Getic nations, and described by Herodotus, and amongst the Germans by Tacitus are to be found amongst the Rajpoots. Their books on the subject could supply the whole of the Augurs and Aruspices, German or Roman. The mahomedans in India often cast lots, and in Sind is a practice similar to that of the mountaineers of Scotland, called Sleinanachd, or, "reading the speal-bone," or the bladebone of a shoulder of mutton. The poet Drayton alludes to the practice of this "divination strange" amongst the "Dutch made English," settled about Pembrokeshire, in his Polyalbion, Song 5. Camden notices the same superstition in Ireland. The ordeal of taking out a piece of gold out of a pot of hot oil, *Karahi lena* is common in India. If the accused do so without being scalded he is deemed innocent. The ordeal amongst the hindoos called Dibya or Divya is from a Sanscrit word meaning Divine. In the *tola* or weighing ordeal, the accused is weighed, then certain ceremonies are performed and he is again weighed and if found lighter he is guilty. In *Agni*, or fire ordeal, the accused touches fire or heated metal, and if burned he is guilty. In *Jala*, or water ordeal, the accused is dipped under water, whilst an arrow is shot and a person runs and brings it. If the accused be still alive, he is innocent. In the poison, or *Visha* ordeal, if the accused swallow it with impunity he is innocent. Others are the Kosha or drinking holy water; the *Tandula*, or chewing grains of rice: the "tapta-masha," or taking a masha weight of gold out of a jar of hot oil or butter. In the *Dharmarcha* or *Dharm-adharma* ordeal, drawings of dharma and adharma, virtue and vice, are covered with cowdung and put in a covered vessel, from which the accused draws one. In the *tulasi*, the leaves of the tulsi and water are swallowed after an oath. The tulsi is sacred to Vishnu. In the *Kach'a ghara*, or unbaked pot, such a pot is filled with water and carried to some distance without spilling Bel-Bhandra, is swearing by the leaves of the Bel which is sacred to Siva. *Gangajala*, swearing on the Ganges water. *Devala*, or *Devalaya*, swearing in a temple, before an image. *Gao*, a cow, swearing, while holding a cow's tail;—*Brahman*, swearing while touching the feet of a brahman. *Sima* or *Simba*, the ceremony, after religious rites, of pointing out a boundary. In hindooism nine ordeals were recognised. In trivial cases, a few grains of rice that have been weighed with the Salagramma are put into the mouth of the suspected or accused person, who chews them and spits them out on a pipul leaf. If the person be innocent, the grain appears as if stained with blood: if guilty the rice is dry. In the trial by Kosha or image water, the accused person drinks some of the water with which an idol has been washed, and if the accused survive free from calamity through the next fortnight, he is innocent. The ordeal of the balance is applied to women, children, the aged, blind, lame and sick men, and to brahmans. After a fast of 24 hours both of the accused and the priest, the accused bathes in holy water, prayers are offered up and oblations are presented to fire. The beam of the balance is then adjusted, the cord fixed and the accuracy of the scales ascertained. The accused then sits in the scale and while being weighed, the priests prostrate themselves, repeat certain incantations and after an interval of six minutes the accusation paper with the written accusation is bound around the head of the accused who invokes the balance thus; Thou! oh balance, art the mansion of truth; thou wast anciently contrived by the deities: declare the truth therefore, oh! giver of success, and clear me from all suspicion. If I am guilty, oh! venerable as my own mother, then sink me down: but if innocent then raise me aloft." The accused is then reweighed; if he then weigh heavier, he is found guilty, but if lighter, he goes free. In the trial by fire, the accused in India walks barefoot into a mass of burning pipul leaves (Ficus religiosa)—in Siam, over a pit filled with burning charcoal. In the ordeal by boiling oil, the accused has to thrust the hand

into the scalding fluid. In the hot iron ordeal nine circles are drawn, each 16 fingers in diameter, and each the same distance of 16 fingers apart. The hands of the accused are rubbed with unhusked rice (paddy) and all marks on them carefully noted seven peepul leaves are then bound with seven threads on each hand, and the priest gives him a red hot ball to carry as he steps from circle to circle, keeping his feet within each until he reach the eighth, when he throws the ball on a heap of dried grass inside the circle. If his hands, which are then examined, be not burned, he is pronounced innocent. In Japan, a reputed thief bears on his hand a piece of thin paper having the figures of three deities. On this a piece of red hot iron is placed and if his hand escape, he is pronounced free. The water ordeal, is in vogue, in India, in Burmah and in Borneo. In India, the accused stands in water, nearly up to his waist, attended by a brahman, staff in hand. A person near, shoots three arrows from a bamboo bow and a man hurries to pick up the furthermost shaft. As he takes it from the ground, another person runs towards him from the waters edge; at the same moment, the accused grasps the brahmans staff and dives beneath the water. If he remain there till the two arrow fetchers return, he is innocent, but if any part of his body appear, he is guilty. In Burmah, a stake is driven into the water, the accuser and accused take hold and together plunge beneath the water and he who remains longer submerged is declared to have truth on his side. In the poison ordeal, white arsenic and butter in a mixture is administered. In the snake ordeal, a cobra and a ring are placed into an earthen pot, and the accused has to withdraw the ring. In the idol ordeal, two images one called Dharma or Justice the other Adharma, or Injustice are placed into a jar, and the accused is allowed to draw; if the Dharma image be withdrawn he is innocent. The Borneo Dyaks place two pieces of salt in the water, to represent the accuser and accused, and the owner of the piece dissolving the first loses the cause. Also, two shells are placed on a plate and lime juice squeezed over them and he whose shell moves first, is pronounced guilty or innocent, as may have been resolved on. But the more common mode amongst the Dyaks is for the accuser and the accused to plunge their heads beneath the water and he who remains longer is free. The Brinjari people use the branch of a Nim tree, the Azadarachta Indica. A husband throws it on the ground and turning to his wife, says, if thou be a true woman to me, lift that nim branch. *Arrows* are sometimes used in North-western India, as tests of innocence. The opposite ends of two arrows are held by a rattan laid upon the hands by two persons placed opposite to each other, they are parallel to and just sufficiently apart to allow of the suspected persons hand being held between them. The ends of the arrows merely rest upon the fingers. The arrrows are supposed to move towards and close upon the guilty hand. In Bastar, the leaf-ordeal is followed by sewing up the accused in a sack and letting him down into water waist deep; if he manage in his struggles for life to raise his head above water he is finally adjudged to be guilty. Then comes the punishment of extracting the teeth. This is said in Bastar to be effected with the idea of preventing the witch from muttering charms, but in Kumaon the object of the operation is rather to prevent her from doing mischief under the form of a tigress which is the Indian equivalent of the loup-garou of Europe. The Hejaz Arab licks red-hot iron as, an ordeal.

Amulets are worn by almost all eastern nations. They are especially prized by mahomedans, both young and old of whom wear them. They are usually put on the young to ward off disease and to guard from the evil eye, and consist of figures with numbers on pieces of paper, or Arabic words, often extracts from the Koran engraved on potstone or silver or gold and worn from the neck. They are also put over the door porch or on the house wall. Amongst the Malays of Java *Mustika* means amulet, which is always some very scarce substance and which being worn about the person they are supposed to act as a talisman, and ward off evil. The *Mustika Kerbo* or Buffalo Amulet is quite white and round a like marble, nearly an inch in diameter, and semi-transparent; it is stated to be found at Panggul. The *Mustika Waringin* a calcareous concretion, is found at Ngadi Rejo. It is quite black and a little smaller than the Mustika Kerbo. Waringin is the name of a tree, the Ficus Benjamina, which always adorns the open plain in front of the houses of Javanese chiefs.

Arati, TAM. is a hindu ceremony for warding off the evil eye.

The Karachi tribes of Persia—in some parts called Kaulee and Soosman—are unquestionably gypsies. They wander about the country, and their habits are the same as those of this singular people elsewhere. The men are tinkers, basket-weavers, dealers in cattle, sheep-stealers, and thieves; but their women, in one respect, differ widely from gypsy females in Europe. Mr. Barrow, in his account of his extraordinary race—has commended the strict chastity of the gypsy

women ; but the Karachi ladies of Persia are quite independent of any such rigid virtue and one and all earn money in other ways than by telling fortunes. One very common mode of *divination* in Persia, is called the ilm-i-shoona or "science of the shoulder blade" and practised by cutting out the blade bone of a sheep newly killed and examining the lines and marks upon it. This was common in England in old times, and in Scotland in the last century. Pennant mentions it in the latter country, where it was termed "reading the spale-bane, and he gives an account of a Highlander in the Isle of Skye foretelling the event of the battle of Culloden by this means. The history of the life of Colonel Gardiner, and of many others amongst christians prove that visions are not confined to half civilized races. Confucius gave rules for this species of sorcery. Tacitus informs us, that among the ancient Germans, who were originally Scythians, the prototype of Rhabdomancy was engraven on rods. The Chinese had also rods with similar inscriptions. The Arabs, before the birth of Mahomed, divined by bundles of arrows in the Caâba. Mahomed destroyed this practice. The Romans had peculiar modes of divination : their dies fasti, nefasti, their auguries, &c.

Sir J. E. Tennent mentions that the practice of astrology at the present day in Ceylon, and the preparation of the ephemeres predicting the weather and other particulars of the forthcoming year, appear to have undergone little or no change since this custom of the inhabitants of India was described by Arrian and Strabo. But in later times the brahmans and the buddhists have superadded to that occupation the casting of nativities and the composition of horoscopes for individuals, from which the *Sophistæ* described by Arrian abstained. It is practised alike by the highest and most humble castes of Singhalese and Buddhists from the Vellala, or agricultural aristocracy, to the beaters of tom-toms, who have thus acquired the title of "*Nakatiya*" or astrologers. The attendance on particular ceremonies, however, called *Balli*, which are connected with divination, belongs exclusively to the latter class. Amongst the mahomedans of British India, astrology is almost unheard of, though they keep their calendar, or Jantri and the Joshi calculates the ephmeris. The hindus also have their Calendar or Panjangam, but they all practise divination from books, for which the Chintamini pastakam is in use in the South of India. Amulets, charms, signs, and marks are, however, everywhere in use in the East. Of a similar nature was the blood sprinkled on the doorposts of Israel in Egypt, a sign that the destroying angel was not to enter, the inmates being under the divine protection. A similar preserving token is referred to in Ezekiel ix, 4, where the man "clothed in linen," having a writing ink-horn by his side, is commanded by God to set a "mark" upon the foreheads of those who grieved for the abominations of Jerusalem. "Behold my sign !" says Job xxxi, 35, according to the marginal reading ; or, "Behold, here is my Thau" (a mystic mark), as Calmet renders it, evidently referring to some distinctive badge which he wore ; and Paul, probably alluding to some acknowledged sacred sign, observes "henceforth let no man trouble me, for *I bear in my body the marks* of the Lord Jesus." Portions of St. John's Gospel were worn by the early Christians, and verses of scripture were even placed upon horses. Among the Anglo-Saxons, amulet gems were much esteemed. King John had a large collection, and, in the sixteenth century, amulets were warehoused in large quantities, and usually worn round the neck, as a protection from pestilence, as the following item shows : "a hundryth weight of amletts for the neke, xxx^{s} iij^{s}" The celebrated Nostradamus gives the following extract from a MS. poem on the virtues of gems, written by Pierre de Bouiface in the fourteenth century : "The diamond renders a man invincible ; the agate of India or Crete, eloquent and prudent ; the amethyst resists intoxication ; the cornelian appeases anger ; the hyacinth provokes sleep." There are six description of *charms*, or "muntras" known in Goozerat, which are described in a series of works forming the scriptures on the subject, or "Muntra Shastra." A charm called "Marun Muntra" has the power of taking away life ; "Mohun Muntra" produces ocular or auricular illusions ; "Sthumbhun Muntra" stops what is in motion ; "Akurshun Muntra" calls or makes present anything ; "Wusheekurun Muntra" has the power of enthralling ; and "Oochatun Muntra" of causing bodily injury short of death. Many of the charms worn by hindoos and mahomedans are merely to distract or avert the evil-eye. A not unfrequent one in sickness, is a string formed of hair that has been combed out of the head, to which is attached a piece of the Acorus calamus root, a cowrie shell, a marking nut, and the eye of a peacock's feather. All mahomedans have faith in charms. In the *Illahi Namah* (Section 12), an old Persian work, it is mentioned that women, during parturition, derive considerable benefit from wearing a charm composed of certain ingredients made into a

little ball, which must be "perforated with a hog's bristle." Most of the mahomedan pilgrims when moving towards Mecca, have a charm or "tawiz" suspended around their necks and almost all mahomedans when setting out on a journey bind a piece of money on their arm, as a votive offering to the Imam Zamin. In Arabia, the instant a foal is born, a charm is tied round its neck in a bag of black cloth, and sometimes in this the pedigree is placed. Many of the mahomedans of Turkey and Asia, carry talismans about with them, especially in War, consisting of verses of the Koran, to which they attach extraordinary influence, and with one mahomedan soldier, who had fallen in battle, a whole Koran was found wrapped in the rolls of his turban. The mahomedans put up charms over the lintels of the doors, on the walls of their houses, and almost constantly use them on their arms as amulets, for the cure of ailments, to cast out devils, to ward off demons, fairies, enchanters, and to cleanse a haunted house. In exorcism, certain names (Ism, sing. Isma' pl.) are used by mahomedans, the ism-jallali, or fiery or terrible attribute is used; also the ism jamali, the watery or air attribute, and with these they cast out devils, and command the presence of genii and demons. Amongst mahomedan women love-philters are in frequent use, and engraved amulets, and leaves and roots of plants, are worn by them to retain or win affections. The Revd. Mr. Ward once saw a mahomedan woman dropping slips of paper into the river, and upon enquiry, found that they contained some sacred words and that the woman was presenting these papers to the river-saint, Khaja khizr, in hopes of obtaining relief. Persians consider the number "thirteen" so unlucky, that in general, they will not even name it. When they have occasion to allude to this number instead of mentioning sezdeh (*thirteen*), they say "ziyad" (much more) or hech (nothing).—*Wilsons Glossary of Indian Terms Richard F. Burton's Sindh, pp.* 390 *to* 404; *Tod's Rajasthan, Vol.*, i, *p.* 71, *Tennent's Christianity in Ceylon, p.* 184; *Journal of the Indian Archipelago, No.* 6—12 *June —December* 1853, *p.* 274; *No.* 8 *Vol.* v, *August,* 1857; *Gage's Hengrave, p.* 135. *Milner's Seven Churches of Asia, p.* 127. *Ras Mala, Hindoo Annals, Vol.* ii, *p.* 403. *Ouseley's Travels, Vol.* i, *p.* 227. *Skinner's Overland Journ. Vo.* ii., *p.* 70, *Ward's View of the Hindoos, Vol.* ii. *p.* 71, *Herklot's Kanoon-i-Islam.—Burton's Pilgrimage to Meccah, Vol.* iii. p. 255, *De Pauw, Egypt and Chin. Vol.* ii. *Sect.* xiii, *p.* 164, *Ockley's Saracens, Vol.* i, *p.* 62.

DIVINE LAMAS, See Buddha.

DIVORCE, amongst the mahomedans, is called Tallaq and is of several kinds, but all of them in the power of the husband. The hindoo law does not admit of divorce. The budd'hist Burmese laws allow every facility for divorce. An appeal case was lately heard by the Privy Council, illustrating the mahomedan law of divorce. A moonshee wished to divorce his wife, without which a second wife would not have him, but he wished at the same time to avoid paying the first wife's dowry amounting to Rs. 26,000. He had two modes of proceeding either by his own arbitrary act to repudiate his wife—in which case he must restore the dowry; or to divorce the woman with her own consent which is *khola*, in which case he may keep the dowry or make any arrangement regarding it. After the divorce, the woman must remain some months in seclusion, and be maintained by her late husband, till all chance of children has passed away. In a recent case the husband, by ill usage of his wife induced her mother to give up the marriage settlement and so proceeded by the *khola* method keeping the dowry. Both the Subordinate and Appellate Courts decreed the restoration of the dowry on the ground of force being used. Mahomedans in India follow the Koran and Sharra, and marry to four wives, though some take into their households a far greater number of women, under different designations. Mrs. Meer Hoossain Ally had heard of princes in Hindustan possessing seven or eight hundred, and Tippoo Sultan had no less than nine hundred women. In Madras some of these are known as the "*Harm*" which term is there applied to purchased women associating with their lord, but in Hindustan such are termed "*Doolee*" wives. These are not the "*Kuneez*" or slave girls, who are servants. There are three forms of "*Tulaq*" repudiation or divorce, amongst mahomedans in India. 1st. *Tulaq-i-byn*, which consists in the husband only once saying to his wife "I have divorced" you; 2nd. "*Tulaq-i-rujaee*" in repeating the same twice, and 3d. "*Tulaq-i-mootuluqa*" in three similar repetitions.

DIWALI, HIND.

Dipauli.	HIND.	Deuli.	HIND.
Dewaligeicha	KARN.	Dipali.	,,

A hindoo festival, when lamps are lit, on the two last days of the dark half of Aswin. See Dipawali.—*Wilson.*

DIWAN KHANAH, amongst mahomedans, the common hall or place of reception. It has a line of flat cushions ranged round the room, either placed upon the ground, or on wooden benches, or on a step of masonry, varying in height according to the fashion

of the day. When such foundation is used, it should be about a yard in breadth, and slope very gently from the outer edge towards the wall, for the greater convenience of reclining. Cotton-stuffed pillows, covered with chintz for summer, and silk for winter, are placed against the wall, and can be moved to make a luxurious heap; their covers are generally all of the same colour, except those at the end. The seat of honour is denoted by a small square cotton-stuffed silk coverlet, placed in one of the covers, which the position of the windows determines. Thus in Egypt a neatly-furnished room, can be had for 5*l.* or 6*l.*—*Burton's Pilgrimage to Mecca, Vol.* ii, *page* 44.

DIWANIYAH. See Mesopotamia; Chaldea.

DIXAN, in Tigre, is the first town that is met with after surmounting the Taranta passes. Ferret and Galinier say it is a group of wretched huts, scattered irregularly on the top of a barren mountain, a miserable village, containing about 1,500 souls, christians and mussulmans.

DIXON, Colonel Charles George, author of a sketch of Mhairwarah, an officer of the Bengal Artillery which he joined on the 14th August 1813. He served throughout the Nepal war in 1814, 1815 and 1816. Was present at the siege and bombardment of Hatras in 1817. Was appointed Brigade Quarter Master to the Artillery and Pioneers with the Right Division of the Grand Army during the Pindaree Campaign of 1817-18. In 1820-21 was present with the Force which subjugated the Hill Tribe of Mhairwarah. In May 1835 he was appointed temporarily to the Civil charge of Mhairwarah. In January 1836, he was permanently confirmed as Superintendent of that District and as Commandant of the Mhairwarah Local Battalion. In March 1839, the Mhair Corps, in conjunction with the Joudhpore Legion, under the command of Captain Dixon completely routed a large body of outlaws at Kot in Mhairwarah and killed their chiefs with one hundred followers. In February 1842, his civil duties were enlarged by the jurisdiction of the province of Ajmeer being added to that of Mhairwarah, independently of his command of the Mhair Battalion, and was appointed Commissioner of Ajmeer in March 1853. The Mhair race, amongst whom the latter part of his career was passed are one of the bravest and were amongst the most predatory of the non-Arian races in India, and Colonel Dixon's efforts were directed to civilising them. Gradually the whole population became attached to industrial pursuits. Colonel Dixon built a new town, strong and well planned, with two miles of wall as a defence and encouraged strangers of various castes, particularly that of shopkeepers and bunneahs to settle in it, capital and a readier means of buying and selling being two of the great wants of the young community. Up to A. D. 1838, the district was wholly dependant on supplies brought in (chiefly by plunder) from a distance. But by 1850 the population had much increased, and exported to surrounding towns and villages considerable supplies of produce; and the sounds of honorable industry were heard not only in the vicinity of Nya Nuggur, but in three or four hundred villages erected in the midst of the jungle. Civilization dawned on the face of those long-troubled hills in some of its most benignant forms.—*Athenæum, No.* 1201, *dated 2nd November* 1850.

DIYALAH, a tributary of the Tigris river on its eastern side. See Tigris.

DIYAN, Malay. Candles.

DIYA-NA-GAHA, Singh., Mesua speciosa.—*Chois.*

DIYAR-BEKR, a town on the banks of the river Tigris. In its prosperity it contained 40,000 houses with numerous cotton looms constantly at work and it enjoyed an active trade in gall-nuts, not only with Kurdistan, but also with India on one side through Bagdad, and with Europe through Aleppo on the other. But about A. D. 1836, it had scarcely 8,000 houses, 6,300 Turks and 1,500 Armenians. See Iran. Mesopotamia; Tigris.

DIYA-SIAMBALA, Singh. Æschynomene aspera.—*Linn.*

DIZABULUS, a Mongol ruler, is described as seated on a couch that was all of gold, and in the middle of the pavilion were drinking vessels and flagons and great jars, of the same metal. At the entrance of the tent there was a bench with cosmos (Kumis or fermented mare's milk) and great goblets of gold and silver set with precious stones. Shah Rukh's description of the constant drinking corresponds exactly to the account of the habits of the Mongol court in Plano Carpini and Rubruquis. Thus the former, on the occasion of Kuyuk Khan's formal inthroning, says that after the homage had been done they began to drink, and as their way is, continued drinking till hour of vespers" (p. 758.) Rubruquis's account of his residence at the court of Mangu Khan is quite redolent of drink, from which one sees how Sultan Baber came by his propensity to strong drink.—*Shah Rukh's Embassy, Yule in Cathay, Vol.* i, *p.* clxiv.

DIZFUL, an important stream in Khuzistan. The bed of an occasional torrent in ancient Susiana, called Ab-i-Bald, which falls

into Dizful is covered with a peculiar kind of pebble, which being filled with little fossil shells resembling grains of rice, is called Sang-i-birinj, or the rice stone. These stones are also found in the river at Shuster, but of an inferior quality, and they are in much request throughout Persia for the head of the Nargil pipe, which is almost invariably composed of this material, set in silver. See Khuzistan or Arabistan, Luristan, Sabi, Susa.

DIZ SIYAH. See Luristan.

DJEMEL, properly Jamal, ARAB. A camel. See Camelus.

DJAKSA, and Kliwon Patteh, in Java, are native officials. Djaksa is a judicial officer.

DJABAIL. Burckhardt, in speaking of a tribe called El Haib, known in these parts, says they have no fixed habitations. They winter, he adds, when the pasture on the mountain fails, on the coast about Djebail, Tripoli and Tortosa.—*Robinson's Travels, Kol.* ii, *p.* 74.

DJINGI, MALAY. Cucumis acutangulus.

DJURNANG, MALAY. Dragon's Blood. See Calamus.

DO, HIND., PERS. Two ; hence dohra, double ; do-patta a sheet of double breadth ; do-shala, a double shawl. Do-Suta double thread ; do-bara twice ; double distilled or over proof spirit.

DO, HIND. Triticum æstivum.

DOAB, HIND. PERS. 'Do' two, and 'ab' water. A tract of country lying between two rivers, a Mesopotamia. In the same way, Panjab—from 'panj' five, and 'ab' waters. In India, people speak of the doabs of the Ganges and Jumna,—of the Godavery and Kistna—of the Tumbudra and Kistna, the Raichore Doab, &c. The doabs of the Panjab are fertile as far as the river influence extends, but have in the centre a high arid tract called "bar." The names of the Doabs of the Panjab are in all instances, ("excepting the first or Jalandhar Doab) the result of a rude attempt to join the names of the rivers on each side into one word. Thus passing the Jalandhar Doab, between the Sutlej and the Beas, we come to the Bari Doab, (Beas and Ravi.) Then between the Ravi and Chenab, the Rechnah Doab ; between the Jihlam and Chenab, is the Jach Doab. The last Doab up to the Indus, takes its name from that river, and it is called Sindsagar, "the ocean of the Sind" or Indus river. The Bari Doab is that district of the Panjab in which Lahore and Umritsir are built, also the sanitarium of Dalhousie near the Kala-top forest and the district of Montgomery to the south of Lahore. The Bari Doab has 1,200,000 acres of untilled land of which 180,000 are covered with jungle. This Doab has two features, viz., a flat alluvial tract, called "dhaya" several miles broad, running along either river and producing tamarisk and jhand. Also an elevated dorsal plateau in the Manja or middle part and called Ganj-i-bar, or bald country. Its soil is intensely arid, often saline, and produces only some salsolaceous plants and a few bushes of jhand. The district lying between the Indus and the Jelum, called the Sindsagar doab is 147 miles broad in the widest part, and whilst it is the largest, is the most sterile and least inhabited, abounding with undulating bare eminences, and rugged declivites. The Rechnah doab, between the Chenab and the Ravi, is seventy-six miles in its widest part, and consists of an arid plain. The Bari doab (sometimes called Manja, whence the Sikhs resident here are called Manja Singh), between the Ravi and Beas, is the narrowest of the doabs. The Julindar or Jalendra doab, the smallest, is between the Beas and Sutlej, and is in a better condition than the other intra-fluvian tracts. The population of the Gangetic Doab is 800 to the square mile, of the cultivated tracts of Pegu 782, of the Central Provinces 365. The anterved of the ancient hindus, is the Doab or Mesopotamia of the Jumna and Ganges. From the narrow point in which it terminates the valley broadens as it stretches away towards the west, embracing a greater and greater area between the Ganges and Jumna, The whole of its immense superficies forms a vast, populous, and busy hive, enriched by human industry, and embellished by human taste. On the map no country is so thickly dotted with great townships and cities, and under the sun, no country makes up such a highly interesting prospect of green fields, orchards, and gardens, in a continuous succession. In this fair savanah man has had his abode from a remote antiquity, to reap rich harvests, and live amidst plenty. Here were the cities of the pre-Vedic Dasya races. Here rose the first cities of the Arya race. In the plains of the Doab, the rajahs of Hastinapoor, of Indraprasthra, and of Kanouj, exhibited the highest power and splendour of hindoo sovereignty. The rich districts watered by the Ganges and Jumna have always tempted the avarice of the foreign conqueror. Here was the residence of the most famous hindoo sages. From this birth-place of arts and civilization wisdom travelled to the west. This Doab is the battle-ground of the Pandoo against the Kuru—of the Ghiznivide and Ghorian against the hindoo; of the Mogul against the Patan—of the Mahratta against the Mogul—and of the British against the Mahratta, where

many a spot is hallowed by tradition, and many a ruin is consecrated by history. In this Doab almost every inch of land is under the plough. From Allahabad to Sheeoabad there are four large cities, and villages at frequent intervals. A similar distance in Bengal is no doubt dotted with the same number of villages but has not one town equal to Futtehpore, Cawnpore, or Mynporee. Here the rural population is more intelligent and spirited than the same class in Bengal. The humblest Doabee lives upon better food, and covers his body, with more abundant clothing than the humblest Bengalee. The cattle here are various. Camels, buffaloes, horses, donkeys and oxen are all made to assist man in his labours. The fondness of the Doabee women for coloured millinery evinces a more refind female taste, and to them may remotely be traced the impetus which is given to the various dye-manufactures of the country. The agricultural women of the Doab use ornaments of brass and bell-metal. The same class in Bengal is in the habit of wearing shell-ornaments, and a pair of Dacca shell-bracelets may sometimes cost the sum of two hundred and fifty rupees. One particular ornament in general use amongst the Doabee women, of both the upper and the lower classes, is the teeka, which is in the shape of a tiny crescent made of gold, silver, or tinsel, according as the wearer is circumstanced. It is fixed with an adhesive substance on the forehead, just between the eyebrows. These teekas are not a little prized and coveted by the Hindoostani young men. They train bulbuls to execute little commissions of gallantry. On a given signal, the bird goes seizes and carries off the teeka from the forehead of a woman, as precious booty, to her pining lover. The Doab, like Bengal, is flat and alluvial. The vast plain is uninterrupted by a single eminence ; but the soil and climate differ in the same degree as does a Hindoostani from a Bengalee. The tall and robust figure, the firm step, the stern eye, and the erect bearing of the manly Hindoostani, are everywhere to be seen. In Bengal the oxen alone form beasts of burden. A Hindoostani cooly takes the load over the waist, and not upon the head. In Calcutta the Baboos do not know what it is to ride. In Hindoostan rural women perform journeys on horse-back and princesses discuss the merits of horsemanship. The people of the Doab have for the most part well-formed features. The rude Jaut has a coarse mean physiognomy—*Tod's Rajasthan Vol.* i, *History of the Panjab, Vol.* i, *p.* 2[illegible] *to* 28 ; *Tr. of Hind., Vol.* i, *p.* 334 *to* 372 *Vol.* ii, *p.* 18 ; *The Indian Administration by H. G. Keene, Tr. Hind., Vol.* ii.

DOABA, a moist rich tract of land between the Swat and Cabul rivers. See Khyber, p. 510.

DOA-I-MASOORA, supplication for the remission of sins.

DOA-I-QOONOOT, prayer of praise.

DOB, Eng., Ethiop., Heb. A bear.

DOBARA-AR'K, double distilled arrack.

DO-BHASHA, Hind., Two languages : Do-bash or Do-bhashi, one who speaks two languages.—*Wilson.*

DOBE, Hind. A brahman who has studied or who teaches two of the four Vedas, hence the term do, two and veda. A caste of brahmans so termed, generally ignorant and low persons, and by profession boxers and wrestlers.—*Wilson.*

DOBINEA. See Acer.

DOBLET, It. Dimity.

DOBRA, a town in Manbhoom.

DOBSOON-NOOR or the Salt Lake, is celebrated over all the west of Mongolia. It furnishes salt, not only to the neighbouring Tartars, but to several provinces of the Chinese empire. The Dobsoon-Noor is less a lake than a vast reservoir of mineral salt mixed with nitrous efflorescence. The latter are of a faint white and friable between the fingers ; they are easily distinguishable from the salt, which is of a greyish tint, and with a shining and crystalline fracture. The lake is nearly ten miles in circumference, and here and there are yourtes inhabited by the Mongols, who are occupied with the salt trade ; they have also Chinese partners, for Chinese take part in every kind of trade or industry. The manipulation to which the salt is subjected requires little labour or science. It consists of nothing more than picking up the pieces, laying them in heaps, and covering them with potter's clay, and the salt sufficiently purifies itself.—*Huc's Recollections of Journey, pp.* 127-8.

DOBUTEE-LUTA, Beng. Ipomœa pescapræ.

DOCHUTI, Hind. See Domala.

DOCKET. This term has various meanings. In trade it is often applied to a short certificate, summary, or memorandum ; In Government correspondence it means the summary or prices on the back of a letter, in English Law it signifies a brief in writing. —*Faulkner.*

DOCKS. Docking of vessels. Along the greater part of the Eastern coast of the Peninsula of India, wherever the rivers can be entered by coasting craft, docks are formed by digging a channel from the river sufficiently large to allow the vessel to be floated into it at high water : a dam is thrown across the channel and the earth being thrown into

the dock thus formed the vessel is floated up above the water mark. By draining off the water the vessel is left high and dry imbedded in earth. This is removed to allow of access to the bottom of the vessel which is propped up by stones, it is usual also to place logs under the keel. A dry dock is thus formed about the vessel at a small expense. The repairs having been executed, it becomes necessary to lower the vessel down to that point when, the dam being removed and the water let in, she can be floated out. For this purpose cables are coiled under her and these coils filled in with earth, the earth under the vessel and logs which were placed under her keel removed, the dock is dug out to its former depth, the vessel is left suspended resting on the coils, by uncoiling the cables gradually the vessel is let down and is then floated out. Ships of 400 tons are thus docked at Coringa.—*Rohde, M.S.S.*

DOCLEA, a genus of Crustacea, viz :—

Doclea ovis, *Edws.* Indian seas.
„ hybrida, *Edws.* Coromandel coast.
„ muricata *Edws.* E. Indies.
Pisa styx, *Edws.* Mauritius.
Chorinus aries, *Edws.* Coromandel.
„ aculeata, *Edws.* Asiatic seas.
„ dumerilii, *Edws.* Vanicoro.

DOCUMENT-BILL, an Indian bill of exchange drawn on London having as collateral security the bill of lading and policy of insurance on the goods, against a part of the estimated value of these the bill is drawn.—*Simmond's Dictionary.*

DODA. See Kelat, p. 493.

DODA, Hind. Papaver somniferum, also Pyrus Kumaonensis, Gul doda, Mal doda, Hind. Leucas cephalotes.

DODABETTA, the highest point on the Neilgherry mountains in Southern India, in lat. 11° 22′ N., long. 76° 44′ E., its height being 8,640 feet. It was made the site of an observatory, under the astronomer at Madras. A record of the meteorological observations was published at Madras in 1848.—*Sykes, Schlagent.*

DODAH. See Suspension bridges.

DODAH, Hind. The unopened cotton pod ; any round seed-vessel, as poppy head.

DODAK, Hind. Eclypta erecta, also Sonchus oleraceus, Convolvulus pluricaulis and Andrachne telephioides. *Bara dodak*, Hind. Euphorbia thymifolia. *Kulfa dodak*, Hind. Euphorbia helioscopia.

DODAK, Hind., also dudal, milky, from dudh, milk.

DODAL, Hind. Spiræa Lindleyana.

DODA MARRI. See Kelat, Káhán.

DODAN, Hind. Sapindus detergens, (mitha) dodia, Hind. Aconitum.

DODAR of Murree hills, Kaghan, &c., Pyrus kumaonensis.

DODDA BHAIRA, also Doddi. See Oriza sativa.

DODDA GODDA, Can ? A wood of Mysore.

DODDERS, species of Cuscuta. In the Himalaya, in the Soane valley they cover even tall trees, with a golden web.—*Hooker, Him. Jour., p.* 38.

DODDI BASHANAM, Tel. Sulphuret of Arsenic.

DODECAHEDRAL GARNET, that beautiful variety called cinnamon-stone or essonite, was discovered by Dr. Benza, in the Neilgherries in the hypogene hornblende rock near the Seven Cairns Hill, where entire portions of the rock are formed almost exclusively of them. The essonite and hornblende are in large separate crystals, imbedded in a paste of compact felspar and hornblende ; the former is very liable to disintegrate, leaving in falling out small cavities in the rock.

DODECATHEON MEADIA, a genus of the Primulaceæ ; ornamental plants, when in flower, colours, lilac, purple and white, grown in a light soil and cultivated by dividing the roots.— *Riddell.*

DODHAN, Hind. of Panjab, Sapindus acuminatus, *Wallich*, Sapindus detergens, *Roxb., Royle.*

DODOH, Jav. In Java a posture of humility which inferiors assume when approaching superiors. It is similar to the custom in Burmah, when the superior sits on his legs.

DODONEA BURMANNIANA, *DC.*

Sanatta. Hind.	Ghuraske of Trans-Indus.
Aliar. ,,	Veravena. ,,
Ban men du of Ravi.	Shumshad. ,,
Mendru of Beaz.	

A handsome small evergreen shrub, well suited for hedges, for which it is often used, and generally called "bog myrtle."—*Dr. J. L. Stewart.*

DODONEA VISCOSA, common on the Neilgherries ;' wood elastic and useful for tool handles.—*McIvor.*

DODRU, Hind. Ilex dipyrena.

DODUGA, Tel ? A wood of the Northern Circars.

DODUR, Hind. Cæsalpinia sepiaria.

DODWAR KHATAI, Hind. Cedrus deodara.

DŒLER, Dan. Deals.

DO-FASLI, Hind. Land giving two harvests in the year.

DOFLA. Tribes occupying the hills forming the northern boundary of Assam. In one of their districts, that of the Char Douar or

Four Marches, no less than 180 petty chiefs are said to hold authority in the Dofla villages. See Dophla, India.—*Latham.*

DOG.

Kalb, AR.	Canis, LAT.
Hound, ENG.	Sag, PERS.
Bitch, female ENG.	Svan, SANS.
Chien, FR.	Spa, ,,
Hund, GR.	Nai, TAM.
Kuon, κυων GR.	Kuka, TEL.
Kutta, HIND.	

Several authors have held the view that the dog is derived from the wolf, but the various kinds of dogs are commonly believed to have been derived from one extinct species. On the monuments of Egypt of date B. C. 3,400 to B. C. 2,100, several varieties of dogs are represented, and on one Assyrian monument of date B. C. 640, an enormous mastiff is figured, evidence of the fact of the long existence of many varieties. A predilection for the society of man seems almost inherent in the dog, and when we trace back its history, as far as the refuse heaps of Denmark and the pile folks of the Swiss lakes or, what is still more suggestive, the representations on the Egyptian temples and tombs, the great fact is irresistible, that man and the dog have shared each others company for possibly a longer period than any other creatures; and whether the love at first was gradual or not, it has now, at least as far as the brute is concerned, become instinctive. Moreover, when we think of the vast periods embraced by the Egyptian monuments of antiquity, and the time it must have taken to develope even one variety from the feral stock, and note the fox-hound or turnspit of 4,000 to 5,000 years ago, it may well be conceded that the dog, of all four-footed beasts, has a claim to our kindness and protection. The Himalayan wild dog, when taken young, is easily tamed, and this rule would seem to hold good with the wild races of other countries, indeed although not generally acknowledged, the wolf, jackal and hyena, get much attached to man, if carefully reared and treated with kindness. The semi-domesticated dogs in common with the wild species, have erect ears, and this would seem to become more 'pronounced' the nearer they assimilate to the latter. This circumstance has been noted in respect to domesticated sheep, goats, &c., when left more or less to shift for themselves, as is apparent on the Himalayas and Alps. In natural history, Canis the dog takes the following position,

Order Carnivora.

Tribe. Plantigrada.

Fam. Ursidæ, Bears.

2 *Gen.* Ursus, 4 sp.
„ Ailura, 1 sp.

Tribe. Semi-Plantigrada.

Fam. Melididæ.

5 *Gen.* Arctonyx, 1 sp.
„ Melivora, 1 sp.
„ Meles, 1 sp.
„ Taxidia, 1 sp.
„ Helictis, 2 sp., H. moschata: and H. nepalensis.

Fam. Mustelidæ, Weasels, Martens.

4 *Gen.* Martes, 2 sp.
„ Mustela, 12 sp.
„ Lutra, 7 sp.
„ Barangia, 1 sp.

Tribe. Digitigrada.

Fam. Felidæ.

1 *Gen.* Felis, 14 sp.

Fam. Viverridæ.

Sub-Fam. Hyeninæ, Hyænas.

1 *Gen.* Hyena, 1 sp.

Sub-Fam. Viverrinæ Civets.

7 *Gen.* 31 sp., viz.
„ Viverra, 5 sp.
„ Prionodon, 1 sp.
„ Parodoxurus, 10 sp.
„ Paguma, 1 sp.
„ Artictis, 1 sp.
„ Herpestes, 12 sp.
„ Urva, 1 sp.

Fam. Canidæ, Dog-tribe.

3 *Gen.* 14 sp., viz.
„ Canis, 5 sp.
„ Cuon, 1 sp.
„ Vulpes, 8 sp.

Amongst the hindoos of India and the Indian mahomedans, the dog is regarded as an unclean animal. With the Cree, Ojebway, Swampy and Sioux, the dog is supposed to be the most acceptable sacrifice to the offended deities, five dogs being the common number for a propitiatory offering. The unclaimed dogs of Bombay, of Egypt, Mecca and Constantinople, are a sad nuisance, in Bombay being protected and fed, but not housed, by the Parsee inhabitants, as well as by Hindoos. An expiring Parsee requires the presence of a dog, in furtherance of his departing soul, and, after the Sug-did or dog-look, the exposed body is speedily consigned to a banquet of the vultures. In Rangoon hundreds of Pariah dogs infest the town, chasing and tearing to pieces goats, &c., by day, and howling to their hearts content the live long night? the greatest number of dogs are found near the Kyoungs. The greyhound of Bamian is fleet. It has long shaggy hair on the legs and body. The dog, which is known in Bengal by the name of the Nepaul dog, is, properly speaking, a native of the upper and lower Thibets, whence it is usually brought to Nepaul. It is a fierce and surly creature, about the size of an English Newfoundland, and covered with thick long hair. It is reckoned to be a good watch-dog, and never to sleep at night. Another animal to be found in the Nepaul hills worthy of description is

the Dhole or wild-dog. These animals are found in packs varying from fifty to two hundred, and the havoc committed by them among the flocks of sheep and hill cattle is incredible. Their destruction of deer also is immense, and their mode of hunting may be worthy of mention. In size the wild-dog is little larger than the common jackal of India, but longer in the body and possessing much greater power, with a very formidable set of jaws: colour, a rich reddish-brown, with scenting qualities of the highest order. Soon after nightfall the pack assemble at a given cry, when they disperse in threes and fours in search of game. The first party that hit off the trail, open, when the whole pack rush to them, and when all are assembled fasten to the trail and off they go. The deer soon become alarmed and double, when the pack immediately tell off in parties, each one rushing to the different passes for which deer are known to make, and on the deer attempting to pass either, it is immediately seized by the party, who utter a simultaneous cry, and the whole pack then rush in and the deer is at once devoured. Fresh game is next sought, and in the same way destroyed, and this species of hunting is continued according to the size of pack, till all their appetities are appeased, when they retire to their almost inaccessible fastnesses in the rocks, and remain for three or four days, until hunger again drives them forth on another excursion. From their destructive qualities, the wild-dogs hardly ever remain longer than a month in the same locality, having in that time effectually scared away all the deer for miles round. Captain Smith never knew them to attack man, and even when severely wounded they will only snap after the manner of a wounded jackal. When deer are not procurable, they will attack even bears. Mr. Arthur Grote, C. S., sent to the Bengal Asiatic Society from Chaibasa, Central India, the skins and skeletons of a mature female, and male half-grown, of the ordinary wild-dog so called, of this country. These animals are specifically identical with a particularly fine living adult male sent down from Upper Assam; and this appears to be the ordinary species alike of the Himalaya and of Central and S. India, Canis Dukhunensis, *Sykes* and C. Primævus, *Hodgson*; and a Malayan specimen in that museum, which is supposed to be C. sumatrensis, Hardwicke, differed only in the considerably deeper tint of its rufous colouring. The dogs of Kanawar are of a large ferocious breed, resembling wild beasts in their nature; they are covered with black wool, and are very averse to strangers, whom they often bite and tear in a most shocking manner; they are generally chained during the day, otherwise it would be dangerous to approach a village. The fleece, especially of the young ones, is almost equal to shawlwool. Dogs are found domesticated, particularly to the northward, and the breed of Bisehur is noted for its size and hardihood. The finest dogs of this breed bear a considerable resemblance to a mastiff, but retain a good deal of the cur. Their colour in general is black and white, with a little red occasionally; their hair is long and thick, and the tail long and bushy, curling up behind: their head is somewhat long and pointed, like the common shepherd's dog. They are often very fierce, and sometimes attain a considerable size, but are seldom so large as a full sized mastiff. These animals are furnished with a down under their long shaggy hair, which is as fine and soft as shawl wool; this comes off easily in warm weather, and is regularly shed with the hair. Every animal is similarly furnished in this cold country. The natives use these as sheep-dogs, in the same way as those of other countries, and also for hunting all sorts of game, even birds which they tire out in flying; and some were valued at a very high price. From a genealogical table in the Encyclopædia Britannica, it appears that the common Turkish dog is the parent stock of most others known in Europe. —*Darwin's Variation of Animals and Plants; Jerdon's Mammalia, Eng. Cyc.; Hind, River Exploring Expedition; Smith's Nepaul; Jour. Asia, Soci. of Ben., Nov.* 1856, p. 440; *Captain Gerard's Account; Fraser's Himalaya, Mountains, p.* 354; *Robinson's Travels, Vol.* ii, *p.* 356.

DOGANA RUKAT. Vide Rukat.

DOGAR, a tribe in the N. W. of India, predatory and pastoral, following mahomedanism but claiming to be Chohan rajpoots. The other converted Chohan, however, believe them to have been Jat and Gujar. The raja of Kashmir is a Dogar. In the 18th century they occupied a considerable tract on the banks of the Sutlej and made themselves formidable to the mahomedan government of Delhi. Members of them rose to power as feudatories of Ranjit Singh, and on the fall of that chief were acknowledged by the British as rajahs of Jamu and Kashmere. The name is also pronounced Dogra in the dialects in the Panjab hills.

DOGBANES, the Apocynaceæ, are trees and shrubs, of which the oleander is a conspicuous example. But some are herbaceous, as in the case of the Vinca, or Periwinkle, a climbing plant with trailing twigs. The Nerium piscidium of Roxburgh, is common in the Khassya or Silhet Mountains, and there

called Echalat. It is an extensive perennial climber. Its bark contains a large quantity of fibre, which the natives use for the same purposes as hemp. Dr. Roxburgh, in steeping some of the young shoots in a fish-pond, in order to facilitate the removal of the bark and to clean the fibres, found that many, if not all the fishes, were killed. Hence the specific name which he applied. Dr. Wight formed the plant into a new genus, Echaltum.—*Fl. Ind., Vol.* ii, *p.* 7.

DOGGALI KURA, Tel. Amarantus polygamus.—*Linn. Roxb.*

DOGHAN. See Kaffir.

DOGRA also written Dogur, a tribe scattered over various tracts of the North-west of Hindoostan. There are a few in Hansi, Sonam and Ferozepoor, which latter place, together with a considerable tract along the bank of the Sutlej, they held for a long time during the last century in almost undisputed sovereignty. Their occupation is divided between pasture and plunder. They are mahomedans, and state that they were originally Chouhans; but the Caim Khanee and other converted Chouhans of those parts will not acknowledge the fraternity, asserting that Dogurs were nothing but Jats and Goojurs. This appears to be the case, notwithstanding all their emphatic negations. Dogurs are held in no consideration by their neighbours, but in former times they were much dreaded on account of their predatory habits, which a civilized neighbourhood and a strong Government compel them now unwillingly to relinquish. Their personal appearance is in their favor. They are a tall and muscular race, and are generally remarkable for having large aquiline noses.—*Elliot's Supp. Gloss.*

DOGS MUSTARD, Eng. Cleome viscosa.

DOG-SKIN. See Leather.

DOGS TONGUE FISH, is shaped like the sole; it attaches itself to the bottoms of boats, and makes a sonorous noise, which is more musical when several are stuck to the same plank and act in concert.—*Bowring's Siam., Vol.* i, *p.* 11.

DOG-WOOD, Eng. Cornus macrophylla, *Wall.*

DOH, a name in Java for the horsehair like fibre of the Ejoo or Gomuti palm, the Arenga saccharifera, Labill.—*Simmond.*

DOHADA, a term which usually signifies the desire or longing of a pregnant woman, to which the hindoos attach equal importance as did the nations of Europe, p. 206.

DOHAGUN. Amongst the hindoos Sohagun, is a woman who becomes satí previous to her lord's death. Dohsgun, one who follows him after death.

DO-HARTHA. A well with two wheels. See Do-mala.

DOHEE, Hind.? A tree of Chota Nagpore, with a soft, white wood.—*Cal. Cat. Ex.* 1862.

DOING NUK. A hill race, in Aracan on the upper waters of the Mayu river. They are budd'hists, their language is a corrupt Bengalee and they call themselves Kheim banago.

DOIPHORYA, Mar. The name of a class of hindoo mendicants who knock their heads against stones to enforce compliance with their demands; hence any importunate petitioner.

DOITYA, Sans. The sons of Ditee.

DOITYARI, Sans. From doitya, a giant, and aree, an enemy.

DOITYA-GOOROO, Sans. From doitya, a giant, and gooroo, a teacher.

DOIVUGNU, Sans. From doivu, fate and gna, to know.

DOJORA. A river of Bareilly.

DOK, Jav. Gomuto, Malay. Arenga saccharifera.

DOKA, Hind.? A tree of Chota Nagpore, with a hard red timber. *Cal. Cat. Ex.*

DOKE-KA-DET, Burm. Connarus monocarpus. *Linn.*

DOKESWA. Hind. Elettaria cardamomum medium.—*Wh. and Maton.*

DOKHMA, or Tower of Silence, the place of sepulture for the dead of the Parsees, also said to be the name applied to the fire temples of the ancient fire worshippers overhanging the Caspian sea.

DOKHN. Arab. Setaria Italica.

DOKHTAR, Pers. A daughter: it is pronounced much the same as that word is in Scotland. It is from the Sanscrit Duhitri, one who milks the cow, a milk maid.

DOKOA, a pigmy African race described by Dr. Krapf, 4 feet high. They pray with feet in the air and their head on the ground, and eat snakes, ants, mice.

DOKRA, a low caste of Singhbum.

DOKUN, Arab. Setaria Italica.

DOL, in Bengal a social section of high caste hindoos, each presided over by Dolapatti, who summons the section together on marriage and death festivals.

DOL in Persian, also Dol Dolab and Dolaba, a revolving wheel of buckets for drawing water, usually called a Persian wheel, and such as is used in dredging machines: in Oordoo, Dol is written either with the Persian or Hindee D.—*Elliot*

DOLA in Yemen is a government of much such another as a Pacha in only acting upon a na... *Nieburh's Travels, Vol.*

DOLA. Bier. Dola Runka, the war bier. Dola-Yatra.—*Tod's Rajasthan, Vol.* i, *p.* 600.

DOLAI. See Kelat, p. 492.

DOLDRUMS, a term given by seamen to the zone or girdle of the equatorial calms, lying between the N. E. and S. W. trade winds. Here long calms alternate with dreadful storms. Besides being a region of calms and baffling winds, it is a region noted for its rains and clouds which make it one of the most oppressive and disagreeable places at sea. The ships from Europe for India and Australia have to cross it. They are often baffled in it for two or three weeks ; then the children and the passengers who are of delicate health suffer most. It is a frightful grave-yard on the way-side to those eastern lands.—*Maury's Physical Geography, p.* 175.

DOLI, grounds and houses, established by hindoo religious bodies in towns.

DOLICHOS, a genus of plants, belonging to the natural order Fabaceæ, or the bean tribe ; about 32 species of Dolichos are known. Cattle eat the straw of D. pilosus, the Takurikulay of Bengal ; several varieties of D. sinensis are cultivated, and D. uniflorus, the common horse gram plant is grown in many parts of India. Dolichos Pilosus, with downy leaves and pods, abounds in some sections of Tenasserim. In Japan a kind of butter, called mijo, is obtained from a species of the dolichos bean (Dolichos soja).—*Simmonds, Mason.*

DOLICHOS ALBUS, *Lour.* Syn. of Lablab vulgaris.—*Savi.*

DOLICHOS ARBOREA, *Roxb.* Syn. of Pongamia glabra, Vent.

DOLICHOS BENGALENSIS, *Jacq.* Syn. of Lablab vulgaris.—*Savi.*

DOLICHOS BIFLORUS, *Roxb.* Syn. Dolichos uniflorus.—*Lam.*

DOLICHOS BULBOSUS, *Rumph.* Syn. of Pachyrhizus bulbosus.

DOLICHOS CATIANY, *Roxb.*

D. sinensis *var.* orthocarpus.

Burbuti,	Beng.	Bullar	Hind.
Tadagunny,	Can.	Masendi,	Maleal.
Kurson pyroo,	,,	Lasunda,	Sans.
Lobeh,	Duk.	Lee Mæ,	Singh.
Small fruited dolichos.	Eng	Caramani	Tam.
Red Gram	,,	Dantu pesalu,	Tel.
Chora,	Guz.	Bobra bobarlu,	,,
Lobeah	Hind.		

A valuable pulse, prized in India, it is cultivated in Portugal.—*Ainslie, p.* 237.

DOLICHOS CILIATUS, *W. & A.* Syn., D. prostratus, *Roxb.* It is the Kanchi or hedge Chukuda kaia, Tel.

[redacted]OLICHOS CULTRATUS, *Thunb.* Syn. [redacted] *cultratus.*—*DC.*

nature [redacted] CUSPIDATUS, *Graham,*

and are very [redacted] ulgaris.—*Savi.*

often bite and te[redacted]

DOLICHOS ENSIFORMIS, *Lour.* Syn. of Canavalia gladiata.—*DC.*

DOLICHOS FABÆFORMIS, *L'Her.* Syn. of Cyamopsis psoraloides.

DOLICHOS LABLAB, *Linn.* Syn. of Lablab vulgaris.—*Savi.*

DOLICHOS LIGNOSUS, *Roxb.* Syn. of Lablab cultratus.—*DC.*

DOLICHOS PRURIENS, *Roxb.* Syn. of Mucuna prurita.—*Hook.*

DOLICHOS PSORALOIDES, *Lam.* Syn. of Cyamopsis psoraloides.

DOLICHOS PURPUREUS, *Jacq.* Syn. of Lablab vulgaris.—*Savi.*

DOLICHOS FALCATUS, *Klein, Roxb.*

Ita munge tige, Tel. | Verri ulva, Tel.

Root tuberous, common in hedges, thickets, &c., where the soil is rich and moist. Flowers during the cold season. The tuberous roots are cut by the natives into the form of beads, and strung and worn round the neck to cure purging in children.—*Roxb. Fl. Ind., Vol.* iii, *p.* 311.

DOLICHOS GLADIATUS, *Jacq., Roxb.* Syn. of Canavalia gladiata, D. Cand, *Roxb., W. & A.*

DOLICHOS GIGANTEUS, *Willd.* Syn. of Mucuna gigantea.—*DC.*

DOLICHOS GLUTINOSUS, *Roxb.*

Glycine viscosa, *Roth.* | Rhynchosia viscosa, *DC.*

Shim-batrajee, Beng.	Karu kandi, Tel.
Erra chikkudu, Tel.	Nugu chikkadu, ,,
Karu chikkadu, ,,	

Grows all over India and has largish yellow flowers differs but little from D. tomentosa.

DOLICHOS SINENSIS, *Linn.*

a eccremocarpus.	*γ* orthocarpus.
aa leucospermus.	*γγ* melanospermus.
ββ phœospermus.	

Burbuti, Beng.	Raongi, Kangra.
Chowlee, Duk.	Rawan, Jalander.
Ollæah, Egypt.	Chaunro, Sind.
Chinese dolichos, Eng.	Wanduru mæ, Singh.
Asparagus beans. ,,	Karamani, Tam.
Lobia, Hind. Pers.	Bobbarlu ; Ala-chandala ;
Paru, Maleal.	Alsanda ; Karamanulu ;
Chota Harwanh, Panjab.	Konda alachandlu the
Rawangan, Simla.	wild var.

The varieties of this commonly cultivated species have white, brown and black seeds. The variety orthocarpus is the D. tranquebaricus of Jacquemont, D. catjang of Roxburgh. This bean is sown at the commencement of the rains ; it has a very long and slender pod, and eaten as French beans ; the bean itself is small. And those with white seeds are esteemed the best.

	Per cent.		Per cent.
Moisture.	12·44	Fatty or oily matter	1·41
Nitrogenous matter.	24·00	Mineral constituents	
Starchy matter	59·02	(ash)	3·13
		Total...	100.00

DOLICHOS SOJA. See Dolichos.

DOLICHOS SPHÆROSPERMUS. See Dolichos.

DOLICHOS SPICATUS, *Kœn.* Syn. of Lablab vulgaris.—*Savi.*

DOLICHOS STIPULACEUS, *Lam.* Syn. Phaseolus trilobus.—*Ait.*

DOLICHOS TETRAGONOLOBUS. See Dolichos.

DOLICHOS TETRASPERMUS, *Willd.* Syn. of Lablab vulgaris.—*Savi.*

DOLICHOS TRANQUEBARICUS, *L.*

D sinensis *var* orthocarpus.

Lobeh ke phalli, DUK.	Pytangkai, TAM.
Rajamasha, SANS.	Pesala kaia, TEL.

This is a long, slender, pleasant tasted legume, not unlike our French bean both in appearance and natural qualities. There is a larger variety of it called in Tamool, Perumpytunkai; in Dukhani, Suffaid Lobeh ka phalli; in Telugu, Dantoo Pesala-kaia, and in Sanscrit, Sveta Rajamasha.—*Ainslie, p.* 244.

DOLICHOS TRILOBUS, *DC.*, BURM. Syn. of Phaseolus trilobus.—*Ait.*

DOLICHOS UNIFLORUS, *W. & A.*,

D. biflorus, *Roxb.*

Roiong; rawan, BEAS.	Kulthi, MAHR.
Kultho kulle; Kulti, BEN.	Muthera; Maediri, MAL.
Hurali, CAN.	Barat: botang; guar, PANJAB.
Kalatt; Kulat, CHENAB.	Kolutha Culutu, SANS.
Kultie, DUK.	Kult, Kolt, RAVI, SUTLEJ.
Madras gram; Gram; Horse gram, ENG.	Gagli, Sutlej.
Kulti, GUZ.	Kollu, TAM.
Kulti, HIND.	Ulavallu, Ulava, TEL.

It is used in Southern India for cattle and is the common food for horses in the southern part of the peninsula. It is a very pleasant tasted pulse, and is used by the lower classes as an article of diet in curries. It is grown in fields after the rains. When given to horses it must first be boiled; they soon become very fond of it, and keep in as good condition as upon any other grain.—*Ainslie, p.* 238.

	Per cent.		Per cent.
Moisture	11·30 11·50	Fatty or oily matter	0·87 0·76
Nitrogenous matter	23·47 23·03	Mineral constituents (ash)	3·34 2·86
Starchy matter	61·20 61·85		
		Total	100·00 100·00

it is commonly cultivated for its pulse up to 7,000 feet or more in the Himalaya and is largely grown in the peninsula of India.

Its Oil

Moneslá gram oil, ENG.	Varcadalai yennai, TAM.
Varoosanigaloo nuna, TEL.	

is a pale yellow clear oil.—*Drs. Roxburgh, Voigt, J. L. Stewart.*

DOLICHOS VIROSA, *Roxb., Rheede.* Syn. of Canavalia virosa, *W. & A.*

DOLL OR PIGEON PEA. Cajanus indicus.

DOLLA KORAWA. See India.

DOLLAR, a coin current in the United States of America, parts of South America, China, and some of the Continental States of Europe. It is usually the largest silver coin of a country. The American dollar is divided into 100 cents., and is valued at 4*s.* 2*d.* There are Sicilian, Austrian and Spanish dollars, which are estimated according to their weights and fineness.—*Simmond's Dict.*

DOLLY, a river of Sylhet.

DOLMEN, a table stone used by ancient races, as a monument for the dead.

Cromlech, is a word applied by the British to widely different structures. Its true meaning is a circle of upright stones, like the "hurlers" and "nine maidens" in Cornwall. The cromlech of the British antiquarian is the same as the Welsh and English "quoit," such as Arthur's quoit or coetan, near Criccieth, Lanyon quoit and Chun quoit and others in Cornwall, Stanton Drew quoit in Somersetshre, the Kitts-Koty or quoit, near Maidstone and the Coit-y-enroc in Guernsey all of them circles of upright stones. Professor Sven Nilsson (*On the Stone Age, p.* 159,) defines the English cromlech as synonymous to the French dolmen, the Scandinavian dös and the dyss of Denmark, consisting of one large block of stone supported by some three to five stones arranged in a ring and intended to contain one corpse only, several of these dorsar being sometimes enclosed in circles of raised stones. Following, however, the nomenclature given by the late Dr. Lukis, we cannot be far wrong in assigning the word cromlech to all elaborate megalithic structures of one or more chambers, in which category the passage graves may be included. The Dolmen (Dol a table, moen a stone), is, as its name implies, of different structure. The cromlechs of Jersey and the adjacent islands partake of the character of the French Grottes aux Feés, the fairy's grotto, as well as the Gangrifter, the gallery tombs of the Swedes, the jettestuer or chambered tumuli of the Danes and the German Hunenbetten. In China, the chambered tumuli associated with megalithic avenues have attained their greatest development. The great tomb (the Ling or resting place of Yung Lo of the Ming dynasty) thirty miles from Pekin, consists of an enormous mound or earth barrow covered with trees, and surrounded by a wall a mile in circumference. In the centre of the mound is a stone chamber containing the sarcophagus in which is the corpse. This chamber or vault is approached by an arched [illegible] the entrance to which is bricked [illegible] entrance is approached by a [illegible] passing through numerous [illegible]ries,

courts and halls of sacrifice, and through a long avenue of collossal marble figures sixteen pairs of wolves, kelins, lions, horses, camels, elephants, and twelve pairs of warriors, priests and civil officers.

DOLOMIEA MACROCEPHALA, *DC.*

Dhup, Dhupa, Gugal,	PANJAB. Sutlej.	The Root. Pokhar-mul,	PANJAB.

Not uncommon from the Sutlej up to the Indus, at from 10,500 to 13,000 feet, often growing on the crests of ridges. The odorous root is locally used as incense offered at shrines and to rajas, and the flowers also are placed in temples on the Sutlej.—*Dr. J. L Stewart.*

DOLOMITE, a magnesian lime-stone, used for building and for lithographic stones.

DOLPHIN. This name is applied by southern-going sailors to two fishes, one the brilliant Coryphæna hippuris *Linn.*, the Dorado or Dolphin proper, of a brilliant blue or purple, the other the Dolphinus or Porpess. Naturalists recognise about thirty species.—*Bennet, p.* 21.

DOLPHINUS PLUMBEUS, *Cav.* Syn, of Steno Malayanus.

DOLPHIN VENTRE Roux of Paris Museum. Steno Malayanus.

DOLA, SANS. From dool, to swing.

DOM or HALI, a low caste in northern India, employed as makers of ropes, fans, baskets and mats. In Oudh, the Dom, is a sweeper, carries away the dead; is often a musician and his wife the Domini an actress who performs in the private apartments of women. In Kumaon in North-western India, engaged in basket making and wicker work. They have dark almost black skins and crisp curly hair. The Dom of Kumaon, is dwelling amongst the general population in the north of India, under the Himalaya and in the Kumaon Hills. The Dom were once a considerable tribe and are still a numerous helot section of the population being in fact the only inferior class and ordinary laborer as well as artizans. The Dom are very black with curly hair and altogether aboriginal in appearance. The Dom or Domar in the labor market of northern India take the place of the Mang of the south of India. Dom, of Northern India are rope, fan, basket and mat-makers. In Oudh and Bengal the Dom are [illegible] and carry dead bodies. The Dom [illegible]sicians. The Mirasi Dom are [illegible]s, *Ru.* called Mir and Mirasi. [illegible]da kaia, TE. of the aboriginal tribes [illegible] their residence to [illegible] Bhut[illegible]

[illegible]DS CULTRATUS—[illegible] e Rohini.
[illegible]stratus.—*DC.*

[illegible] CUSPIDATUS, ormer im-
and are very [illegible]ulgaris.—es of their
often bite and tea[illegible]

founders, as for instance Domdiah and Domungurh. Ramgurh and Suhunkote on the Rohini are also Dom forts. Buchanan considers that the Dom are the same as the Dom Kutur (Domtikar). He also conceives that the Dom expelled the Tharoo and were afterwards expelled by the Bhur: There are sevaral Dom or Domra scattered over the Western Districts of Oudh and in Bundlecund and Saugor, who are engaged in the menial occupations of making ropes, fans, mats, and such like articles. In Oudh the term Dom is applied to sweepers as the Bhungee and Chookra are elsewhere. Dom is also the name of a tribe of mahomedans descended from Bhat. They are perhaps more generally known by the name of Meerasi and Puk'hawuje. The name of Meerasi is abbreviated into Meer: and thus the Meer of the Kala Nuddee, after whom Meerapoor is called, having assumed this distinguished title, are frequently able to conceal the truth of their being really descended from the Meerasi Soorkh. In the great belt of forest land intervening between the mountains and the plains are tribes whose characters are scarcely yet known. One of these the black curly haired Dom of the North-west provinces are generally regarded as a remnant of the original stock which the intruding Arians displaced, the huts of the Dom or Hali being on a low range. The Dom are hereditary boudsmen to the Rajpoots. They are supposed to be the same as the Dom of the Santal Hills, and the Dumi still a well defined tribe in Sub-Himalayan Nepal. Besides the Dom of Gurhwal, in the North-west provinces, there are wandering and wild tribes, named Bhur, Damak, Kanjar, Pasi Kumboh, Nat Saussee, Gond and the Tharoo in the Terai—the Pasi also occurring in Oudh.—*Wilson; Latham; Campbell, pp.* 16-125; *Buchanan, Eastern India, Elliott Supplement.*

DO-MALA, HINDI. A large well, furnished with a double "hartar" or Persian wheel.

DOMANG, a low caste race in Kunawar, the same as the Dom of Kumaon.

DO-MAT, HIND. Soil, part clay and part sand, hence the name, "two earths," do-mat.

DOMBA, OR DOMBAR, *Karn.* also domar.

Dommara, TEL.	Dombari, MAR.

A tumbler, a rope dancer, a juggler, probably a vernacular modification of Dom. The Domar, are also known in the south of In[illegible] the Kollati or Khelati. The young women [illegible] models of physical strength, they are not restrained [illegible] intercourse for money. They are in small clans in the centre and south of the peninsula of India.

DOMBA GASS, Singh. Calophyllum inophyllum.—*Linn.*

DOMBAKEENA, Singh. Calophyllum moonii.—*Wight.*

DOMBA OIL, a fragrant fixed oil obtained in India from the seeds of the Alexandrian laurel, Calyophyllum inophyllum. It is used for burning and for medicinal purposes.—*Simmond's Dictionary.*

DOMBE, Singh. Calophyllum inophyllum, *Linn.* A soft, coarse, open-grained, light Ceylon wood, bearing a strong resemblance to inferior Honduras mahogany, takes a good polish, and presents a pretty, curled pattern; perhaps not a very durable wood, at all events in its native country.—*Ex. p.* 1851.

DOMBERA. See Rhodia.

DOMBEYA, a genus of plants belonging to the natural order Sterculiaceæ, inhabiting the East Indies and the isles of France, Bourbon and Madagascar. The name Dombeya was also applied to the plant now called Araucaria excelsa. The bark of D. Spectabilis is made into ropes in Madagascar.—*Eng. Cyc., p.* 385, *Roxb., Voigt.*

DOMBEYA ANGULATA, *Cav.* Syn. D. tiliæfolia, *Roxb.*, is a shrub, native of Bourbon, with rose coloured flowers like those of the common oleander, leaves cordate, acuminate, and serrate; old ones three or five-angled; flowers in corymbs, of a pretty rose colour.—*Roxb., Riddell, Voigt.*

DOMBEYA EXCELSA, *Lam.* Syn. of Araucaria excelsa, R. *Br.*

DOMBEYA PALMATA, *Cav.* A shrub; leaves palmate, resembling the common castor oil plant; flowers, in large terminal corymbs, rose coloured, appear in September and October.—*Riddell.*

DOMBEYA TOMENTOSA, a small tree with rose coloured flowers.—*Riddell.*

DOMEA. See Tou Kung.

DOMESTIC CAT, *Ind.* Felis catus. See Felis.

DOMETT, a thin kind of flannel, of which the weft is of wool, the warp of cotton.—*Faulkner.*

DOMINOS, a group of several islands moderately elevated near Lingin in lat. 0° 2′ to 0° 10′ S.—*Horsburgh.*

DOMNEEAN, Hind. Female musicians.

DOMOLO, Jav. Wormwood.

DOMOOTEE, Beng. Hydrocera triflora.

DOMTIKAR, Hind. A division of Sarwaria brahmans.

DON. D., a botanist, author of the Prodromus Flora and Nepaulensis.

DON or clod-crusher is drawn with two bullocks; the driver stands on the implement when working it. The 'Kooloo' is used after the clod-crusher for levelling the ground. With the scarifier removed, it is used for covering is the seed after it is drilled in. The Koree, or drill used in rice cultivation.

DONA, Sans. Wormwood. Artemisia Indica. A. elegans, also Daphne oleoides.

DONA, a leaf so folded up as to hold anything.

DONABEW, a town in Pegu, taken 2nd April 1825.

DONACIA, one of the Coleoptera of Hong Kong.

DONAX ARUNDASTRUM, *Lour.* Syn. of Maranta dichotoma—*Wall.*

DONDA. Tel., also Bimbika. Tel., Coccinea indica.—*W. and A.*, also Momordica monodelpha.—*Roxb., Rheede.*

DONDA KURA, Tel. Bryonia grandis.

DONDRA HEAD, the most southern point in Ceylon, is in lat. 5° 55′ N., long 80° 37′ E.—*Horsburgh.*

DONDU, Hind. Tubes of the corolla of the Nyctanthes arbor-tristis.

DONG. See Yak.

DONGAR-KOLI, Mar. A lawless tribe inhabiting the hilly country. See Coolee.

DONGI-DONGI, of Maccassar. Eucheuma spinosa, Plocaria candida, *Nees*; the Agar Agar of commerce.

DONI. A vessel used in the coasting trade of Coromandel, from which they often carry cargoes to Ceylon and the Gulph of Manaar. The Doni, of the Coromandel coast is a huge vessel of the ark-like form, about seventy feet long, twenty feet broad, and twelve feet deep; with a flat bottom or keel part, which at the broadest place is seven feet; and at the fore and after parts of the vessel it breaks into ten inches, which is the siding of the stem and stern-post. The fore and after bodies are similar in form midships. Their light draught of water is about four feet and when loaded, about nine feet. These rude unshapely vessels trade from Madras and the coast to the Island of Ceylon; and many of them to the Gulf of Manaar, as the water is shoal between Ceylon and the southern part of the continent. They have only one mast, with a long sail; and are navigated from land to land, and coastwise, in the fine season only.

DONKEY, the ass, the gad'ha of the Urdu speaking races of India, Gadhe-ka-hal, Hind. literally a "Donkey's plough." Before the British domination in India, it was not uncommon to yoke donkeys in a plough and drive them over the ruins of a c[illegible] as a mode of showing suprem[illegible] the vanquished enemy. It [illegible] thus.

island of Salsette, and at Mahabalipur. In form many of them are copies of and a good deal resemble the budd'hist Vihara. But they have not been appropriated from the budd'hists, as the arrangement of the pillars and position of the sanctuary are different. They are never surrounded by cells as all Vihara are, and their walls are invariably covered or meant to be covered with sculpture, while the Vihara are almost as invariably decorated by painting, except the sanctuary. The subjects of the sculpture of course always sets the question at rest. To this class belong the far-famed Kylas at Ellora, the Saivite temple at Doomnar, and the Ruth at Mahabalipur. This last is cut out of isolated blocks of granite, but the rest stand in pits. The Indra Subha group at Ellora are of a separate class, but whether they are brahminical or Jaina is undecided. The Kylas at Ellora is a wonderful work of art—is one piece of rock—in fact a small hill cut into a temple. The Ellora caves are excavated in a porphyritic greenstone. See Karli.

DOOMNEE. See Kunawar.

DOOMOOR, Beng. Common fig tree, Ficus carica.

DOON DOOMMALE RESIN, the gum-resin of the Doona zeylanica tree. A valuable article of commerce.—*Ed. Phil. Journ.*

DOON, Burm. In Aracan a land measure 30,720 square yards, therefore equal to a little more than six and a quarter English acres.

DOONA, *Thwaites.* A genus of great trees of Ceylon, D. affinis occurs between Ratnapoora and Galle, at no great elevation. D. congestiflora, "Tinneya grass, *Singh.*, at Hinidoon and Pasdoon Corles, D. cordifolia, at no great elevation at Pasdoon Corle and Ambagamowa : D. Gardneri, in the central province at an elevation of from 3,000 to 5,000 feet. D. nervosa at Eknalagodde near Ratnapoora.—*Thwaites, En. Pl. Zeyl.*

DOONA TRAPEZIFOLIA, *Thwaites.*

Tucoahaaloo-gass. Singh.

Grows as a common forest tree, in the central and southern parts of the island of Ceylon up to an elevation of 1,500 feet.—*Thw., p.* 55.

DOONA ZEYLANICA, *Thwaites.*

Doon-gass. Singh.

Grows in the central province of Ceylon, up to an elevation of 4,000 feet. A large quantity of colourless gum-resin exudes from the trunk and branches of this fine tree, which, when dissolved in spirits of wine or turpentine, makes an excellent varnish.—*Thw., p.* 34.

DOONA ZEYLANICA, produces the gum-resin, called by the Cingalese, "doon-doomale."

DOONA ? See Resins.

DOONAH, or *dooah*, in Rajpootanah is a portion of the dish of which the prince partakes, sent by his own hand to whomsoever he honors at the banquet. At the "russora," or refactory, the chiefs who are admitted to dine in the presence of their sovereign are seated according to their rank. The repast is one of those occasions when an easy familiarity is permitted, which, though unrestrained, never exceeds the bonds of etiquette, or the habitual reverence due to their father and prince. When he sends, by the steward of the kitchen, a portion of the dish before him, or a little from his own *khansa* or plate, all eyes are guided to the favored mortal, whose good fortune is the subject of subsequent conversation. Though, with the diminished lustre of this house, the *doonah* may have lost its former estimation, it is yet received with reverence.—*Tod's Rajasthan, Vol.* i, *p.* 317.

DOONCHA, Hind. properly Dhancha, the Æschynomene cannabina, extensively cultivated in Bengal on account of its coarse fibres, which are much employed in making cable-ropes.

DOON, Hind. A valley, a term locally applied in the Siwalik Hills, under the Himalaya, as Patlee Doon, Dehra Doon. We appear to have the word in the Celtic and Indo-European languages, as well as in the Arabic. In English we preserve to the present day both the adverb, "down" to imply descent and "down" the noun to imply a slooping hill, an elevated plain, or hillock of sand on the sea shore.

DOOND. See Khyber.

DOONEEADAR. A mode of address among fuqeers.

DOONGURPORE. This family is an offshoot of the House of Oudeypore. On the fall of the Mogul empire, Doongurpore, like other Rajpoot States, became tributary to the Mahrattas. It was at first arranged to divide the tribute of Rupees 35,000 levied from it between Sindia, Holkar and Dhar, but Dhar ultimately succeeded in establishing its exclusive right. This tributary claim was transferred to the British Government by the Treaty of 1818 (No. L) with Juswunt Sing in return for its protection. As in other States inhabited by wild hill tribes, it became necessary at an early period of the British supremacy to employ a military force to coerce the Bheels who had been excited to rebellion by some of the disaffected nobles. The Bheel Chiefs, however, submitted to terms (No. LIII) before actual hostilities

commenced. The Rawul, Jeswunt Sing, was incompetent as a ruler, and addicted to the lowest and most degrading vices. For his incompetency and the disturbances of the peace which he created he was deposed (No. LIV) in 1825, and his adopted son, Dulput Sing, grandson of Sawunt Sing, Chief of Pertabgurh, was made Regent. In 1844 the succession of Pertabgurh devolved on Dulput Sing. The Chief of Doongurpore has received a Sunnud (No. III) guaranteeing to him the right of adoption. He is entitled to a salute of fifteen guns. The area of his State is about 1,000 square miles, with a population of about 100,000. The revenue, after deducting the tribute and the stipends of feudatories, is about Rupees 75,000. No local corps or contingents are kept up at the expense of the State. The Chief's military force consists of about 125 cavalry and 200 infantry.—*Treaties, Engagements and Sunauds, Vol.* iv, p. 168.

DOON-GASS, SINGH. Doona zeylanica. —*Thwaites.*

DOON-KOLA, SINGH. Tobacco.

DOOP OR DUP-MARAM, also named Nadenara, a tree in the forests of the western coast of India from north to south. It grows from sixty to eighty feet high, and from two to three feet in diameter. It is a light sort of wood, similar to the white American fir of New England. This tree produces the best description of Indian dammar, or resin ; but it is not so valuable as the dammar from the island of Sumatra. The natives use the large trees as rafts, and as catamarans, and for house-building, and the small spars to make sheds and yards for the native vessels. So long as the moisture of the wood remains, it may be considered to answer these purposes, but when it becomes dry, it is very brittle and of no use. At Cochin, Mr. Edye found the rafters and uprights of the roofs over the ships of war at that port, of this wood, with the purlings of split bamboo over them, and cadjans (cocoanut leaves plated), all of which were lashed together by coir yarns. The amount of expense for a roof with sheds was about 350 rupees, or £44 sterling. One sort of the Dup-maram is named Nadenar, which means long-stringed Dup-maram, not of much use or value, grows to about sixteen inches in diameter, and sixty feet in height. Another sort named Paini Dup-maram, which produces a sort of resinous gum, is found in the Cochin and Travancore forests, but is rarely cut down, as the dammar taken from it is valuable, and when mixed with the wood-oil makes the Paini Varnish. This is an article export to China from Sumatra, where this tree also grows from thirty to fifty feet high, and from two to four feet in diameter, and in greater abundance than on the coast of Malabar.—*Edye, M. & C.*

DOOPADA NUNA, TEL. Piney tallow, Doopada oil. Oil of Vateria indica. Doopada Resin, exudes from the Vateria Indica, and constitutes the piney varnish. The resin is used as a fragrant incense in temples, the quantity procurable is very considerable.—*M. E. J. R.*

DOOPATEE-LUTA, BENG. Ipomœa pes-capra.

DOO-PAHARIYA, BENG. Pentapetes phœnicea.

DOPUTTA, the dooputta scarf, an exquisitely beautiful article of Indian costume for men and women is worn more frequently by mahomedan women than hindoo, and by the latter only when they have adopted the mahomedan langa, or petticoat ; but invariably by men in dress costume. By women this is generally passed once round the waist over the petticoat or trousers, thence across the bosom and over the left shoulder and head ; by men across the chest only. Dooputtas, especially those of Benares, are perhaps the most exquisitely beautiful of all the ornamental fabrics of India ; and it is quite impossible to describe the effects of gold and silver thread of the most delicate and ductile description imaginable, woven in broad, rich borders and profusion of gold and silver flowers, or the elegance and intricacy of most of the arabesque patterns of the ribbon borders or broad stripes. How such articles are woven with their exquisite finish and strength, fine as their quality is, in the rude handlooms of the country, it is hard to understand. All these fabrics are of the most delicate and delightful colours ; the creamy white, and shades of pink, yellow, green, mauve, violet and blue, are clear yet subdued, and always accord with the thread used, and the style of ornamentation, whether in gold or silver, or both combined. Many are of more decided colours—black, scarlet and crimson, chocolate, dark green, and madder ; but, whatever the colour may be, the ornamentation is chaste and suitable. For the most part, the fabrics of Benares are not intended for ordinary washing ; but the dyers and scourers of India have a process by which the former colour can be discharged from the fabric, and it can then be re-dyed. The gold or silver work is also carefully pressed and ironed, and the piece is restored, if not to original beauty, at least to a very [illegible] condition. The dooputtas of P[illegible] indeed most others except Ben[illegible] stronger fabric. Many of [illegible] woven

in fast colours, and the gold thread—silver is rarely used in them—is more substantial than that of Benares. On this account they are preferred in Central India and the Deccan; not only because they are ordinarily more durable, but because they bear washing or cleaning better. In point of delicate beauty, however, if not of richness, they are not comparable with the fabrics of Benares. Scarfs are in use by every one, plain muslins, or muslins with figured fields and borders without colour; plain fields of muslin with narrow edging of coloured silk or cotton (avoiding gold thread), and narrow ends. Such articles, called 'sehla' in India, are in every day use among millions of hindoos and mahomedans, men and women. They are always open textured muslins; and the quality ranges from very ordinary yarn to that of the finest Dacca fibres. No attire is so becoming to the delicate form of a woman as the Hindoostanee garments angya and dopatta. A woman in European attire gives the idea of a German manikin, an Asiatic in her flowing drapery, recalls the statue of antiquity. These scarfs are manufactured at various places and of different qualities and colours. Those brought from Benares are always with gold and plain lace borders of different sorts, are sold at from 25 to 350 Rupees each. Those of Arnee in the Collectorate of Chingleput, with borders of yellow cotton, are priced at from Rupees 2 to 7 each and those of Ooppada in Rajahmundry are woven with white borders and are sold at from 1½ to 3 Rupees each.—*Dr. Watson; Tr. of Hind., Vol.* ii, p. 37.

DOOR, or Hulqaa, female ornament.

DOORANI, a titular name of an Afghan tribe. See Dourani.

DOORBA, Beng., Hind. Cynodon dactilon, Pers., the hariali grass.

DOOREAH, Hind. A dog-boy.

DOORGA, a name of the hindoo goddess Parvati or Kali. Doorga, Sans., means difficult of access, from door, *prep.* and gâm to go. Parvati or Doorga Mata, the Mater Montana of Greece and Rome, is according to Diodorus, an epithet of Cybeleor Vesta as the guardian goddess of children, one of the characters of the Rajpoot "Mother of the Mount," whose shrine crowns many a pinnacle in Méwar; and who, with the Dooi[illegible]mrí is amongst the amiable forms [illegible]rsal mother, whose functions Grows in the [illegible]d and extensive than her up to an elevation of[illegible]d of Greece. Like the [illegible] of colourless [illegible]rga wears the crescent [illegible] and branches; also "the turretted [illegible] spirits, goddess of all places [illegible] varnish, and like her she is drawn or carried by the lion. As Mata Janávi the "Mother of Births," she is Juno Lucina: as Padma, 'whose throne is the lotus,' she is the fair Isis of the Nile: as Tripoora 'governing the three worlds,' and Atmá—devi, 'the goddess of souls,' she is the Hecate Triformis of the Greeks. In short, her power is manifested under every form from the birth, and all the intermediate stages until death; whether Jánávi, Gourí, or the terrific Cali, the Proserpine or Calligenia of the west.—*Tod's Rajasthan, Vol* i, *p.* 576.

DOORGAH POOJAH, a term given in Bengal to the hindoo festival of the Dusserah, occurring in the autumn. See Dassarah; Dusserah.

DOORGAWATEE, queen regent of Gurha Mundela, was killed in action against the troops of Akbar, under Asof Khan, she was interred where she fell and to this day, the passing traveller places over her grave, one of the white quartz crystals with which the hills in the neighbourhood abound. Two rocks are at her grave which the people believe to be her drums converted into stone, and the neighbouring villagers say that they occasionally at night hear sounds issuing from them. See Cairn.

DORIAN, the fruit of the Durio zibethenus a pleasant tasted fruit, but to most Europeans, of most offensive persistant odour though the natives of Amherst and Malacca are very fond of it. They cost three rupees each.—*Moulmein.*

DOORK'HEE, Hind., also written durk'hi. An insect whose ravages are very destructive to Indigo, when the plant is young.

DOOROO, Singh. Cumin seed.

DOORS, are generally open in India and the number of servants about, admit of this. But when the doors are shut, before opening them, all the questions in Acts xii, 13 are put 'And as Peter knocked at the door of the gate a damsel came to hearken named Rhoda.' A stranger approaching a house, does not attempt to open its door but usually claps his hands, two or three times together. This is called thali dena. The English word "door," is from the Sanscrit, "dwar", and has its equivalent in "dar" Persian. The English in Calcutta, retain a door or gate keeper, dar-wan, who shuts the gates when visitors are not receivable.

DOORUGBUNSEE, also written Duragbansi, name of a clan of Rajpoots who hold villages in Gurwara.

DOORVA, Beng. Cynodon dactylon, the hariali grass.

DOORYODHANA, Sans. From door, *prep.* and yodhana, war.

DOOSIU. See Japan.

DOOSTPARISHA, Sans. Tragia involucrata.

DOOTEE-SAMBODHU, Sans. From dōōtēē, a female messenger, and Sāmbodu, a call.

DOOWIN—? Durio zibethinus.

DOPAEE, Hind. A variety of magic squares.

DOPAHRYA, Hind. Pentapetes phœnicea.

DOPATEE, Beng. Impatiens balsamina.

DOPHLA. That portion of the southern face of the sub-Himalayas which extends from 32° 50' to about 34° north latitude, and forms the northern boundary of the valley of Assam, from the Kuriapara Dowar, to where the Subanshiri debouches into the plains, is occupied by a tribe of mountaineers, usually known to the people of the valley, under the appellation of the Dophla. This term, whatever may be its origin, is not recognized by the people to whom it is applied, except in their intercourse with the inhabitants of the plains. Bangni, the term in their language to signify *a man*, is the only designation they give themselves. During the latter days of the Ahom suzerainty when internal dissensions and the growing imbecility of the government furnished opportunities for the bordering tribes to indulge in acts of rapine and lawless aggressions on their low-land neighbours, the Dophla were not slow in exacting their share of the general spoil. Several attempts were made to check their atrocities: and on one occasion, rajah Gourinath Sing, is said to have marched an army into their hills for the express purpose of chastising them, and several thousand Dophlas were taken prisoners and brought down to the plains. The rajah, obliged them to dig a canal with the view of draining off the large and unwholesome morasses that still exist in muhal Kollongpur. But, owing to the bad treatment to which the prisoners were subjected, and the unhealthiness of the season, the greater portion of them are said to have perished, and the task assigned to them remained unaccomplished.—*Beng. As. Soc. Jour., No.* 2051.

DOPPELT CHLORQUECKSILBER, Ger. Corrosive sublimate.

DOR, a tribe of Rajpoots, some of whom, mostly converted to mahomedanism, are settled in the district of Aligarh, also about Banda and Sagar. Time has destroyed all knowledge of the history of this race, but they must have been of importance in the time of the last hindoo sovereign of Delhi, Prithi-raj, as he commemorated a victory over them by a tablet. Before the emigration of the Bir Goojur race, they were the chief proprietors of Aligarh; and a remnant of them now exists in Dubhaee, Atrowlee, Coel, Shikarpoor and Burun.—*Elliott, Tod, Wilson.*

DOR, Hind. Land ploughed twice. When ploughed three times, it is called Teoor; when four, Chuwur.

DOR OR CASTEL PELEGRINO, the modern village Athebis the first place towards Jaffa; it is the Castel Pelegrino of the Crusades, and the Dor of the Hebrews. Its columns and buttresses, are a confused mass, stretching into the waves, over which the surf breaks. Dor is the celebrated city of Cæsarea.—*Skinner's Overland Journey, Vol.* i, *p.* 96.

DOR, Hind. Spiræa Lindleyana, also Arum curvatum.

DORA, Tel. A respectable person, the equivalent of Mr. or Master; plural Doragaru; Dorawanlu.

DORADINA. A group of trees of the family Siluridæ Stenobranchiæ.

DORAK. See Khuzistan or Arabistan.

DORANA, Singh. Dipterocarpus glandulosus, *Thw.*

DORCUS, one of the Coleoptera of Hong Kong.

DORDONIA ORIENTALIS. Hop wood of Norfolk Island, does not attain to more than a foot in diameter, and is principally used for veneering and in turning ornaments.—*Keppel's Ind. Arch., Vol.* ii, *p.* 282.

DOREMA. A genus of plants belonging to the natural order Umbelliferæ.

DOREMA AMMONIACUM, *Don.*

Ferula orientalis.	Ferula ammonifera Fee.
Feshuk, Arab.	Simugh teratees, Pers.
Eastern giant fennel, Eng.	„ b'ul-shirin, „
Oshak, Pers.	

A glaucous green plant with a perennial root, and large leaves 2 feet long. It is a native of Persia, in the plains of Yerdekhast and Kumisha in the province of Irak; and near the town of Jezud Khast in very dry plains and gravelly soil, exposed to an ardent sun. This is one of the plants which yield gum ammoniacum, but it is probable that several plants yield this as well as the other gum-resins of the order Umbelliferæ. This gum resin is imported into Bombay from the Persian Gulf, and re-exported to different countries. It is obtained by incisions in the plant, and occurs in two forms—first in voluminous masses of yellowish colour, enclosing white almond-like tears, the whole being of plastic consistence, and very [illegible] pure;—secondly, in tears of irre[illegible] white or yellowish, opaque, [illegible] agglutinated or distinct, com[illegible] glassy fracture, and free [illegible] woven

odour is faint and peculiar, taste sweetish and then bitter. It is partially soluble in water, ether, alcohol, alkaline solutions and acetic acid. Its medical effects, are similar to, but less powerful than asafœtida. It is principally employed as an expectorant in the chronic catarrhs and asthmas of old persons. It is also applied externally as a warm and stimulating plaster. (Lindley, *Flora Medica.*) —*Eng. Cyc., p.* 335; *Faulkner; O' Shaughnessy, p.* 364—365; *Powell's Hand-Book, p.* 354. See Ferula, Persica, Asafœtida.

DORGANIA SUBPLANA. See Chelonia.

DOREY, a village in New Guinea, in which the houses are built on posts, in the water, and are reached by long rude bridges. The houses are low, in the form of a boat bottom upwards. The people resemble the Ke and Aru islanders, and many of them are very handsome, tall and well-made, with well cut features and large aquiline noses. Their colour is a deep brown often approaching closely to black, and the fine mop-like heads of frizzly hair appear to be more common than elsewhere, and are considered a great ornament, a long six pronged bamboo fork being kept stuck in them to serve the purpose of a comb. The majority have short woolly hair. They are shore dwellers, fishers and traders. The hillmen, or Arfak, of the interior, are generally black but some are brown. Their hair though always more or less frizzly, is sometimes short and matted. Birds of paradise are brought to Dorey for sale from Amberbaki, about a hundred miles west. The Arfak mountains are about ten thousand feet high, and inhabited by savage tribes. The inhabitants of Dorey are all seafaring. Men, women and children are seen at almost all times in their small outrigger prahus. They prefer making use of their sampans to pass from one house to another to going on foot. They do not walk more than is absolutely necessary, either to go to their gardens, or to bring wood or water, which is the daily duty of the women. They are all very expert in swimming and diving. Often when some of their small prahus were lying near the ship on throwing overboard pieces of copper, glass beads, and similar trifles, young and old sprang from the sampans and dived to secure the prize. They scarcely ever came to the surface without having brought up what had been thrown in. Knives were the only things which they did not succeed in securing, as [illegible] quickly to allow them to dive up to an elevation [illegible] or many in the water [illegible] colourless urga wears [illegible] took [illegible] e sank too [illegible] them; as there were [illegible] "the turrette[illegible] same time, struggles sometimes [illegible] mongst them under water. The [illegible] to swim and dive as soon as [illegible] ey can keep in the water a long time. On a pole near the stem of of the boat, they place, chiefly for ornament, a thin, finely carved, red and white striped plank, sometimes furnished with the image of a Papuan's head, with out-sticking hair, made from gumuti fibres or cassowary feathers. Their food consists principally of millet, obi, maize, a little rice, fish, hog's flesh and fruit. Sago, the general food of the inhabitants of the Moluccas and the islands to the east, is here only found in small quantities and is brought from elsewhere. The fish and flesh they eat roasted or dried. Respect for the aged, love of their children, fidelity to their wives are traits which reflect honor on their disposition. Chastity is held in high regard and is a virtue which is seldom transgressed by them. A man can only have one wife and is bound to her for life. Concubinage is not permitted. Adultery is unknown amongst them. They are generally very fond of strong drink, but although they go to excess in this, it could not be learned that they prepared any fermented liquor, not even sago, weer or tuak. Kidnapping is general in these countries and is followed as a branch of trade, so that there is no dishonour attached to it.—*Wallace*, ii, *p.* 184; *Earl p.* 71; *Journal of the Ind. Arch., June* 1852, *pp.* 312 *to* 317.

DORI, Hind. Cedrela toona *var.* C. serrata, *Royle*, also Polygonum bistorta.

DORIHAR, Hind. A pedlar selling laces and thread, also, a Saiva mendicant living partly by the sale of thread. Dori means a small twine or thread or cording, used on the edges of clothing, similarly to Nakki, Gota, Kinari, Patti, Mandil and Zardozi.

DORIS BARNARDI, of Kelaart, has rich colours. D. Exanthemata, of Kelaart, of Formosa, Labuan and Borneo is nearly eight inches long, of an olive green colour, and is the largest known nudibranch. Its besses and tubercles render it an unpleasing object.—*Calld.*

DOR-KHAIR, Hind. ? A tree of Chota Nagpore, with hard, yellowish-red timber.—*Cal. Cat. Ex.*, 1862.

DORKINEE. See Bazeegur.

DORLA, Duk. Brinjal.

DORLE KA PHAL, Duk. Solanum jacquini.

DORO Sindh. Unripe fruit of Capparis aphylla.—*Roxb.*

DORVILLE. Fathers Grueber and Dorville crossed China from Pekin, by Singanfoo to Sining, and reached the Koko-noor valley, and thence passed into Tibet, round the sources of the Hoang-ho, and crossing those of the Yang-tse-Kiang river, they came on *prep.* from thence to India, through the valley of Nipal by Katmandu and Hetounda to Patna,

on the Ganges, where Dorville died.—*Prinsep Tibet, Tartary, and Mongolia, p.* 14.

DORYMA BERDMOREI, *Blyth.* A genus of the family Geckotidæ, found in Mergui.

DOSA, Tel. also NAKKADOSA, Tel. Cucumis utillissimus.—*Roxb., W. & A.*

DOSAD, in Bengal, a low caste, employed as executioners, to remove dead bodies, as village watchmen, and messengers: in Bengal and Bahar, the work of labourers is done by Bhui, Rajwar and other aboriginal tribes, but Chandal, Dosad, Hari, Bhumali are names of other outcaste races, the Bhuimal, in Bengal, are the lowest or sweeper class, the Dosad of Bahar used to make frequent predatory excursions into lower Bengal.—*Campbell, p.* 129, *Wilson.*

DOSKI, Rus. Deals.

DOSS, from Dasa, Sansc., a slave,—a surname of many hindoo races in India, as Jaggadamba Doss, and supposed by some to mark their origin,—by others to have the same reference to the hindoo gods, as the Abid, or Gholam of the present Arabs, "slave" to the Almighty. Many of the mahomedans having such names as Abid-ul-Kadir, Abid-ullah, slave of the Almighty, slave of God. This name, among hindoos, is borne chiefly by men of the bunya caste, by byragee fukeers, and occasionally by kayet'hs and brahmins. It is usually coupled with the name of some deity, as Shib Doss, Narayen Doss, &c., to imply subjection to some special tutelary god.

DO-SHAHI, Hind. A soil, part clay and part sand, soil of two kinds mingled, hence its name, do-mat, or two earths.

DO-SHALA, Hind., Pers. Double shawl, shawls being always worn double, by the natives of India.

DOSHAM. See Polyandry.

DOSIA POWDER. The Japanese have a method of interment peculiar to themselves. Instead of enclosing corpses in coffins of a length and breadth proportionate to the stature and bulk of the deceased, they place the body in a tub, three feet high, two feet and a half in diameter at the top, and two feet at the bottom. The Japanese, state that they produce this result by means of a particular powder called dosia, which they introduced into the ears, nostrils, and mouth of the deceased, after which the limbs all at once acquire astonishing flexibility. As they promised to perform this experiment in Mr. Titsingh's presence, he remarks, the experiment accordingly took place in the month of October, 1783, when the cold was already pretty severe. A young Dutchman having died in the island of Desima, he directed the physician to cause the body to be washed and left all night exposed to the air, on a table placed before an open window, that it might become completely stiff. Next morning, several Japanese, some of the officers of the factory, and myself, went to examine the corpse, which was as hard as a piece of wood. One of the interpreters, named Zenby, drew from his bosom a santock, or pocket-book, and took out of it an oblong paper full of a coarse powder resembling sand: this was the famous dosia powder. He put a pinch into the ears, another into the nostrils, and a third into the mouth, and presently, whether from the effects of this drug, or of some trick which he could not detect, the arms, which had before been crossed over the breast, dropped of themselves, and in less than twenty minutes, by the watch, the body recovered all its flexibility. He attributed this phenomenon to the action of some subtle poison, but was assured that the dosia powder, so far from being poisonous was an excellent medicine in difficult labours. In such cases, a cup of hot water, in which a little of the dosia powder, tied in a bit of white rag, has been infused, is administered to the patient, who is then sure to obtain a safe and speedy delivery. The dosia powder is likewise recommended as the most efficacious remedy for diseases of the eyes. An infusion of this powder, taken even in perfect health, is said to have virtues which cause it to be in great request among the Japanese of all classes. It cheers the spirits and refreshes the body. It is carefully tied up in a piece of white cloth and dried, after being used, as it will serve a great number of times. The same infusion is given to people of quality when at the point of death: if it does not prolong life, it prevents rigidity of the limbs; and the body is not exposed to the rude handling of professional persons—a circumstance of some consequence in a country where respect for the dead is carried to excess. He had the curiosity to procure some of this powder, for which he was obliged to send to Kidjo, or the nine provinces, to all the temples of the Singous, which enjoy the exclusive sale of it, because they practise the doctrine of Kobou-Daysi, its inventor. It was after the death of this Kobou-Daysi, in the second year of the nengo-zio-wa (A. D. 825), that this sand came into general use in Japan. The quantity obtained in consequence of his first application was very small, and even this was a special favour of the priests, who otherwise never part with more than a single pinch at a time. At his departure, however, he carried with him a [illegible] quantity of the dosia powder, [illegible] up in lots of twenty small [illegible] with

the name written on the outside in red characters, the rest was in small bags: this was only a coarse powder, in which were to be seen here and there particles of gold, and which probably was not yet possessed of the requisite virtues. One small packet only had undergone the chemical operation which ensures its efficacy, and this was a powder as white as snow. The discovery of the dosia powder is ascribed to a priest named Kobou-Daysi: he became acquainted with the properties of this valuable mineral on the mountain of Kongosen, or Kimbensen, in the province of Yamotto, where there are many mines of gold and silver, and carried a considerable quantity of it to the temple to which he belonged, on the mountain of Kojas-an. The priests of this temple continue to chant hymns of thanksgiving to the gods who led Kobou-Daysi to this important discovery. When their stock is exhausted, they fetch a fresh supply from the mountain of Kongo-sen, and carry it away in varnished bowls. The priests pretend that the dosia powder owes all its efficacy to the favour of their prayers. As soon as the new supply arrives, it is put into a basin, varnished and gilt, and set before the image of the god, Day-nitsi, or Biron-sanna. The priests, ranged in a circle before the altar, and turning between their fingers the beads of a kind of rosary, repeat for seven times twenty-four hours a hymn called Guomio-Singo, the words of which are:—

Or o bokja Biron sanna nomaka fodora mani
Fando ma, zimbara fara, fare taja won.

The priests assert, that, after this long exercise, a kind of rustling is heard in the sand; all the impure particles fly out the vessel of themselves, and nothing is left but the purified dosia powder, which is then divided among all the temples of the Singous. It has the appearance of sand, and when it is fully perfected for use is as white as snow. It is obtained on the mountain of Kongosen or Kinbensen in the province of Yamatto, where there are many mines of gold and silver. The process by which it is prepared is the secret of the priests. Their knowledge is doubtless the result of accidental experience, for their acquaintance with chemistry is so slight that we may safely conclude they do not understand the rationale of its preparation.—*Titsingh's Illustrations of Japan, p.* 283; *American Expedition to Japan, p.* 2; *Hodgson's Nangasaki, p.* 222.

DOST ALI, in 1732, became nabob of the Carnatic in succession to his uncle Saad Ullah. He gave one daughter to Chundah Sahib and one to Murtuza Ali and he appointed Chundah Sahib, to be his dewan. His succession had been disliked by Nizam-ul-Mulk, who in 1730, incited the Mahrattas to invade Arcot, and Dost Ali, met them at Amboor on the 20th May 1740, and fell in battle.—*Orme.*

DOST MAHOMED KHAN was one of the younger sons of Sirfaraz Khan, the Barak, Zai sirdar, slain by order of shah Zeman at Kandahar, in 1799. The mother of Dost Mahomed Khan was of a Juanshir family, He succeeded shah Shoojah as ruler in Affghanistan but political difficulties with Dost Mahomed Khan induced the Indian Government, at the close of 1838, to resolve on displacing him and replacing the deposed king shah Shoojah-ul-Mulk. This was done, after a series of successes and severe reverses, in one of which the entire British army was destroyed by climate and the sword, and was the greatest disaster that ever befel the army of India. In his turn he was driven from his throne by the British in 1839, was taken prisoner to Calcutta but was ultimately restored. He brought Cabul and Candahar under his rule and when close on eighty years of age, he wrested Herat from Persian influence and on the 9th June 1863, he died, twelve days after he had taken the city by storm. He left 16 sons, who continued for many years, a civil war of succession.—*Masson's Journey, Vol.* iii, *p.* 17.

DO-SUTI, Hind. A kind of cotton cloth. The words mean double thread.

DOSWANIO, Guz. A dealer in cloth, a pedlar of the Banya tribe.

DOSYPELTIDÆ. A family of reptiles including Eladistoda Westermanni, *Rein.*

DOT PURMA. See Hindoo.

DOW, Alexander, translated and published Ferishta's history of the mahomedans of Asia. —*Orme.*

DOUBLE COCOA-NUT. Lodoicea.

DOUBLE HEADED SNAKE, of Ceylon, Uropeltis grandis.

DOUBLE ISLAND, Lat. 15°52′ N. Long. 97° 33′ E.

DOUBLETS, in jewellery, a thin slice of a pure gem cemented over a paste of same colour; or a paste of facetted crystal, cemented over a pure gem.

DOUK LOUNG, Burm. Dalbergia reniformis.—*Roxb.*

DOUK-TA-LOUNG, Burm. Dalbergia glauca.

DOUK-YA-MAH, Burm. Dalechampia pomifera.

DOUK-YAT, Burm. Photinia serratifolia.

DOUL, Hind. The ridge or small embankment dividing irrigated fields.

DOULA, Hind., also written daula, a boundary. In many English games, as in

barley-break, and occasionally in foot-ball, the limits are the Poules and the foot-ball is said to "Douled."

DOULALWALLA. See Khyber, p. 514.

DOULATABAD, 19° 57′, 75° 14′, in the Dékhan, 9 miles N. W. of Aurangabad. mean height of the village, 2,013 ft.—*Calld.*

DOUM-PALM, Hyphæne the baica.

DOUN-DALOUN, Burm. See Indigoferæ.

DOUNG, Burm. A hill.

DOUR—surrounded by the Wuzeeree hills, and adjoining the western border of Bunnoo, is the small valley of Dour, inhabited by a distinct race, and containing about 8,000 inhabitants. This valley originally belonged to the Doorani kingdom. It was, together with other outlying tracts, formally ceded to Runjeet Singh by the tripartite treaty of 1838; but afterwards, in 1847, the British relinquished all claim to it on behalf of the Sikhs. The people of Dour more than once expressed a wish to come under British jurisdiction, but the offer was not accepted. During the treaty negotiations of 1855, the ameer's representative urged that the valley once formed an integral portion of the Dooranee empire, and that His Highness now wished to take it, provided that the British did not claim any title. The Government replied that the British did not desire to assert any claim, nor to interfere with the ameer, if he chose to reannex it to his kingdom.

DOUR or DAUR, Arab., Hind. In military life in India, is employed to designate a sudden expedition against an enemy.

DOUR, Hind. The slings attached to a bucket for irrigation. The more usual terms are joota and jotee.

DOURA, Hind. See Graminaceæ.

DOURANELLE, Egypt. Holcus spicatus.

DOURANI, a name of the Affghan tribe Abdali, given to them by Ahmed shah, Saddozye, on his ascending the throne in A. D. 1747. They are also called Sulimani, from a district of which, the Tobeh Maruf, they formerly came. The Durani Affghans are an agricultural, but chiefly a pastoral race, who term their summer and winter ground, Eilak and Kishlak, dwelling in their coarse black camlet tents, called Kishdee, the same with the Kara ulli of the Turks and Siah-chader of the Persians. The number of Durani tribes are nine, the names of seven of which end in "zye," which means the same as the beni or walad of the Arabs, and the mac of the Scotch. The names are the

Mauku.	Populzye.	Noorzye,
Khongani.	Allekozye.	Alizye, and
Barukzye.	Achikzye.	Ishakzye.

The Populzye are the largest. In person, the Durani are stout and well made, many of them being above the standard of the Indo-Germanic races of Europe. Some have round and plump faces. With others, the countenance is strongly marked, and with most the cheek bones are prominent. When a family is by itself, the men and women eat together; but few restraints are put upon the female, and her influence is considerable. The Durani tribes, all but the Achikzye, are religiously given, but not intolerant. They are of the sunni sect. Their national dance, called Attun, is danced almost every evening with songs and tales to accompany it. They have a strong love of country chase. They are fond of tales, fond of the chase, and except the Achikzye about 5,000 in number, all are religious. The Durani, especially the men of Kandahar, have a powerful love of country: The Durani is rarely a merchant or adventurer. They are hospitable and brave, and are the most important of the Affghan tribes.

DOVE.

Oinos, Greek. | Fakhta, Hind.
Jona, Heb.

Doves are numerous in India. See Birds.

DOW, a vessel employed in the trade between the Red Sea, the Arabian coast, the gulf of Persia and the coasts of India, in Cutch, Guzerat and Malabar. They were also used in the Persian Gulf, for the purpose of war and piracy. They are always manned by Arabs. The Arab Dow is of about one hundred and fifty to two hundred and fifty tons burthen, by measurement; grab-built, with ten or twelve ports; about eighty-five feet long, from stem to stern; twenty feet nine inches broad; and eleven feet six inches deep. Of late years, this description of vessel has been built most perfectly at Cochin, on the coast of Malabar, in the European style. These vessels have a great rise of floor; are calculated for sailing with small cargoes; and are fully prepared, by internal equipment, for defence, with decks, hatchways, ports, poop-deck, &c., like a vessel of war; many of them are sheathed, on two-and-a-half-inch plank bottoms, with one inch board, and a preparation of chunam and oil, which is called galgal, put between the planks and sheathing-board, causing the vessel to be very dry and durable; and preventing the worm from attacking the bottom. The worm is the one of the greatest enemies in India to timber in the water, while the white ant is as much so out of it. On the outside of the sheathing board there is a coat of whitewash, made from the same articles as that between the sheathing and planks; which coat is renewed every time they put to sea. These vessels have generally one mast, and a lattteen-sail: the yard is

length of the vessel aloft; and the mast raking forward, for the purpose of keeping this ponderous weight clear, in raising and lowering. The tack of the sail is brought to the stern-head, and sheets aft in the usual way; the haulyards lead to the taffrail, having a pendant and treble purchase-block, which becomes the backstay, to support the mast when the sail is set: this, with three pairs of shrouds, completes the rigging; which is very simple, the whole being of coir-rope. Several of these vessels have been fitted as brigs, after their arrival in Arabia; and armed by the Arabs for cruising in the Red Sea and Arabian Gulf, as piratical vessels: they are also the class of vessels of which Tippu Sultan's fleet at Onore consisted. When armed, they were too powerful for the Bombay marine brigs. This has never happened, but when in great numbers, and the brigs weak and unsupported. The large dows make generally one voyage in the season, to the southward of Arabia; taking advantage of the north-east monsoon to come down, and the south-west to return with an exchange cargo. They generally bring dates, fruit, preserves, Shiraz-wine, and horses, and take back rice, coir, canvas, cocoa-nuts, oil, timber, dammar, &c., various articles of cloth of the country manufacture, and from Bombay, European articles of every description. The trade of the western coast of India is very great in those vessels; extending from Allepy, the southernmost port on the coast of Malabar, up to Bombay: but all the trade to Bengal is carried on by ships which are called "Country Traders," from the Gulf of Persia and Arabia. The Arabs are a powerful, well grown, handsome people, and very acute and intelligent in trade. They usually navigate their ships to Bengal in perfect safety, and with great skill.—*Adey, Sir John Malcolm.*

DOWAH or GOGRA. A river near Manjeeghat in Chupra.

DOWANIYA, SINGH. Grewia asiatica, *L.*

DO-WATI. See Hindoo.

DOWHOOREE. A river near Raneegunge.

DOWLAH, ARAB. The fifth title amongst Indian mahomedans, as Saraj-ud-dowlah, Rashid-ud-dowlah. In Southern Arabia, a dowlah is a governor of a province, equivalent to the Turkish title of Pasha.

DOWLAISHWARAM. A military station on the Godavery river.

DOWLAT, ARAB., HIND., PERS. Wealth, prosperity, Umr-o-dowlat ziadah. May your days and your prosperity be prolonged.

DOWLATABAD, in 19° 57′; 75° 14′, in the Dekhan, 8 miles N. W. of Aurungabad. Mean height of the village, 1,721 ft., a fortress which has been known by several names, Deoghur, Deogiri. It consists of a conical green-stone rock, the base of which is scarped to a height of 120 from the ground. The upper conical part is reached by means of an opening at the base of the scarp, which gives admission into a low narrow passage, hewn out of the solid stone, and opening into a large chamber or vault that has been excavated in the interior of the hill. From this vault a vamp or gallery gradually sloping upwards, and also excavated in the solid rock, winds round the interior. It has a height and breadth of 12 feet and terminates above in a recess on the top of the rock, about 20 feet square. At the base of the rock is a ditch, which is crossed only at one place, and by a causeway on which only two men abreast can walk and defended on the side next the rock by a battlemented building Outside the ditch is a minaret 100 feet high. Its position is commanding, and it has from the most ancient times been stronghold of the rulers in that part of India. It was the capital of Ram Deo, a prince of so great power that the mahomedans looked on him as king of the Dekhan. Umber a sovereign of high rank among the princes of the Deccan, who governed his dominions with wisdom, built the city of Gurkeh, now called Aurungabad, five kos from Dowlatabad, and died two years before the expedition of shah Jehan, at eighty years of age, leaving his dominions the best cultivated and the happiest region in India. Alla-ud-din, nephew and general of the emperor Feroz, in 1294 swept across the Nerbuddah, with an army of 8,000 men and presented himself before Deoghur which he captured. He entered into negotiations with the rajah and besides money and jewels obtained the cession of Ellichpoor and its dependencies, and the raja was further to pay tribute annually. On his return, he was met by his uncle Feroz, whom he assassinated, as he patted on the cheek. Camala Devi, was the wife of the rajah of Guzerat, and was celebrated as the flower of India. On the fall of Nerwalla, the capital of Guzerat, her husband became a fugitive and Camala Devi was taken prisoner and carried to Alla-ud-din's harem; and, attracted by her beauty, wit and accomplishments he made her his queen. Her fascinations soothed that savage Pathan in his moodiest hours and influenced him to a lenity hitherto unknown to him. Her daughter Dewal Devi had escaped with her father. Her reputation for beauty equalled that of her mother, and the son of Ram-deo, the rajah of Deogiri (Dowlatabad) had long sued for her, but her father, proud of his

Rajpoot origin, could not accept a Mahratta, even though a prince. Camala Devi, however, having expressed to Alla-ud-din, a wish to be joined by her daughter, Alla-ud-din sent a strong army under a general to bring Dewal Devi to Delhi. In this extremity, her father accepted the Mahratta prince and sent off his daughter to Deogiri under an escort, but the escort was overtaken, the fair maiden seized and carried to Delhi, when Khizr Khan the son of Alla-ud-din, married her. Their union was very happy and the poet Khusroo praised them, but Khizr Khan's eyes were put out by Kapoor. In five years from the death of Alla-ud-din, the throne of Delhi was filled by Kafur, a converted hindoo, who filled the capital with hindoo troops, put out Khizr Khan's eyes, put to death all the survivors of Alla-ud-din's family and transferred Dewal Devi to his own zenana.—*Wilson, Briggs, the Nizam.*

DOWLAT RAO SCINDIA, was defeated by Holkar near Poonah in 1802.

DOWN.

Dons,	Dur.	Pinmini,	It.
Duvet,	Fr.	Plumæ,	Lat.
Dunen,	Ger.	Puch,	Rus.
Flaumfedern,	,,	Flojel,	,,
Penna matta,	It.	Plumazo,	Sp.

The soft feathers of birds.

DOWNA, Hind. Artemesia austriaca, *Linn.*, lady-love, old man, or southernwood.

DOWNY LEAVED JASMINE. Jasminum pubescens.

DOWNY GRISLEA. Grislea tomentosa. —*Roxb.*

DOWNY LEAVED AVICENNIA, Eng. Avicennia tomentosa, *Linn., Roxb., W. & Ic.*

DOWNY MOUNTAIN EBONY, Eng. Bauhinia tomentosa.—*Linn.*

DOWRY, the " mahr" of the mahomedans.

DOWYAT, Burm. Maximum girth 3 cubits. Maximum length 18 feet. Found abundant, but, always inland, all over the country, at Amherst, Tavoy and Mergui. When seasoned, floats in water. It has a soft, bad wood, useless except for elephant bells.

DO-ZANOO BYTHNA, Hind. To kneel on both knees.

DOZUK, Hind. The seven hells.

DRAB, of Hazara, Cedrela toona, *var.* serrata.—*Royle,* Panj. Pinus longifolia.—*Lamb., Roxb.*

DRACÆNA. A genus of plants belonging to the Liliaceæ, known as the Dragon trees of which there are several species mostly shrubs in the East Indies, growing in China, Bourbon, the coast of Africa, Canary Islands. One mentioned by Sir G. Staunton had a diameter of 12 feet at 10 feet from the ground. The singular red leaved Chinese iron-wood, a species of Dracæna, is chiefly noticeable for its long red leaves.—*William's Middle Kingdom, p. 279.*

DRACÆNA ATROPURPUREA, *Roxb.*

Kwon len net, Burm. | Kwon len phyoo, Burm.
Dragon tree.

Two or more species of the dragon tree, resembling small areca palms are seen in Burmese compounds, but the most common is the one with dark purple leaves.—*Mason.*

DRACÆNA DRACO, is the indigenous dragon tree of Teneriffe. It affords a similar secretion to that of Calamus draco. The tree at Teneriffe measures seventeen feet in diameter, and is on strong reasons estimated to be 1,500 years old.—*O'Shaughnessy Dispensatory, p.* 643.

DRACÆNA TERMINALIS, *Willde.* A native of China and the Eastern Archipelago where its root is considered valuable in dysentery and is said by Rumphius to be employed as a demulcent in cases of diarrhœa ; the plant is a signal of truth and of peace in the Eastern Archipelago. In the islands of the Pacific Ocean a sweetish juice is expressed from its roots, and afterwards reduced by evaporation to a sugar, of which specimens were brought to Paris by Captain D'Urville from the island of Tahiti (Otaheite.) The root is there called Ti or Tii, and thence no doubt corrupted into Tea-Root by the English and Americans. M. Gaudichaud mentions that in the Sandwich Islands generally an intoxicating drink is prepared from this root, to which the name Ava is often applied, as well as to that made with the roots of Piper methysticum. The root is employed as food in the Fiji Islands, it weighs from lbs. 10 to lbs. 40.—*Eng. Cyc.*

DRACHA, Sans. Dracha palam, Tam. Vitis vinifera, grapes.

DRACHENBLUTH, Ger., Dragon's blood.

DRACO. A genus of reptiles of the family Agamidæ, which may be thus shown :—

Draco fimbriatus, *Kuhl*, Penang, Sumatra.
,, tæniopterus, *Gunth*, Tenasserim.
,, volaris, *Linn.*, Singapore.
,, maculatus, *Gray*, Malacca, Tenasserim.
,, Dussumieri, *D. & B.*, Madras.
Sitana Ponticeriana, *C. & V.*, Ceylon.
,, minor, *Gunth*, Madras, Ceylon.
Lyriocephalus, scutatus, *Merrem*, Ceylon.
Cophotis Ceylonica, *Pal*, Ceylon.
Ceratophora Stoddartii, *Gray*, Ceylon.
,, Tennentii, *Gunth*, Ceylon.
,, aspera, *Gunth*, Ceylon.
Otocryptis bivittata, *Wieg*, Ceylon.
Dilopyrus grandis, *Gray*, Rangoon.
Bronchocela jubata, Pondicherry.
Tiaris subcristata, *Blyth*, Andamans.
Oristiaris Elliotti, *Gunth*, Sikkim.
Acanthosaurarmata, *Gray*, Burmah.
Salea Jerdonii, *Gray*, Nilgherries.

Calotes versicolor, *Daud*, Ceylon, Sind, Martaban.
„ mystaceus, *D. & V.*, Ceylon, Mergui.
„ Emma, *Gray*, Mergui, Martaban.
„ ophiomachus, *Merr.*, S. India, Ceylon, Nicobars.
„ nemoricola, *Jerd.*, Nilgherries.
„ gigas, *Blyth*, Mirzapore, Nilgherries.
„ tricarinotus, *Blyth*, Darjeling.
„ platyceps, *Blyth*, Khassia Hills.
„ Maria, *Gray*, Khassia Hills.
„ Rouscii, *D. & B.*, India.
„ nigrilatris, *Peters.*
Brachysaura ornata, *Blyth.*
Charasia dorsalis, Nilgherries.
Laudakiatuberculata, *Gray.*
Stellio Indicus, *Blyth*, Kashmir, Mirzapore, Agra.
Agama agilis, *Oliv.*, Punjab, Salt range.
„ ruderata, *Oliv.*, Somale.
Moloch horridus, *Gray.*

DRACOCEPHALUM, amongst well known species of this genus, are the D. Canariense, the balm of Gilead, with pretty blue flowers: the scent only lies in the leaves, and the plant seldom exceeds eighteen inches in height, the other species have large splendid blue flowers, and are easily reared from seed; the plants are best grown in pots.—*Riddell.*

DRACONTIUM POLYPHYLLUM, *L.*

Jangli kandi, DUK. | Kat karne, TAM.
Purple-stalked Dragon, ENG. | Adavi kandi, TEL.

Grows in the Konkans and on the western coast of India at Bombay and Japan. Its root after having undergone certain preparations, to subdue its acrimony, is supposed to possess anti-spasmodic qualities, and is considered as a valuable remedy in asthmatic affections, given to the quantity of twelve or fifteen grains in the course of the day. It is also one of the many remedies the Natives use in cases of hæmorrhoids. In the dry condition in which it occurs in the bazars, it has, though faint, a smell not unlike that of musk.—*Ains. Mat. Med., page* 73.

DRAGOMAN, TURKISH. An interpreter, a corruption of the Arabic word, Tarjuman, a translator.

DRAGON BOATS, of China, are long and narrow, capable of holding forty to eighty men. They are employed by the Chinese in their boat races and rowing matches, in the festival of the fifth day of the fifth month, usually falling in June, and seemingly relating to the summer solstice.

DRAGON CANE. A kind of rattan, strong, springy and much valued. They occur both light and dark coloured: a variety with a soft bark is called Manilla Dragon Cane.—*Seeman.* See Calamus.

DRAGON FLY OF CEYLON. Euplæa splendens.

DRAGON, PURPLE-STALKED, ENG. Dracontium polyphyllum, *Linn.*

DRAGON RIVER, or Kew-lung-keang, one of the largest rivers in Southern Asia. It takes its rise in Yu-nam, on the frontiers of Se-fan, in Lat. 27° 20′ N. It is at first named Lan-tsan, but towards the south, and before it enters the Laos country, it is called Kew-lung-keang, or Nine Dragon River. In Chinese territory it runs a long distance through a magnificent valley. In 16° N. Lat. it bends more to the west, and enters Cambodia, having previously been augmented by a large tributary. It then drains the whole length of that country, and falls by three embouchures into the sea in about 9° 34′ N. Lat. In many places the river is very deep, at others there are rocks, sand banks and shallows, which obstruct navigation. The river runs through Yu-nam, and there are cities upon it. In Laos villages adorn its banks, and in Cambodia the principal population is near it. We may conceive what a mighty stream it must be when it traverses eighteen degrees of latitude, it forms at its mouths an alluvial deposit second only to the Yangtze-kiang, or Whang-ho. There are numerous other rivers in Cambodia. On the frontier of Siam is the Kh river, an insignificant stream, but the boundary between the two countries.—*Royal Geographical Society Journ., Vol.* 33, *p.* .

DRAGONS BLOOD.

Damulakhwain,	AR.	D'Jarnang,	MALAY.
Indarume,	DUK.	Khun-u-lavan,	PERS.
Sang-dragon,	FR.	Catgamuruga-rakta,	SANS.
Drachenbluth,	GER.	Kandamurga rattam,	TAM.
Hiraduckkun,	GUZ., HIND.	Khadga-mrugam netru	TEL.
Sanguis Draconis,	LAT.		

The dragon's blood gum resins, of commerce, are obtained from several plants. That of Socotra, West Indies, Spanish Main and America, is from the Pterocarpus draco of *Linn*: In the Canary Islands, it is from the Dracæna draco, and that of further India is said to be obtained from several species of Calamus. Those which chiefly yield it are the *C. petræus* (Lour) *C. rudentum* (Lour.), *C. verus* (Lour), and *C. draco* (Willd.), natives of Hindustan, Cochin China, the Moluccas, Borneo and Sumatra, but of which the last three were by Linnæus reckoned mere varieties of the *C. rotang* (Linn.) The ripe fruits are covered with a reddish-brown dry resinous granular matter adhering to the ripe fruit and obtained by beating or thrashing the fruit in little baskets. Within the Archipelago, the principal place of production is Jambi on the north-eastern side of Sumatra. The plant is the wild produce of the forest, and not cultivated, although some care is taken to preserve it from destruction. The collectors of dragon's-blood are the wild people called Kubu, who dispose of it to the Malays, at a price not much exceeding a shilling a pound. The whole quantity pro-

duced in Jambi is said to be about 1,000 cwt. The best kind imported into Europe in reeds, is manipulated by the Chinese. The canes of the male plant used in former times to be exported to Batavia, and very probably formed the "true Jambees," commemorated in the Spectator as the most fashionable walking-sticks in the reign of Queen Anne. The secretion of the fruit constitutes the best of *jur-nang*, or Dragon's blood. A second and rather inferior kind is produced by heat and by bruising the fruit, from which the natural secretion has been removed: the third, and most inferior, seems to be the refuse of the last process: it is perhaps doubtful whether it is ever procured from the plant by incisions. Large quantities of this drug are annually sent from Borneo to Singapore and Batavia, and thence to China, where it is much prized. In Europe, it is a constituent of some tooth-powders, and tinctures, and is also, and chiefly, used for colouring spirit and turpentine varnishes. This resinous gum received its present singular name from the ancient Greeks, who used it extensively. It is found in the market either in oval drops, or in large and impure masses composed of several tears. That which is good is of a bright crimson when powdered, and if held up to the light in masses, is semi-transparent. The tears are usually the firmest, and the most resinous and pure. If it is black when made fine, or very friable in the lump, it is inferior. It is often adulterated with other gums; but that which is genuine melts readily and burns wholly away, scarcely soluble in water, but fluent in alcohol; while the simulated crackles instead of burning, and dissolves in water. Its uses are various in painting, medicine, varnishing, and other arts. The best is procured at Banjermassing in Borneo, from whence it is carried to Singapore, and thence to the Chinese market in reeds, at $15 to $35 per pecul; the importation is principally in native vessels. The price in China varies from $80 to $100 a pecul after purifying and refining. The Chinese hold this gum in much estimation, and are the principal consumers of it in the East.—*Faulkner, Morrison's Compendious Description; Marsden's Hist. of Sumatra, p.* 159, *Crawfurd Dictionary, p.* 123; *Seeman on Palms.* See Calamus. Croton sanguifluum, Dalbergia monetaria, Dracæna draco, Eucalyptus resinifera, Resins.

DRAGON TREE, Eng. Dracæna draco, Dracena atropurpurea.

DRAKHYA, Beng. Vine, Vitis vinifera.

DRANGULI, Jav. Cassia fistula, *Linn.*

DRAKSHA CHETTU, Tel. Vitis vinifera, *Linn.*

DRACHA PANDU, Tel. Grapes.

DRANDU, Hind. Ilex dipyrena.

DRANGDRA. See Kattyawar.

DRANGE, Hind. Sageretia oppositifolia.

DRANGIA. See Greeks of Asia.

DRANGU, Hind. Berchemia sp.

DRANGULI, Jav., also **SUNG-GULI**, Jav. Cathartocarpus fistula.

DRAPER, Colonel, a British officer, who entered into a literary contest with Junius. He conquered Manilla, and in 1758, joined Colonel Lawrence in the Carnatic and gave able assistance at the battle of Wandewash.

DRAPORE. A hard, fine, rather close-grained, somewhat heavy, Ceylon wood.

DRAS. A district of Ladak.

DRASHTI DOSHAM, Sans. Evil eye.

DRAUPADI, daughter of Drupada king of Panchala. She was put forward by her father as the lady of the Swayamvara, or tournement, and was won by Arjuna one of the Pandava, and became the polyandric wife of him and his four brothers: she was subsequently staked by Yudhishthira, at dice and won by Duryodhana of Hastinapur and underwent great hardships until the destruction of the Kaurava. Draupadi, as the polyandric wife of the Pandava princes, is the heroine of the Mahabarat. Duhasana, one of the Kaurava princes dragged her by the hair into the public court, Bhima vowed to kill him for the insult and drink his blood and he fulfilled his vow. Yudhishthira and Draupadi have been deified and their feast is named the procession of fire, because in hindoo legend she is fabled to have passed every year from one of her five husbands to another, after a solemn purification by that element. In the Bhásha language, her name is written Dropti. In the "Enchanted Fruit" when Draupadi and her five husbands entered the garden, and Arjuna, with an arrow, brought down the fruit,

> Light—pinioned gales to charm the sense,
> Their odorif'rous breath dispense;
> From Béla's pearl'd or pointed bloom,
> And Málty rich, they steal perfume:
> There honey-scented Singarhar,
> And Juhy like a rising star,
> Strong Chempa, darted by Camdeo
> And Mulsery of paler hue,
> Cayora which the Ranies wear
> In tangles of their silken hair,
> Round Bábul flow'rs, and Gul-achein
> Dyed like the shell of Beauty's Queen,
> Sweet Mindy pressed for crimson stains,
> And sacred Tulsy, pride of plains,
> Their odours mix, their tints disclose,
> And, as a gemmed bright,
> Paint the fresh branches with delight,

—*Wh. H. of I; Sir W. Jones, Vol.* xiii, *p.* 217. See Droopdevi.

DRAVEE. The Bombay group consists of fifteen or twenty islands in all; the island

of Bassein, about thirty miles to the northward of that which gives the cluster its name; Dravee, and Versova, just off the shore of Salsette; Salsette, by much the largest of them all; Trombay, conspicuous for the mountain called Neat's Tongue, which attains the altitude of 1,000 feet; Bombay itself, united on the northward to Trombay and Salsette, as these are united to each other by bridges and embankments, and to the southward, Old Woman's Island, Colaba; and Henery; and Kenery; with little rocks, and islets of lesser note and name.

DRAVIDIAN, a term which Dr. Caldwell has recently applied to the vernacular tongues of the great majority of the inhabitants of Southern India. With the exception of Orissa, and of those districts of Western India, and the Dekhan where Gujarathi and the Marathi are spoken, the whole of the peninsular portion of India from the Vindhya mountains and the river Nerbudda to Cape Comorin, appears to have been peopled from the earliest period, by different branches of one and the same race, speaking different dialects of one and the same language, and scattered off-shoots from the same stem may be traced still further north and west, as far as the Rajmahal hills, and the mountain fastnesses of Beluchistan. Dr. Caldwell excluding the Rajmahal, the Uraon and the Brahui, designates as Dravidian, nine idioms current in Southern India, viz., Tamil, Telugu, Canarese, Malayalam, Tulu, Toda, Kota, Gond or Goand, Khond or Kund or Ku, and says it has been remarked that in the ten cultivated languages of the Dravidian tongue, Sanscrit words are not at all, or but very rarely employed. He tells us that of all the Dravidian tongues, no two are so nearly related to each other as to be mutually intelligible to the people who speak them except in the simplest and most direct manner. The name for this class of languages and for the peoples speaking them is not yet definitely settled, the terms of Pre-Aryan, Dravidian, Aboriginal, Scythic, Hill and Serpent races have been applied, and Mr. Hunter estimates their numbers at eighty millions, but a writer in the *Friend of India* estimates them at only twelve millions. Amongst these are the Mair, Meena, Bhil, Sonthal, Kol, Gond, the Madera or pariah, the Madiga or tanner, and the Dhor or currier. In the southern districts of Peninsular India, an ancient aboriginal people called Curumber are the earliest known occupants of Dravida Desam, the modern Carnatic and Coromandel. They seem to have established numerous petty principalities over the whole Peninsula, which were ultimately absorbed in the Chola empire. Numerous sites attributed to this race and still called Curumber Cote, are to be met with. The number, site and condition of these with any remains still extant, should be carefully ascertained and noted. Small communities of the same tribe are found to this day in the less accessible hills and forests of many parts of the peninsula. Tamil was the language of three ancient dynasties of whom we have record: The Chola of Tanjore and Combaconum, who were settled on or near the Caveri and Coleroon rivers, and who, as some suppose, gave their names to the Coromandel or Cholamandel Coast: the Pandya, whose capital is now occupied by the inhabitants of Madura; and the Chera, who ruled at Kerala on the Malabar coast. Augustus, emperor of Rome, when at Antioch received an embassy with letters from king Pandyon of ancient Dravira. The embassy gave valuable and curious presents, amongst others a man without arms, and a serpent ten cubits long. In the letter, the king described himself as holding sway over six hundred kings, and he asked the friendship of Augustus. In the embassy was an Indian named Zarmanochegus, from Baragoza or Baroach who accompanied Augustus to Athens and there, as Calanus had done, committed-self immolation before the emperor. His tomb known as the Indian's tomb, was to be seen as late as Plutarch's time. The Tamil language is spoken throughout the vast plain of the Carnatic or country below the ghauts, termed by the mahomedan sovereigns and by the British who have succeeded them, the Carnatic Paen Ghat. The Tamil speaking country extends from Cape Comorin to Pulicat 30 miles north of Madras, and inland from the Bay of Bengal, to the Eastern Ghauts; it skirts Mysore on all its eastern frontier, is also spoken over the Bara Mahal, Salem, and Combaconum, meeting with the Malayalam at the great gap of Palghat; it is spoken also in the southern part of the Travancore country, on the western side of the Ghauts, from Cape Comorin to the neighbourhood of Trevandrum; also in the northern and north-western parts of Ceylon, where Tamulians formed settlements prior to the Christian era, and from whence they have gradually thrust out the Singhalese. Mr. Taylor is of opinion that Tamil was cultivated in its purity in the ancient Pandiya kingdom.

Mr Campbell arranges the Turanian aborigines into two sections, as under:

Dravidian or Southern.	*Northern or Kolarian*
Tamil..Kurumbar.	Lurka-kol.
Canara...Burghar.	Ho.
Do.....Kota.	Bhumi.
Gond, Khond, Oraon, Rajmahali.	Mundah.
Malaylam...Male Arisar.	Sontal.
Telugu...Kamusi.	

Languages, according to Max-Müller, unconnected with any others.

Dravidian aborigines deal in demonology, fetishism, frantic dances, bloody and even human sacrifices; they are, however, superior to the Aryan hindoos in freedom from disqualifying prejudices, but inferior to them in knowledge and all its train of appliances. Aboriginal tribes are most numerous, are, indeed the mass of the inhabitants, in the hilly country from the western and southern borders of Bengal, Behar and Benares to the frontiers of the Hyderabad and Madras territories, and from the Eastern ghats inland to the civilized portions of the Nagpore territory, but even, in this tract, are evident monuments of old hindoo civilization and of the saiva persuasion. The aborigines of India, both in physique and in the structure of their language, present a type analogous to the Negrito of the South seas, Papuans, Tasmanians and others, as well as to the nearer Negrito of Malacca and the Andamans. The Tamil was formerly called by Europeans the Malabar language, and this term is even still used amongst the illiterate of the English community, but even the educated classes write it erroneously, as Tamul. It was the earliest developed of all the Dravidian idioms, is the most copious and contains the largest portion of indubitably ancient forms. It includes two dialects, the classical and colloquial, the ancient and the modern, called respectively the Shen Tamil and the Kodun-Tamil, which so widely differ that they may almost be regarded as different languages. The Tamil race is the least scrupulous or superstitious, and the most enterprising and persevering race of hindoos, and swarm wherever money is to be made, or wherever a more apathetic or a more aristocratic people is waiting to be pushed aside. The majority of the hindoos found in Pegu, Penang, Singapore and other places in the east, where they are known as Klings, are Tamilians. All throughout Ceylon, the coolies in the coffee plantations are Tamilians; the majority of the money-making classes, even in Colombo, are Tamilians, and ere long the Tamilians will have excluded the Singhalese from almost every office of profit and trust in their own island. The majority of the domestic servants and of the camp followers in the Madras Presidency and along with its army, are Tamilians, and the coolies who emigrate so largely to the Mauritius and the West India Islands, are mostly of the Tamil people. Including the Tamil people, who are residing in the military cantonments and distant colonies, and those in South Travancore, Northern Ceylon, and excluding all Mahomedan, Teling, and Brahmin residents of the Tamil country, who amount to at least ten per cent. of the whole population, the people who speak the Tamil language are estimated by Dr. Caldwell at about ten millions.

The Telugu, called also Telingu, or Telungu, is the Andhra of Sanscrit writers, a name mentioned by the Greek geographers, as that of a nation dwelling on or near the Ganges. It is the same language which, until lately, Europeans termed the Gentoo, from a Portuguese word signifying heathens or gentiles. In respect to antiquity of culture and glossarial copiousness, it ranks next to the Tamil, in the list of Dravidian idioms, but it surpasses all of them in euphonic sweetness. Telugu extends from Chanda, where it meets the Mahratta, and from Ganjam and Chicacole where it intermixes with Urya, along the coast to Pulicat on the marine lagoon thirty miles north of Madras, known as the Pulicat Lake, where it meets the Tamil. At Vizagapatam, which is 120 miles south of Ganjam, this is the sole language spoken. On this line of coast, two monarchies formerly existed, the Andhra and Kalinga, both apparently enterprising races and seafaring people, and it is doubtless from the name of the latter dynasty that the Burmese and Malays have derived the appellation of "Kling," by which they distinguish all people from India. The Kalinga dynasty appear to have gained great possessions to the westward, as, at the time of the mahomedan conquest, Warangal, seventy miles from Hyderabad, was considered by them the capital of Telingana, the eastern part of the nabob of Hyderabad's dominions, all the districts of Ganjam, Nellore and Cuddapah and much of the lands north. The most westerly spot at which it is spoken is the small town of Murkundah about 30 miles west of Beder and it reaches this by a wavy line running westerly from north of Madras, as far as the eastern boundary of Mysore which it follows up to that of the Mahratta country, thus including, in its extent, the Ceded Districts, Kurnool the greater part of the Hyderabad dominions and a portion of the Napore country and Gondwana. In ancient times, it seems to have been spoken as far north as the mouths of the Ganges. This appears both from the geographical limits which the Greeks have assigned to the territory of the Andhra or northern Telugu dynasty, and from many of the names and places mentioned by Ptolemy up to that delta being found to be Telugu. The Telugu people are undoubtedly the most numerous branch of the Dravidian race, although the Tamil surpass them in restlessness and enterprise and in that self reliance which supports them in their emigrations. Including the Naik or Naidoo ("Nayaka"), Reddi and

other Telugu tribes settled in the Tamil country, who are chiefly the descendants of those soldiers of fortune by whom the Pandiya and Chola kingdoms were subverted, and who number not less than a million of souls ; and including also the Telugu settlers in Mysore, and the Telugu inhabitants of the Nizam's territory and other native states, the people who speak the Telugu language may be estimated to amount to at least fourteen millions. Tamil and Telugu roots are, in the great majority the same, but peculiarities in inflection and dialectic changes have so modified the modern tongues, that they differ from each other as much as Portuguese from Spanish, Irish from Welsh, Hebrew from Aramaic, and Hindi from Bengali.

Canarese, properly the Kannadi or Karnataka tongue is bordered by the Tamil and the Telugu on the east. It is spoken throughout the plateau of Mysore and in the south-western districts of the Nizam's territory as far north as the village of Murkundah lying 30 miles west of Beder. Also, it is much spoken in the ancient Tuluva country on the Malabar Coast, now long designated as Canara, a name which it acquired from having been subjected for centuries to the rule of Canarese princes. But in Canara, the Malayalam, the Konkani and the Tuluva, are also spoken though less extensively than the Canarese. The Canarese character differs slightly from the Telugu, from which it has been borrowed, but the characters used for Tamil, Malayalam and Telugu are quite distinct from each other. The ancient Canarese character, however, entirely differs from that of the modern Telugu, and the Canarese language differs even more widely from the Telugu than it does from the Tamil. There is an ancient dialect of the Canarese language current, as well as modern, the latter differing from the former by the use of different inflexional terminations. The ancient Canarese dialect, however, has no connection with the Sanscrit character to which that name has been given, in which, viz., the Hala Kannada, many very ancient inscriptions in the Maratha country as well as in Mysore are found. Dr. Caldwell estimates the people who speak the Canarese language, at five millions. This includes the Coorgs, but he has no means, he says, of calculating the numbers in the Hyderabad country, where Canarese, Marathi and Telugu are spoken. The Urdu or Hindustani language there, is merely known to the mahomedans, the hindoos and Kasts from Northern India, the resident population using it as a lingua franca.

The Coorg or Kodaga language is spoken in the small principality of this name, lying on the western Ghats, and has hitherto been regarded as Canarese, modified by the Tulu. But Mr. Moëgling states that it is more nearly allied to the Tamil and Malayalam than to the Canarese.

Malayalam or *Malayarma*, is spoken along the Malabar Coast on the western side of the Ghats or Malaya range of mountains from Cape Comorin to the Chandagiri river ; or more strictly, perhaps, to Nileshwar (Nileswara) where a Nair rajah, conquered by Hyder, formerly ruled, from the vicinity of Mangalore where it supersedes the Canarese and the Tulu, to Trivandrum, where it begins to be superseded by the Tamil. The people speaking it in the States of Travancore and Cochin in the provinces of Malabar and Canara, are estimated by Dr. Caldwell at two and a half millions. The language, however, on the Malabar Coast, is rapidly being driven out by the Tamil. The people who speak it are, of all the Dravidian races, the most exclusive and superstitious and shrink with most sensitiveness from contact with foreigners though their coast, more than any part of India, has been in all ages visited by the traders of other lands, by Phœnicians, Greeks, Jews, Syrian Christians, and Arabs, and the three last even formed permanent settlements amongst them. They shrink from contact with foreigners, even from people of their own caste : retreating from the great roads, cities and bazars as eagerly as the Tamil flocks to them ; and the Malayalam speaking race are to be found isolated with their families in their high walled parambu, even in parts where the lines and centres of communication are entirely occupied by the more enterprising Tamil people whose language too seems gradually pushing the Malaya aside. Their retired character has led to the less scrupulous and more adroit Tamilians, occupying all the lines of communication and monopolizing the greater part of the public business and commerce of the Malabar States. In a short time, perhaps, the Malayalam will only be known in the hilly tracts or jungle fastnesses. Malayalam was separated from the Tamil before the latter was cultivated and refined, and from brahminical influence, has since had an infusion of Sanscrit words more than in any other Dravidian language, the fewest of such being in the Tamil.

Tulu or *Tuluva*, is the last of the cultivated Dravidian tongues. It is an idiom which holds a position midway between the Canarese and the Malayalam, but more nearly resembling the Canarese. Though once generally prevalent in the district of Canara, it is now spoken only in a small tract of country in the vicinity of Mangalore, by not more

than 100,000 or 150,000 souls. It has been encroached upon by many languages and is likely soon to disappear. The Tuluva has a strong resemblance to Malayala, though the Tuluva speaking race are unable to understand their Malayalam neighbours. Malayalam and Tulu are considered by Dr. Caldwell to be in gradual course of extinction.

The *Toda*, properly the *Tuda* or *Tudava* language, is that spoken by the Tudavar, a primitive and peculiarly interesting tribe inhabiting the Neilgherry Hills, practising quasidruidical rites, and commonly believed to be the aboriginal inhabitants of these hills. They do not at present number more than from 300 to 500 souls. It is supposed that they never could have exceeded a few thousand, but they have diminished through opium eating and polyandria, and at a former period, the prevalence among them of female infanticide. The Toda is the oldest indigenous speech on the hills.

The *Kota*, is the language of the Kotar, a small tribe of Helot craftsmen inhabiting the Neilgherry Hills, and numbering about 1,000 souls. It is a very old and rude dialect of Canarese, and their ancestors on the hills are supposed by Dr. Caldwell to have been at some ancient time a low caste tribe who had fled thither to escape persecution. The Kotar have been residing from an unknown antiquity on the Nilgherry Hills. They are exceedingly filthy in their habits, are addicted beyond all other low caste tribes to the eating of carrion and have been generally shunned by Europeans.

Budaga. Besides the Toda and Kota on the hills, the Budagar speak an ancient but organized dialect of the Canarese. The speech of the Budagar people from the north, commonly called Burghers, is undoubtedly an ancient Canarese dialect. This people are the most numerous class of the inhabitants of the Neilgherry Hills.

The *Irular* 'people of the darkness' speak a rude Tamil.

The *Curb* or *Curbuar* or *Kurumbar*, are nomade shepherds, who occupy the denser deeper jungles where they are occasionally stumbled upon by adventurous sportsmen, and the smoke of whose fires may occasionally be seen rising from the lower gorges of the hills.

The *Gond* or *Goand* is the language of the indigenous inhabitants of the northern and western parts of the extensive hill country of Gondwana, of the northern portion of Nagpore, and of the greater part of the Saugor and Nerbudda territories. Mr. Driberg compiled a very complete grammar and vocabulary of the Mahadeo dialect of the Gond language, and the dialect of the Saonee Gonds was noticed in a paper by Mr. Manger. The Gond dialect, says Mr. Logan, is Dravidian, hardly at all affected by Gangetic. The Khond, if not identical, probably agrees with it more than with Kol, and the basis of the latter is Dravidian. The Uraon and the Male or Rajmahali dialects are still closer to the Gond and south Dravidian than the proper Kol. The Khond, Kund, or more properly the Ku, is the language of the people who are commonly called Khond but who designate themselves Ku. They are a primitive race who are supposed to be allied to the Gond. They inhabit the upper parts of Goudwana, Gumsoor and the hilly ranges of Orissa and whose horrid rites of offering children and young people in sacrifice (see Meriah) is generally known. The two people by whom the Gond and Ku languages are spoken are supposed to amount to 500,000 souls. Dr. Caldwell estimates the proportionate numbers of the several races by whom the Dravidian languages, and dialects mentioned above, are spoken, to be 32,150,000, as follows :—

1 Tamil.....10,000,000	6 Toda.....300
2 Telugu....14,000,000	7 Kota.....1,000
3 Canarese...5,000,000	8 Gond or Goand, also Khund, Kund or Ku 500,000
4 Malayalum 2,500,000	
5 Tulu.....150,000	

About 20,000,000 of these are British subjects, and the remainder are under the native states of Hyderabad, Travancore and Cochin. In this enumeration, there has not been included the idioms of the Ramusi, the Korawar, the Lombadi, the Vedar, the Malearasar, and various other wandering, predatory, or forest tribes. The Lombadi, speak a dialect of the Hindi. The Ramusi and the majority of the Korawar, a patois of the Telugu. The tribes inhabiting the hills and forests speak corrupted dialects of the languages of the contiguous plains. The Malearasar, 'Hill Kings' called in Malayalam Mala-arasar, the hill tribes inhabiting the Southern Ghauts, speak corrupt Malayalam in the northern part of the range, where the Malayalam is the prevailing language, and corrupt Tamil in the southern, in the vicinity of Tamil speaking districts. The Kol and Sura dwell towards the north of the Gond and Kund, in Central India ; their languages contain Dravidian words, but they belong to a totally different family of languages.

Uraon, the language of the Urya people, is an uncultivated idiom, and contains many roots and forms belonging to the Kol dialects and so many Dravidian roots of primary importance, that it is considered by Dr. Caldwell as having originally been a member of the Dravidian family of languages. The Bodo

Dhimal and other tribes inhabiting the mountains and forests between Kumaon and Assam, are styled Tamilian by Mr. Hodgson. He has done so on the supposition that all the aborigines of India, as distinguished from the Aryans, belong to one and the same stock, of which he considers the Tamilian of Southern India the best representatives. And he has founded this supposition on certain general grammatical similarities which are common to the entire Scythian group of languages.

The *Rajmahali* language contains so many Dravidian roots of primary importance, though it also contains a large admixture of roots and forms belonging to the Kol dialects, that Dr. Caldwell considers it had originally belonged to the Dravidian family of languages. It is spoken by the Malei, or inhabitants of the hills. A brief vocabulary of the words of the tribe inhabiting the Rajmahal hills, in Central India, as contained in vol. v. of the Asiatic Researches and Mr. Hodgson's more complete collections prove the idiom of this tribe to be in the main Dravidian.

The *Brahui* language, spoken by the mountaineers in the khanship of Kelat, in Beloochistan, contains some Dravidian words and a considerable infusion of unquestionable Dravidian forms and idioms. Considered as a whole, this language is derived from the same source as the Punjabi and Sindi, but it unquestionably contains a Dravidian element, derived from a remnant of the ancient Dravidian race having been incorporated with the Brahui. The discovery of this element beyond the Indus river, proves that some of the Dravidians like the Aryans, the Græco-Scythians and the Turco-Mongolians, entered India by the North West route. The Brahui state that their forefathers came from Halb, Aleppo. Of all the Dravidian languages, no two are so nearly related to each other as to be mutually intelligible to the people who speak them, except in the simplest and most direct manner.—*The Rev. Dr. Caldwell's Comparative Grammar, Sir Erskine Perry's Bird's Eye View. Pers. Obser.*

DRAVIDA. The country in which the Tamil language is spoken, the Coromandel coast from Madras southward : the country below the Eastern Ghauts to Cape Comorin. Also, a class of brahmanical tribes called the five Drāvir comprehending all those of the Peninsula or Drāvira, Karnata, Telinga, Gujerata and Maratha.

DRAWA, also DRAWI of Hazara, Cedrela toona, var serrata, *Royle*.

DRAWO, Hind. Fagopyrum esculentum.

DREAMS, are to a great extent still trusted to in Eastern countries. The earliest remarkable dreams recorded, were those to Abraham of the captivity and (Gen xxviii, 12). At Bethel, of the ladder. Subsequently (Gen. xxxviii, 5, 9 and 10.) were Joseph's dreams and those of Pharoah, Gen. x. 4 and 41. Gideon and Saul, I. Sam. xxviii, 6. Dreams, are intimately associated with the lower forms of religion. To the savage they have a reality and an importance which we can scarcely appreciate. During sleep the spirit seems to desert the body ; and as in dreams we visit other localities and even other worlds, living as it were a separate and different life, the two phenomena are not unnaturally regarded as the complements of one another. In Madagascar the people pay a religious regard to dreams, and imagine that their good demons or inferior deities, tell them in their dreams what ought to be done, or warn them of what ought to be avoided.

DREDGING. In this process note the numbers of species, the kinds usually found associating together, the number of living specimens of each, the number of dead, the average age of the specimens, though whether young or adult. The general state of the animals and particularly as to the maturity of the eggs or if they have been recently shed. The kind of ground. The depth. The distance from land. The zone whether the littoral zone, the space between high and low water marks : the laminarian zone or that in which the large tangles or sea weeds flourish, and extends from low water mark to a depth of about 15 fathoms, the coralline zone extends from the depth of 15 to 50 fathoms ; sea weeds are scarce, but corallines abound in this region, the coral zone is that in which deep sea corals are found and where the depth is beyond 50 fathoms. Any particular currents. What are the mollusca found between tide marks on the neighbouring coast ? Is mud present, and if present of what kind ? Are any dead shells common of which no living examples occur ? What seaweeds are found ? Do the different specimens of the same species vary much in size, form, or colour ?—*Edin. N. Phil. Journ., pp.* 206 *and* 207, *July* 1856.

DREH, Hind. Melia azedarach, also Albizzia odoratissima.

DREIFACH, Ger. Sulphuret of Antimony.

DREK, Panj. Albizzia odoratissima, *Benth.*, also Melia sempervirens, Melia azedarach, *Linn.*, also Pistacia integerrima.—*H. F. & Th.*

DREL, Dut., also Drell, Ger. Diaper.

DRENDU, Hind. Adelia serrata, Bandrendu, Acacia stipulata.

DREPAN, several caterpillars, the *Aloa*

lactinea, the *Orgyia Ceylanica*, *Euproctis virguncula*, the *Trichia exigua*, *the Narosa conspersa*, the *Limacodes graciosa* and a species of *Drepana* are found on the coffee trees but they do not cause much injury. Another caterpillar, however, though fortunately not abundant, the *Zeuzera coffeæ*, destroys many trees, both young and old by eating out the heart. It resembles the caterpillar of the goat-moth of England and is as thick as a goose quill. It generally enters the tree 6″ or 12″ from the ground, ascending upwards. The sickly drooping of the tree marks its presence.

DREPANOGNATHUS SALTATOR, JERDON. An ant which moves by jumps of several inches at a spring.

DRESHUK. In front of the Goorchanee and Lisharee hills, and between Hurrund and Mithunkote, are plains inhabited by the Dreshuk. They are British subjects. See Khyber.

DRESSES. The mahomedans of Madras are famed for the excellence of the flowered work on the muslin dresses of ladies. They are sold at from Rs. 7 to Rs. 70 each.

DRINGO, PORT. Sweet flag.

DRINKHARI, HIND. Datisca cannabina.

DRISHADAVATI. See Hindoo.

DRO, properly gro, Tibetan, Triticum æstivum.

DROB, HIND. Caragana tragacanthoides.

DROGUE AMERE, FR., a compound of mastic, frankincense, myrrh, aloes, and kreat.

DROK or BROG. Both occupants of the central part of northern Tibet. Mr. Hodgson supposes them a mixed race joined together for predatory purposes. See India.

DROMAIUS. The Emu, a genus of birds belonging to the Cursores, or Runners, an order of which may be thus shown :—

ORDER VI.—Cursores or Runners.

Fam. Casuaridæ, Casuarius galeatus ; 1 Dromaius novæ Hollandiæ.

Fam. Struthionidæ, Struthio camelus.

Casuarius Bennettii, *Gould*, is the Cassowary of the island of New Britain, near to New Guinea, where it is called Mooruck. The height of the bird is three feet to the top of the back, and five feet when standing erect. Its colour is rufous, mixed with black on the back and hinder portions of the body, and raven black about the neck and breast. The loose wavy skin of the neck is beautifully coloured with iridescent tints of bluish purple, pink, and an occasional shady green, quite different from the red and purple caruncles of the *Casuarius galeatus*. The feet and legs, which are very large and strong, are of a pale ash colour. This bird also differs from the *C. galeatus* in having a horny plate, instead of a helmet like protuberance on the top of the head : which callous plate has the character of and resembles mother of pearl darkened with black-lead. The form of the bill differs considerably from that of the Emu, *Dromaius Novæ Hollandiæ*, being narrower, larger and more curved, and in having a black or leathery case at the base. Behind the plate of the head is a small tuft of black hair like feathers, which are continued in greater or lesser abundance over most parts of the neck. The egg is about the same size as that of the Emu, and is of a dirty pale yellowish green colour. The bird appears to Dr. Bennett to approximate more nearly to the Emu than to the Cassowary, and to form the link between these species. In its bearing and style of walking it resembles the former, throwing the head forward, and only becoming perfectly erect when running ; it also very much resembles the Apteryx in its body, in the style of its motion and in its attitudes. Its bill presents a great deal the character of that of a rail : it utters a peculiar, chirping, whistling sound, but also a loud one resembling that of the word ' Moork,' whence, no doubt, it derived its native name. Casuarius galeatus, the helmeted cassowary of Ceram, only, is so called from the horny helmet which surmounts the head. Its rudimentary wings consist of five long bristles like blunt porcupine quills. It runs swiftly with a bounding motion. It feeds on fruits, birds' eggs, insects, crustacea and tender herbage. It is a stout and strong bird, standing five or six feet high, and covered with long, coarse, black hair like feathers. The head has a large horny casque or helmet with bright blue and red colours on the bare skin of the neck. These birds wander about in the vast mountain forests that cover the island of Ceram. The female lays three to five large and beautifully shagreened green eggs, on a bed of leaves. The male and female sit alternately on the eggs, for about a month.

DROMAIUS NOVÆ HOLLANDIÆ rises to a height of seven feet. It lives on fruits, eggs and small animals.—*Crawfurd's Dictionary, p.* 84, *London Athenæum, No.* 1512, *Dec.* 12, 1857, *p.* 1551, *Wallace* ii ; *Dr. Bennett in a letter, dated Sydney,* 10*th Sept.* 1857.

DROMEDAIRE, LE. FR. Camelus dromedarius. See Camelus.

DROMEDARY, ENG. Camelus dromedarius.—*Linn.*

DROMIA RUMPHII, *Edws.*, E. Indies.

DROMIA FALLAX, *Edws*, Mauritius.

DROMIA HIRTISSIMA, *Edws.*, Cape of G. Hope.

DROMIA CAPUT MORTUUM, *Edws.*, Indian Ocean.

DROMIA UNIDENTATA, *Edws.*, Red Sea.

DRONA, Sans. Phlomis indica.

DRONA. A brahmin, the military preceptor of the Pandava and Kaurava princes. Drona was the son of Bharadwaj and in the Mahabharata is called Bharadwaj. The son of Drona is a celebrated hero in the Mahábarat named Aswatthamá.

DRONACHARYA, Sansc. From drona, a measure of capacity, and acharya, a teacher.

DROOHINA, Sans. From drooh, to injure.

DROON See Punjab.

DROOPDEVI. The wife, in common, of the five Pandua brothers, was of the house of Kampilnagara. Yoodishtra having staked and lost the throne of India to Duryodhana, to recover it hazarded the beautiful and virtuous Droopdevi. By the loaded dice of his foe she became the golee of the Kauruva chief, who according to the hindoo legend triumphing in his pride, would have unveiled her in public; but the deity presiding over female modesty preserved her from the rude gaze of the assembled host; the miraculous scarf lengthened as he withdrew it, till tired, he desisted at the instance of superior interposition. Yoodishtra, not satisfied with this, staked twelve years of his personal liberty, and became an exile from the haunts of Kalindi, a wanderer in the wilds skirting the distant ocean. Tacitus describes the baneful effects of gambling amongst the German tribes, as involving personal liberty; their becoming slaves, and being subsequently sold by the winner. The Rajpoot's passion for gaming, is strong; and long anterior to Tacitus, perhaps before the woods of Germany were peopled with the worshippers of Tuisto, this vice prevailed amongst the Rajpoot warriors.—*Tod's Rajasthan, Vol.* i, *p.* 41, 179. See Draupadi.

DROOPING COCKSCOMB. Celosia cerunua.

DROSERA. A genus of plants, of the natural family Droseraceæ, or the Sun-dew tribe. D. Burmanni, *Vahl.* Mo-dwen-thæ of the Burmese, grows in Ceylon, the Peninsula, Bengal, Sylhet and Burmah. There are two different species at Tavoy.—*Mason, Voigt.*

DROSERA PELTATA. Sans. Drosera lunata. *Ham.* Grows in the Neilgherry and Bababooden hills. The leaves stain paper red. They are applied as a blister to the skin. They close upon flies which light upon them.

DROUGHTS. Are frequently in tropical Asia. They are alluded to in Genesis, xxxi, 40, in the day the Drought consumed me, and the frost by night, and my sleep departed from my eyes.

DROWA. Hind. Betula bhojputra.

DRUGS. Amongst the native physicians of the East and South of Asia, as in Europe 300 years ago, almost every substance, especially if possessing any peculiarity of colour, shape, smell, or taste, is believed to have some medicinal virtue. Much reliance is placed on the doctrine of the signatures, *i. e.*, the belief that a substance which has some of the physical characters of an organ or of the symptoms of a disease, will have power over what it resembles. Some substances (chiefly animal, however,) are considered to have medicinal virtues merely from their oddity, for example *pikhál mús*, rats dung; the gall bladder of the brown bear; the hairs of a tiger's whisker, &c. Difficulty of acquisition would also appear to add virtue; thus it frequently happens that of two kinds of a drug, the one which is more rare is considered much the more powerful, in some cases indeed when neither would appear to have any special virtue the hakim of India has curious beliefs as to the plants which produce some of the foreign vegetable drugs, and still more curious theories are held as to the source of some of those of mineral origin. Thus "*Zahrmohra,*" which comprise several mineral substances given medicinally is believed to be formed by the spittle of the "*Mar-khor*" (Capra megaceros) falling on stones in the Kohistan, west of the Indus. The great number of substances to which, by natives, and in their books on medicine, aphrodisiac virtues are attributed, is remarkable, some in connection with the doctrine of signatures, but most of them probably quite destitute of the qualities assigned to them.—*Powell's Hand-Book.*

DRUHYU. In hindoo legend, one of the sons of Yagati, one of the old fathers of mankind. Anu was the founder of one of the five great Turanian tribes, the Yadu, Turvasa, Druhyu and Anu.

DRUIDICAL REMAINS. The Cromlech or tri-lithic altar, in the centre of all Druidic monuments, is supposed by Tod to be a "torun" or triumphal arch, sacred to the sun-god Belenus. There are numerous Indo-Scythic remains in the Nizam's territory and near Bustar. See Cairn, Cromlech, Dolmen, Hindoo.

DRUKRI. Hind. Cissus carnosa.

DRUM? A Penang wood, of a light brown colour, used for ornamental furniture. A very small tree.

DRUM. The drum is used by Asiatic nations as a musical instrument, in war, and in lieu of a bell. The institution of the drum was adopted by a late king of Siam, according to Pallegoix, but the pages who had to answer it succeeded in extinguishing the practice. A curious Chinese drawing engraved in Chine Ancienne (L' Univers Pittoresque). *Pl.* 3,

represents this institution of the drum. A drum was suspended at the gate of the emperor of China, which supplicants sounded. The custom is a genuine Chinese one, and the summons seems to have been by a drum rather than by a bell. Thus in the Romance of "The Fortunate Union," the hero Teichun-gyu exclaims, "My lord, you are mistaken. The emperor himself suspends the drum at his palace gate and admits all to state their hardships without reserve."—*Yule, Cathay, Vol. I, C.* vi., *Davis' Chinese Miscellanies, p.* 109.

DRUMBI, Hind. Arundo donax.

DRUM-FISH, a sea-fish near the Pearl river at Macao. Every evening, they assemble around a ship and continue their musical humming till about mid-night. The noise rises and falls or suddenly ceases at times as they quit the ship in search of food. —*Adams, p.* 63.

DRUM HARMONICON. See Musical instruments of the Burmese.

DRUMMOND, Lieut.-Col. An officer of the Bengal Army who wrote on the mines and mineral resources of northern Affghanistan on the copper mines of Kemaon, on the natural resources of Almorah, in Extracts from Public Papers N. W. Provinces; Bombay Telegraph and Courier, Oct. 24, and Nov. 19, 1849, and Mofussilite, Nov. 10, 1849.—*Dr. Buist's Catalogue.*

DRUN. also PUA. Tib. The Tibetan name of the marmot of the western mid-Himalayas. See Marmot.

DRUNKENNESS, is a frequent vice in India, amongst men and also amongst women. The substances used are opium, the preparations of hemp, distilled spirits and the fermented juices of the palm trees. In India, horse play, and gross facetiæ, generally accompany tipsiness. In moderation, these substances are beneficial and all nations use them though the mode of their action on the human frame is not understood, but most of them must be regarded as nervine stimulants and as valuable in great mental or bodily exertions. Whatever be the process, they evidently supply some want in the system. In some individuals drunkenness is a hereditary disease equivalent to a mania; and these cases are generally given up by the faculty, in despair. See Food.

DRURY, Major Heber, an officer of the Madras Army, author of Useful Plants of India, Madras, 1858, a work of much value, also of Hand-book of the Indian Flora.

DRUSE, an idolatrous race occupying the range of hills which extend parallel to the coast, from the neighbourhood of Beyrout to the heights above Sidon. They worship, it is said, the image of a calf but are tolerant and indifferent. They are brave, honest and hospitable. The mountains in the neighbourhood of Brahmana, are a lower range of Libanus, are everywhere covered with a sufficient portion of soil to admit of cultivation even to their summits. They are not less remarkable for the dense population which inhabits them; houses and hamlets meet the eye in every direction. The number of the Druses is estimated at seventy thousand. Of these one-third are capable of bearing arms. It is not known at what period they first settled in these parts: *min kadim*, "ab orgine" is the general answer given to all inquiries on the subject. The Druses are not confined to Mount Lebanon; they are likewise spread over the Haouran, a country lying to the south-east of Damascus. Zahle, seven hours from Balbec, belongs to the territory of the Druses. Half an hour from Zahle, on the south side of the village of Kerak, is the pretended tomb of Noah. The religion of the Druses professes a secrecy, which seems unnecessary, except for the sake of imposture. They believe in the transmigration of souls, but more as a punishment in this world than in the next, and that the Prophets recorded in the Old Testament, were only a succession of identical spirits. The names of David, Abraham, Ishmael and Pythagoras, occur in their sacred code, but without any adherence to our own ascertained chronology. Hamsa is the name of their God and sovereign, whom they consider to have been the true Christ, and Jesus, the son of Joseph, a travelling impostor, and therefore deservedly crucified. They seem equally averse to mahomedans and christians, and they use the Koran more as a blind than a belief, simply to deceive their Turkish masters. They consider the four Evangelists to have been so many powers or parts of religion, and Hamsa to have appeared about 400 years after mahommed, when he flourished eight years upon earth, and afterwards appeared seven times in all from the time of Adam, finally and formidably to appear when the Christians shall be more powerful than the Turks; he will then spread the religion of the Druses by divine authority. Their creed requires implicit obedience, and rejects fasting, prayers, tithes and killing of animals. The dress of the female Druse resembles that of the Turkish women elsewhere, excepting that they wear that singular ornament of the head, called the *tantour*, which is a conical tube, about eighteen inches long, of silver, or copper silvered slightly over, according to the wealth of the wearer, and ornamented with a variety of patterns. It is fixed upon a cushion fastened to the

top of the forehead, and inclines slightly forward, like the horn of the fabled unicorn. Over this a piece of white muslin is thrown, which falls down, to the hips, and serves to envelope their faces at pleasure when they go abroad. This extraordinary *coiffure*, if not graceful, is picturesque, although it must be confessed, it impresses the beholder with an appearance of restraint to the wearer. In some parts of the mountain it is worn projecting from the side of the head; but this schismatical fashion is even still more unbecoming than the orthodox one. Their religion seems a remnant of some mahommedan heresy. They arrange themselves as the Akul or intelligent; and that of the "Jahil," or ignorant. The Akul, in number about ten thousand, form the sacred order; and are distinguishable by their white turbands, the emblem of purity, and the peculiarity of the folds in which they wear it. The Akul are not permitted to smoke tobacco; they never swear, and are very reserved in their manners and conversation. Nevertheless, they are allowed to marry. The chief of the order resides in a village called El-Mutna. The Jahil or uninitiated, who form by far the most numerous class, perform no religious rite whatever, unless when circumstances oblige them to assume the appearance of mahomedans. On these occasions, they enter the mosques, and recite their prayers with Turks. Schools are pretty frequent among the Druses. The Akul are generally the masters, and are paid by their pupils. They teach reading and writing. The remarkable appendage to the dress of the female Druse, has given rise to many conjectures amongst the learned, from a supposed analogy to the lingam or phallus, but it does not appear to have been an object either of religion or curiosity.—*Robinson's Travels, Vol.* ii, *pp.* 9 *to* 322.

DRUS, Hind. Callicarpa incana.

DRUVYA, Sans. A thing: Dravya-goona, Sans., from dravya, a thing, and goona, a quality.

DRYANDRA CORDATA, Thunberg, the tung-eu of the Chinese, is a plant valuable on account of the quantity of oil found in its seeds, and the tallow-tree, Stillingia sebifera, furnishes both tallow and oil. The former produces the tallow and oil so much in use in China: the latter furnishes a valuable oil which is used in mixing with the celebrated varnish of the country, and hence this tree is often called the varnish-tree. Dryandra cordata, is one of the favourite trees of the Chinese, prized for its beauty, the hard wood it furnishes, and the oil extracted from its seeds.—*William's Middle Kingdom, p.* 281, *Fortune's Tea Districts, p.* 119.

DRYANDRIA VERNICIA. Syn. Of Elæococca vernicia.

DRYADS. See Fountains, India, Rivers, Springs.

DRYIOPHIDÆ, a family of reptiles containing viz:—

Tropidococcyx Perroteti, *D. and B.* Neilgherry.
Tragops pradinum, *Reinw.* Sylhet, Mergui, Penang
„ dispar, *Gunth.* Animallies.
„ fronticinctus, *Gunth.* Pegu.
Passerita mycterizans, *Linn.* Bengal.

DRYMOCATAPHUS FUSCOCAPILLUS See Ornithology.

DRYMOICA. See Birds.

DRYOBALANOPS CAMPHORA, *Cole.*

Shorea camphorifera, *Roxb.*

A very large tree, a native of Borneo and Sumatra, where it sometimes attains six to seven feet in diameter. In the cavities of the trunk there occur collections of solid camphor, and of a light fluid called camphor oil. The solid camphor is often deposited in long pieces, weighing over ten pounds. This camphor is highly prized by the Chinese and Japanese, and so rarely finds its way to Europe that it is seldom found even in the richest collections of Materia Medica. The tree is said by Marsden to be very common in Sumatra, in the country of the Battas, but not to be found to the south of the line. In Borneo it was found at first towards the north, and is said to be particularly abundant in the country of the Kyans, in the interior, on the Bintulu and Rejang rivers, and has since been discovered in Sarawak. In Labuan it is common, and is one of the noblest of the trees in that fine jungle: it has a fine straight stem, from which the bark comes off in large flakes and the foliage is very dense, forming a well-shaped head to the tree, the stem of which is frequently ninety feet to the first branches. Not one in ten trees is found to produce camphor, and the camphor collectors cut notches in the trees, in order before felling to ascertain whether they are likely to produce camphor. It is said that in those which produce it, the younger and smaller trees are often found to be quite as prolific as the older and larger trees. The camphor is found in a concrete state in the crevices of the wood, so that it can only be extracted by felling the tree, which is afterwards cut into blocks and split into wedges, and the camphor, which is white and transparent, is then taken out. An essential oil is also found in hollows in the wood, which the natives crystallize artificially; but the camphor thus obtained is not so much esteemed as that found naturally crystallized. The produce though so valued by the Chinese, is not much used by the natives, though it is

occasionally taken inwardly as a medicine. The price in China of the Borneo camphor is said to be higher than that of Japan, in the proportion of twenty to one: it has been supposed that this disproportion is caused more by some superstitions of the consumer, than any real distinctions of properties. From the oldest and richest trees they rarely collect more than two ounces. After a long stay in the woods, frequently of three months, during which they may fell a hundred trees, a party of thirty persons rarely bring away more than 15 or 20 pounds of solid camphor, worth from 200 to 250 dollars. The Borneo camphor, of the Dryobalanops camphora, is in white crystaline fragments. Sp. G. 1·009. Its odour is not of so diffusable a nature; otherwise it closely resembles the camphor from the Camphora officinarum. The wood of the camphor tree is good timber suited for house and ship-building. The liquid camphor of the same tree appears of the nature of Camphogen. Dr. A. T. Thompson, by passing a current of oxygen gas through it, converted it into camphor. The oil, both in a fluid and solid state, is found in the body of the tree where the sap should be, but not in all trees. The liquid oil is abundant, and little appreciated, but the concrete bears a very high price, which depends wholly on its scarcity, and the fancy of the Chinese and Japanese, who ascribe high medecinal virtues to it, which it probably possesses in no higher degree than the cheap article which they themselves obtain by the distillation of the wood of the Camphora officinalis, and which may be had in the same markets for about one-hundreth part of the price.—*As. Researches, vol.* xii. *p.* 535, *Low's Sarawak, pp.* 44-46; *Marsden's History of Sumatra, p.* 150; *Royle's Materia Medica, p.* 536; *Crawfurd's Dictionary, p.* 81; *Simmond's Commercial Products; O'Shaughnessy, Bengal Dispensatory; Mason's Tenasserim; Tomlinson, p.* 287.

DRY ROT, is a disease affecting timber. When dry rot is produced by the attacks of fungi, the first sign of it consists in the appearance of small white points, from which a filamentous substance radiates parallel with the surface of the timber. This is the first stage of growth of the spores of the fungus, and the filamentous matter is their thallus or spawn. As the thallus gathers strength it insinuates its filaments into any crevice of the wood, and they, being of excessive fineness, readily pass down and between the tubes from which the wood is organised forcing them asunder, and completely destroying the cohesion of the tissue. When the thalli of many fungi interlace, the radiating appearance can no longer be remarked; but a thick, tough leathery white stratum is formed wherever there is room for its development, and from this a fresh supply of the destructive filamentous thallus is emitted with such constantly increasing rapidity and force, that the total ruin of timber speedily ensues where circumstances are favourable for the growth of the fungi. Dry rot consists of the thallus of *Merulius lacrymans*, or *Polyporus destructor*, two highly-organised fungi, but any of the fungi that are commonly found upon decaying trees in woods are capable of producing dry rot, and the most rapidly-spreading and dangerous kinds is caused by the ravages of different species of *Sporotrichum*. The latter throw up from their thallus whole forests of microscopic branches loaded with reproductive spores, of such excessive smallness that they may insinuate themselves into the most minute crevices or flaws even in the sides of the tubes of which timber consists, and they are infinitely more dangerous than *Merulii* or *Polypori*, which seldom fructify. The circumstances that are most favourable to the development of the dry rot fungi are damp, unventilated, situations, and a sub-acid state of the wood. The latter condition, especially in oak, is easily produced by a slight fermentation of the sap which remains in the timber, especially if the latter has not been well-seasoned before being employed. It has been proved experimentally that fluids which, in their ordinary state, will not produce fungi, generate them abundantly if ever so slightly acidulated. Dutrochet found that distilled water holding in solution a small quantity of the white of egg will not generate fungi in a twelvemonth, but upon the addition of the minutest quantity of nitric, sulphuric, muriatic, phosphoric, oxalic, or acetic acid, it generated them in eight days' time in abundance. Alkalescent infusions possess the same property. The only poisons which will prevent the appearance of fungi are the oxides or salts of mercury. A solution of fish-glue yields fungi rapidly and in great abundance; but a small quantity of red precipitate or corrosive sublimate destroys this power entirely. It is moreover an important fact that no other mineral preparation has any such properties. Dutrochet ascertained that other metallic oxides acted differently. Oxides of lead and tin hastened the development of fungi; those of iron, antimony, and zinc, were inert; and oxides of copper, nickel, and cobalt, although they retarded the appearance of fungi, yet did not prevent their growth in the end. These facts are confirmed by the experience of the use of Kyan's process for preparing timber, which consists in submitting

the wood to the action of corrosive sublimate. Immersing the wood in chloride of zinc likewise prevents the attacks of fungi, and also submitting it to the action of the vapour of creasote. Dry rot also occurs in animals. Specimens of hymenopterous insects resembling wasps have been brought from the West Indies with a fungus allied to *Sphæria militaris* growing from between their anterior coxæ, and it is positively asserted by travellers that the insects fly about while burdened with the plant. Upon opening the bodies of the wasps they are found filled with the thallus of the fungus up to the orbits of the eyes and the points of the tarsi: the whole of the intestines being obliterated. In such cases it is to be supposed that the thallus of the Sphœria first kills the wasp by compressing and drying up the body, and then, continuing to grow, occupies the whole of the cavity of the shell of the insect. A more common instance of animal dry rot is the disease in silkworms called La Muscadine. Silkworms of all ages are occasionally liable to become sickly and to die, soon after death becoming stiff, and acquiring such a degree of firmness as to be readily broken. They then throw out from their surface a sort of white efflorescence, which is the fructification of the fungus called *Botrytis bassiana*, their inside being filled by the thallus of the same plant. If some healthy caterpillars are placed beneath a bell-glass, along with a small portion of worm killed by the *Botrytis*, they soon catch the disease, exhibit the same symptoms as those already mentioned, and eventually perish; having, no doubt, been infected either by rubbing themselves against the dead worm, or, which is more probable, having received upon their skins the infinitely minute seeds dispersed by the *Botrytis*. If healthy crysalids are inoculated by the introduction below their shell of a little of the *Botrytis* matter upon the point of a needle, they also sicken and die. In these cases effects are produced upon insects similar to those upon timber; that is to say, vitality in the one case and cohesion in the other is destroyed by the growth of the thallus of certain fungi, which spread with great and irresistible rapidity, and fructify where occasion offers. Boletus destructor is also one of the dry rot fungi.—*Eng. Cyc.*, *Tomlinson.*

DSO, and DSO-MO, in the Tibetan tongue, the bull and cow, the produce of the male Yak and common cow.

DUABANGA GRANDIFLORA, *Wall.*
Myouk-gnau, Burm.

A tree of British Burmah, wood used in house-building. A cubic foot weighs lbs. 30. In a full grown tree on good soil the average length of the trunk to the first branch is 80 feet and average girth, measured at 6 feet from the ground is 12 feet. It sells at 8 annas per cubic foot.—*Dr. Brandis, Cal. Cat. Ex.*, 1862.

DUARA SAMUDRA was situated in the heart of Carnáta, about 100 miles north-west of Seringapatam, where its ruins still remain.

DUB, Rus. Oak. Quercus.

DUB, Hind. Cynodon dactylon.

DUBARO, Guz. A man of the Bhíl or Kúlí tribe.

DUBBA KAI PALLAM, Tam. Dubba pandu, Tel. Citrus aurantium; the orange.

DUBBER, Eng., Guz., Hind.

Dupper, Guz.	Sidda, Tel.
Sidde, Tam.	

Dubbers are bottles formed of skins, and used for holding and conveying spirits, oil, ghee, &c. They are made of all sizes, from a quart to 10 or 20 gallons, they are formed of untanned goat skins by stretching them when wet over unburned hollow clay-forms, the edges being well rubbed down on the lower skin to cause adhesion. The clay core is readily removed after the bottle is dried in the sun. They are manufactured in many parts of India. They are of nearly a globular form, roundish at the bottom, so as not to stand well, the aperture is round like that of bottles, but large in proportion to their size, the neck is short. They are made of all sizes, some to hold not a wine-glassful, one has been seen in Bijapur that was estimated at two hundred gallons capacity.—*Hindu Infanticide, p.* 177; *Rohde MSS.*; *Faulkner.*

DUBBOYE. See Komarpal.

DUBBRAY BAJANI-WALLA, also Dubbray Jogi. See Jogi.

DUBDUBEA. A Nepaul tree abounding in the Terai. Wood is a powerful astringent, and an article of trade.—*Smith's Five Years, p.* 67.

DUBH, Hind. A grass, Cynodon dactylon; its dry, creeping, stems spread out, and take root at the joints; it is commonly called "khabal" in the Panjab. This is the "dúrbá" grass of Sanscrit authors. In the Athawana Vedá it is thus apostrophized. "May Dúrbá which rose from the water of life, which has a hundred roots and a hundred stems, efface a hundred of my sins, and prolong my existence on earth for a hundred years." The flower of this grass is a most beautiful object under the microscope.—*Powell.*

DUBBOYE, in Guzerat, its chief is of the Bagela race.

DUBKA. A river near Khanee in Almorah

DUBOIS, Abbé J. A. A french missionary in Mysore and in the south of India. He wrote on the manners and customs of the

people of India, London, 1817, 4to. An account of Hindoo ordeals in Mad. Lit. Trans., 1827.

DUBRAY JOGI or Bal santa ka jogi. See Jogi.

DUBROMA GUAZUMA, *Will.* Syn. of Guazuma tomentosum, *H. B.*

DUBTHA, Hind. A bundle of peeled sugar canes ready for the press.

DUCA, Tel. Conocarpus latifolia, *Roxb.*

DUCHID PARAH, Kash. Flying squirrel.

DUCHIN. See Hot Springs.

DUCK. The domesticated duck is a descendant from the common wild duck, the Anas boschas. Its domestication has been accomplished in comparatively recent times, for it was unknown to the Egyptians, to the Jews of the Old Testament and to the Greeks of the Homeric period. About 18 centuries ago, Columella and Varro speak of the necessity of keeping ducks in netted enclosures like other wild fowl, so, even then, there was danger of them flying away. The A. boschas is met with in all the northern parts of Asia, Europe, America and Spain. The domestic duck is polygamous ; young ducks are injured by being allowed to swim in water. The domestic breeds are the common duck, the Flat-billed, Call and Penguin duck, Arlesbury, Tufted, Hook bill and Labrador duck, but though breeding in remote southern latitudes where the mallard is unknown, the domestic breed always shows parts of the wild. Certain ducks breed on cliffs or trees, and they must carry their young to the water, though this has not been observed. A large red duck, is the emblem of fidelity with the Rajpoots.

Tadorna vulpanser, the common Shieldrake of Europe, Asia, N. Africa is common in the Panjab ; not rare in Lower Bengal.

Spatula clypeata or *Anas clypeata*, the Shoveller, has the Circuit of northern regions, N. Africa and is tolerably common in India.

Anas stepera, the Gadwall,' and has the Circuit of the northern regions and Barbary, and is tolerably common in India.

Anas acuta, the 'Pintail Duck,' has the Circuit of the northern regions and Barbary, and is very common in India.

Anas boschas, the 'Wild Duck,' has the Circuit of the northern regions and Barbary : in India, is confined to Sindh, Punjab, and the Himalaya and its vicinity ; replaced southward by A. pæcilorhyncha.

Anas querquerdula 'Gargany,' of Europe, Asia, N. Africa, is very common in India.

Anas crecca, 'Teal,' of Europe, Asia, Barbary, is common in India.

Anas penelope. 'Wigeon,' of Europe, Asia, N. Africa, is common in India.

Fuligula ferina, the 'Pochard,' of the Circuit of the northern regions and Barbary, and is common in India.

Fuligula nyroca. 'Ferruginous Duck,' of Europe, Asia, N. Africa, is common in India.

Fuligula marila. 'Scaup Duck,' of the Circuit of the northern regions, occurs in Panjab, Sindh, Nepal.

Fuligula cristata. 'Tufted Duck,' of Europe, Asia, Barbary, is common in India. —*Darwin ; Blyth ; Jerdon.*

DUCKINASORE, is on the Ganges, opposite to it stands the village of Balli, a very old and orthodox place mentioned in the Kobi-Kunkun.—*Tr. Hind., vol.* i, *p.* 3.

DUDAGRU. Hind. Ficus reticulata.

DUDAH. Guz. Cordage.

DUDAIEN of Gen. xxx, 14, is the Mandragora officinalis.

DUDAL, Hind. Taraxacum officinale, also Euphorbia helioscopia,

DUDDHI, Hind. Euphorbia thymifolia. —*Linn., Roxb.*

DUDDUGA, Tel. Guatteria cerasoides, *Duval.*

DUDE-KULAVADU, Tel. A cotton cleaner.

DUD-FRAS, Hind. Populus ciliata.

DUDHA-PAR, Hind. Euonymus fimbriata. — *Wall.*

DUDH-BATTHAL, Hind. Taraxacum officinale.

DUDHHI, Hind. ? A tree of Chota Nagpore with a soft white timber.—*Cal. Cat. Ex.* 1862.

DUDHI, Hind. Wrightia mollissima. Wrightia antidysenterica.—*R. Br.*

DUDHIA, Hind. Aconitum napellus. Wrightia mollissima.— *Wall.*

DUDHIA-MAURA, Hind. Aconitum ferox.

DUDHIKA, Hind. Nyctanthes arbortristis.

DUDH KALMI, Beng. Ipomæa turpethum.—*R. Brown.*

DUDHLAK, Hind. Microrhynchus nudicaulis.

DUDI CHETTU, Tel. Abutilon indicum.— *G. Don.*

DUDIGAPU CHETTU, Tel. Jatropha glandulifera.—*Roxb.*

DUDIPA, Tel. Hymenodyction excelsum.— *Wall.*

DUDIPALA, Tel. Oxystelma esculenta. *R. Brown.* Asclepias rosea.—*Roxb.*

DUDIPPA, of Godavery forests, Tel. Hymenodyction, *Species.*

DUDLA, Hind. Prunus padus, also Syringa emodi.

DUDLA JAMU, of Sutlej, Prunus padus —*Linn.*

DUDLI, HIND. Taraxacum officinale.

DUD SHAMBAR, HIND. Desmodium tiliæfolium.

DUFF, Dr. Alexander, a distinguished missionary of Calcutta.

DUFF, Captain Grant, author of History musical Instruments of the Mahrattas.

DUFF, and Surode musical instruments.

DUFFALI, a class of wandering devotees.

DUGDHA, HIND. A tribe of inferior brahmins on the borders of Futtihpoor, and Allahabad.

DUGGY. In Madras, round timber, from 20 to 40 feet long, 1-to-2½ feet square.

DUGHDIKA, HIND. Sonchus orixensis.

DUGKENTI, HIND., of Kaghan, Indigofera arborea.

DUGONG, MALAY. The sea-siren, merman, mermaid, is an inhabitant of the narrow seas of the Eastern Archipelago. Professor Owen denominated the Dugong of the archipelago, *Halicore indicus*, in distinction from that of the northern coast of Australia at a time when the former had not been ascertained to frequent (as a Dugong of some kind is now known to do) the Malabar coast and Gulf of Calpentyn in Ceylon ; but it still remains to be proved that this is the true Malayan Dugong,—however little reason there may seem to doubt it—as there might equally have seemed little cause to suspect the distinctness of the *Halicore australis !*

Halicore Dugong.

Trichechus dugong, *Gmel.* | Dugungus Indicus, *Ham.*

Indian Dugong,	ENG.	Mermaid, ENG.
Sea Siren,	,,	Le Dugong des Indes, FR.
Merman,	,,	

This inhabits the shallows of the Indian Ocean and about Ceylon, where the water is not more than two or three fathoms deep. It does not appear to frequent the land or the fresh water. Its flesh is delicate. The Dugong was noticed as occurring in Ceylon by the early Arab sailors, by Megasthenes (*Fragm*, lix) and Ælian, and subsequently by the Portuguese. It is this creature which has given rise to the tales about mermaids which have till the present day occupied the world, and doubtless had their origin in the tales of the Arab sailors. They are phytophagous or plant eaters.

Halicore Indicus. Owen. The Malay Dugong, an inhabitant of the narrow seas of the Eastern Archipelago.

Halicore Tabernaculi. Ruppell. The Dugong of the Red Sea, has a feeble voice, and feeds on algæ. It is about ten feet long. In February and March, fierce, bloody battles occur between the males. Its flesh, teeth and skins are utilized.

Halicore Australis. Manate of *Dampier.* White tailed manate of Pennant. It is a native of the West Coast of Australia.

Halicore Indicus. F. Cuvier.

Trichechus dugong, ERXL.	Halicore tabernaculum, RUP.
Halicore cetacea, ILLEG.	Dugungus marinus Tiede.
Halicore dugong, CUV.	

Dugong, MALAY. | Parampuan Laut, MALAY.

Under these synonyms Dr. Theodore Cantor unites all the above, which he says inhabits the Red Sea, the seas of the Malay Peninsula, Singapore, Sumatra, the Philippine islands. Moluccas, Sunda islands, and New Holland, It is supposed that the Dugong can be easily domesticated. The Halicore Dugong of Ceylon, was noticed as occurring there, by the Arab sailors, by Megasthenes *Fragm*, lix., and Ælian, and subsequently by the Portuguese. Doubtless the ancient Arab stories gave rise to the mermaid tales, which have since then occupied the world, for is this creature that has given rise to all the fables about the mermaid and the merman. Tennyson writes of

" A mermaid fair
" Singing alone
" Combing her hair
" Under the sea
" In a golden curl
" With a comb of pearl
" On a throne.
" At night I would wander away away
" I would fling on each side my low flowing locks,
" And lightly vault from the throne and play
" With the mermen in and out of the rocks ;
" We would run to and fro and hide and seek
" On the broad sea wolds in the crimson shells
" Whose silvery spikes are nearest the sea.

—*English Cyclopædia, p.* 913, *Mr. Blyth in Beng. As. Soc. Journ. Tennent's Ceylon, Dr. Theodore Cantor in Beng. As. Soc. Journal, No.* CLXXII of 11th December 1846, *Tennyson's Poems, 2nd Ed. p.* 60-62.

DUGSHAI. One of the Sanatoria of the Himalayas. See Sanatoria.

DUGUNGUS INDICUS, *Ham.*, Syn. of Halicore dugong.

DUGUNGUS MARINUS. Tiedemann apud *Schinz.*, Syn. of Halicore indicus, *F. Cuv.*

DUGURU, HIND. Ficus reticulata.

DAHAI, PANJ., Grislea tomentosa.—*Roxb.*

DUHAI, HIND. Justice ! an exclamation still made in India from any individual who considers himself injured, "Duhai Maharaj ! Duhai Company Bahadur !" Justice, Justice, my-Lord ! Justice Company Bahadur.—*Yule Cathay*, ii, *p.* 436.

DUHARU, BENG. A caste of fishermen and divers.

DUHSASANA and Duryodhana, sons of Dhrita rashtra.

DUHU, ARAB. Sesamum orientale.

DUHUN UL KHERWA, ARAB. Castor oil, ENG.

DUIVELS DRECK, DUT. Assafœtida.

DUIYA-KHUIYA, Beng. Desmochœta atropurpurea.

DUK or DOK, Jav. The hair of the Arenga saccharifera, Gomuti, Malay.—*Labill.*

DUKHAN. Part of the peninsula of India. See Dekhan.

DUKHANI-BROWN and HEMP, of Bombay, Ambari, Duk., Mahr.

DUKHN, Arab. Millet.

DUKKAR-KI-CHARBI, Hind. Hog's Lard.

DUKSHIN-ACHARI, Sans. From dukshina, the right hand, and acharin, acting.

DUKSHA, clever, Sans. From daksh, to act quickly.

DUKU. The Malay and Javanese name of a tree and fruit of the genus Lansium, and natural order Meliaceæ of botanists. To the same genus belong the langseh, langsat or langsab, for in all these forms the word is written, the rambeh and the ayar-ayar, probably all four but varieties of the same species. The duku is the most esteemed of them, and to the European palate is the best of the native fruits of the Archipelago, after the mangostin. The natives class it after the durian and mangostin. It is of the size of a pigeon's egg, of globular form, and covered with a coriaceous skin of the colour of parchment. The species seems to be indigenous in the western portion of the Archipelago, but to have been introduced into the Philippines, where one variety of it, the langseh, is cultivated.—*Crawfurd's Dict., p.* 125.

DUL, Beng. Panicum stagninum.

DULA, Hind. Abelmoschus ficulneus.

DULA KUDA, Mar. Nerium antidysentericum.

DULAGONDI, Tel., also Pedda Dulagondi, Tel. Mucuna prurita.—*Hook*, Syn. of Carpopogon pruriens.—*Roxb.*

DULA-GOVELA, Tel. Aristolochia indica.—*Linn.*

DULA-KANCHAN, Mar. Bauhinia acuminata.

DULA-KANDA, Tel. Arum. Sp. It is sometimes applied to A. capanulatum.

DULA KUDA, Mar. Nerium antidysentericum.

DULCAMARA, contains an active narcotic alkali, solanine, narcotic and diuretic: dose dr. 3 to oz. 1, thrice daily. It is very desirable to ascertain whether the Indian species, Solanum nigrum, Arrub-us-saleb, possesses similar virtues.—*Beng. Dispensatory, p.* 462; *Beng. Phar., p.* 277.

DULCE LIGNUM, Lat. Cinnamon.

DULCHIRRAM, Tel. Acacia kalcora, an enormous tree on the Godavery. Wood, hard and reddish.

DULHA, Ar. A bridegroom. Dulhan, a bride.

DULI, a litter or swing.

DULIGONDI, Tel., also Revati Dulagondi, Tel. Tragia cannabina.—*Linn.*

DULIAY, Beng. A caste, who carry palanquins or other burthens.

DULLA, Hind. Carbonate of Soda. A soda salt, or natron from the waters of the Lake of Loonar, it is used in dyeing, in medicine and the arts.

DULLAISEREE, a river near Roodpur in Dacca.

DULLEEA, rice and milk made of a very thin consistence.

DULLUN KATHI, Dukh. See Cotton manufactures.

DUL-MARA, Can. Chikrassia tabularis. —*Ad. Juss.*

DULTURAMU, Tel. Datura alba, *Rumph.*

DUM, Hind. A tail, hence dumbah the tailed sheep of Affghanistan and the Cape: dumchi marchi the tailed pepper, cubebs.

DUM-I-GURG, or the wolf's tail, is the Persian name for the first brushes of grey light which appear as forerunners of dawn.

DUMAGUDIAM. Coal occurs about 15 miles north of Dumagudiam, near the junction of the Tal-river near Lingala. The present limits of the coal measure fields in North India coincide approximately with the original limits of deposition and are not the result of faulting, or even mainly of denudation. All the successive beds (possibly with the exception of the Talchir) representing an enormous lapse of time, agree in one respect, that they seem to be purely fresh-water (fluviatile or fluvi-o-lacustrine) or esturine deposits. The Ranigunj, the Jherria, the Bokaro, the Ramghur, and the Karunpura fields all belong to the drainage basin of the Damoodah river.

DUMAGAS. See Mindanao.

DUMALEEA, a river of Sylhet.

DUMAR, Tel. A rope-dancer, an athlete.

DUMBA, Hind. A kind of flat tailed sheep of Peshawur, Kabul and the Salt Range.

DUMBAKI. See Kelat.

DUMBAR, Hind. Ficus goolereea.

DUMBA-STACAM, Tel. Alpinia galanga.—*Swz.*

DUMB-BELLS. See Magdar.

DUMBKI. See Kelat.

DUMKI MIRCHI, Duk. Piper cubeba.

DUM MUDAR, lit, the breath of Mudar.

DUMMULA, Eng. Dammer.

DUMMUR, Guz. and Hind. Dammer.

DUMOALA. A river near Saharunpoor.

DUMPA BACHALI, Tel. Spinacia tetrandra.—*Roxb.*

DUMPA RASHTRAKAM, Tel. Globba orixensis. The name is also applied to other Scitamineous plants.—*Roxb.*

DUMPA RASNA, Tel. Ophioxylon serpentinum.

DUMPOL-LONGSUE. A river near Nunklow in Cherrapoonjee.

DUMREE. A small copper coin, formerly current in the Carnatic; now rarely seen.

DUMREE, also written damri, in the Dehli Territory, a term applied to the sub-divisions of a village.

DUM TULI, Hind. Adiantum.

DUM-UL-AKWAIN, Arab. Pterocarpus draco, Dragon's blood.—*Linn.*

DUMUR. A name for the Bhatoo race, "dumbram," Tam., "dumbar war," Tel., and called also "kollati." See Bhatoo. Dumar.

DUN of Kashmir, Juglans regia.—*Linn.*

DUN-SIRIS, Hind. Acacia elata.

DUNA and murwa, Hind. Artemisia indica.

DUND, Sindi. Ponds or lakes on the line of the river Narra, from Sakkur to Omercote, or about 100 miles. The Narra is only filled with water during the inundation of the Indus river, and even this not often: it never reaches the sea, but is lost in the sand near Omercote. Betwixt this and Sukkur there are 360 dunds, most of which contain water throughout the year. They are from 300 to 400 yards across, but often many miles in length. They all become brackish during the hot weather. They abound in fish.—*Captain Del Hoste, in Bom. Geo Trans, Vol.* ii.

DUND, Pers, Arab. Croton tiglium, Croton Seed.

DUNDA. The best known boats on the Indus are the *Zoruk* of the upper Indus, the *dunda* which plies from Mithankote to the sea, and the *dugga* which is specially suited from its strong build to the navigation of the rapids between Attok and Kalabagh. The better kinds of woods used in their construction (sissoo and large babul), are procured with difficulty, and various species of timber are generally seen in one boat, such as sissoo, babul, deodar, chir, bahn, and karil. Malabar teak is much prized in the lower Indus and fetches a large price. The ordinary ferry boats are constructed by the sides and bottom being prepared separately and brought together to be secured by knees or crooked pieces nailed to the bottom and sides. The bottom is made of sissoo, the knees of mulberry or olive, and the side planks of deodar. The wedges and trenails are usually made of tut and kahu. Ropes for rafts and boats are prepared either from hemp (Cannabis Indica), sirki (Saccharum spontaneum), Typha latifolia, "dib," or other reeds, common on the river bank. Munj (Saccharum munja), is also largely employed by the native boatmen. The great boat building localities of the Panjab are Find Dadun Khan, Wazirabad, and Jelam, but there is a marked increase on the Indus, not only at Attok, but at Nowshera, Hashtnagar, Mokhud and Kalabagh.

DUNDA-PU, Tel. Nyctanthes arbor-tristis.

DUNDAWAT, Sans. From danda, a walking-stick; to fall in a straight posture, like a stick, at the foot of a brahmin.

DUNDA-ZANI, literally, stick-beating, a mode of torture said to have been practised by the subordinate officers in the private domains of the raja of Benares.

DUND BERRI, Arab. Jatropha curcas.

DUNDI, Sans. From danda, a staff.

DUNDGIRI, Hind. A very populous village, adjoining the esplanade of Bombay fort. Dund or dun, or dunger, is, in several dialects, derived from the sanskrit—a hill, or mountain; as it was also in some of the old languages of Europe.—*As. Res., Vol.* ix, p. 98.

DUNDIGAPU CHETTU, Tel. Jatropha glandulifera.—*Roxb.*

DUNDILAPU CHETTU, Tel. Calosanthes Indica.—*Blume*

DUNDA-DHARA, Sans. From danda, a staff, and d'haee, to hold.

DUNDA-SHOOKA. Sans., from dangsha, to bite.

DUNDUDHARA. See Yama, Dharmarajah.

DUNGANI. The great Ouigoor horde in Eastern Turkistan, are Turk, and they became mahomedans in A.D 966. The Chinese call them Hoeike, Oihor, and Hoai-Hoai. Towards the close of the 8th Century, the emperors of the Tang dynasty deported about a million of Ouigoor families, from the neighbourhood of Kashgar, and settled them at Kan-su and Chen-si. About A. D. 966, these families embraced mahomedanism, and under their chief Satook, they conquered Transoxiania, and carried away captive an immense number of Turks, of the Turghai tribe. In 972, the majority of these captives were allowed to return to their homes, but many remained, and they were styled Turghani or Tunghani, signifying remnant, and corrupted into Dungen, but known to the Chinese as Ouigoor or Hoai-Hoai. They are all mahomedans, but dress like Chinese. They are abstemious, religious, quarrelsome, using the knife, honest and fond of trade.

DUNGAREE, Guz., Hind., Tel., Datta, Tam. The Indian name of a coarse cotton fabric, manufactured in various parts of India, and used by the poorer classes of natives. The stouter kinds are much employed in the making of sails for native sailing vessels and tents. Dungaree is woven with two or more

threads together in the web and woof; it is generally used for sails of country ships, and would no doubt be advantageously employed for the occasional light sails for larger ships, being more easily handled than European canvas. Superior descriptions are made with the web and woof, or web only, twisted either wet or dry, but this becomes as expensive as the best English canvas: the prevailing price of the ordinary dungarees, 30 cubits, that is 15 yards long and 2 feet wide, is 1 rupee 12 annas the piece at Masulipatam, being brought from Raylungy, a village and Talook to the northward, where a finer description, well adapted for tents, is made at 7 Rupees the piece of 36 yards, 1 yard wide. About Vizagapatam the ordinary dungaree is usually sold by weight. The best Bengal tents appear to be made of an open textured dungaree, the threads of which are finer than is usual in dungarees. Like all other cotton goods, dungaree should not be exposed to the weather in sails, tents, &c., till the weavers dressing and filth has been thoroughly removed by washing and partial bleaching.—*Faulkner, Rohde MSS.*

DUNGING OF CLOTHS, is a process resorted to by dyers both in the East Indies and Europe, the object being to impregnate cotton cloths with animal matter for which many dyes have a strong affinity.—*Rohde M.S.S.*

DUNG'TEN. A bone or relic receptacle, of the budd'hist religionists. The Chaitya, is any sacred object worshipped by the budd'hist, as a tree, an altar, a temple, as well as any monument raised on the site of a funeral pile, as a mound or pillar, and is probably applicable both to the budd'hist Chodten, or offering to the deity, and the Dung'ten, a bone or relic receptacle. The Stupa or Chaitya of Indian buddhism, are supposed to have been erected, subsequent to the Cave temples and Viharas or monasteries. The ancient Stupa were originally meant as receptacles of either the Buddhas or the Bodhisattvas and the kings who encouraged the propagation of the budd'hist faith. The Chodten or Chorten of Tibet are similar to the Stupa. They consist of a cylindrical vase, and have a cupola over them. See Buddha, Topes.

DUNGAL-KARNEWALA, literally, the assembler of a crowd, the master of ceremonies.

DUNIAH, Beng., Can., Duk. and Hind. Coriandrum sativum. Coriander seed.

DUNI-KADURU, Eng. Tabernæmontana dichotoma.—*Roxb.*

DUNIYA, Beng., Dúk., Guz.; Hind., Malbal, Sans. Coriandrum sativum.—*Linn., Roxb., W. Ic.* Coriander seed.

DUNK, a river of Purneah.

DUNKANI, Beng. Canscora decussata.

DUNORHUNG. A Penang wood, of a brown colour, specific gravity 1·235. Used by the Chinese for carving images.

DUNSHING, Hind. Abies webbiana.—*Hooker.*

DUNTI, Beng. Syn. of Croton polyandrum.—*Roxb.*

DUNTU PESALA-KAIA. Tel. Dolichos Tranquebaricus.

DUNUK, Hind. Aralia cachemirica, Dunuk-dopaharia, Hind. Pentapetes phœnicea.

DUOLA KANCHAN, Mar. Bauhinia acuminata, also B. albida and B. Gibsoni.

DUPADA CHETTU, Tel., Dupada mara, Mal., Dupa mara, Can. Vateria indica.—*Linn.*

DUPHALA and Abor Hills, are the mountains N. of Assam, inhabited by Bhooteans, Duphala, and Abor tribes. They are from 5,000 to 6,000 ft., above the surrounding level. The face of Assam presents an immense plain, studded with clumps of hills, rising abruptly from the general level. The mountains on the N. are composed generally of primitive rocks. Those to the S., are tertiary and metamorphic. See Dophla.

DUPLEIX. An eminent French commander, who served in the Peninsula of India in the middle of the 18th century, and made great efforts to sustain French interests there, against the British. He opposed Anwar-ud-din and his son Mahomed Ali, styled Wallajah, in opposition to Major Stringer Lawrence who was contending with Chunda Sahib. Dupleix, failed in an attack on Fort St. David, on the 19th December 1747. His efforts were directed to expel the British from the Peninsula his chief British opponents being Lawrence and Clive. In that time, Madras, Fort St. David, Cuddalore, Arcot, St. Thomé, repeatedly changed hands. He was appointed Chief of Chandernagore and succeeded M. Dumas as Governor of Pondicherry. He was of a bold, self-reliant but haughty character and was much thwarted by M. de la Bourdonnais. It was in his time that Madras was taken and held by the French and again restored to the British. He twice failed to take Cuddalore. He negotiated largely and formed alliances with native chiefs, with Anwar-ud-din, Chanda Sahib, Muzuffur Jung, and Nazir Jung. In 1752, he was appointed by Salabut Jung, Subadar of the Dekkan, Nawab of the Carnatic. For his services he was created a marquis, but misfortunes overtook him and he was superseded by M. Godeheu and returned to France in September 1754. On his return to

France in September 1754, the Government refused to pass the bills for the sums which he had ordered to be disbursed on his own responsibility and he was reduced to extreme poverty. He was shamefully treated, and three days before his death in 1754, he wrote in his memoir " I have sacrificed my youth, my fortune, my life, to enrich my nation in Asia." His great name shed a lustre on the struggles of his countrymen for empire in the East. *Orme; Malleson.* See Bourdonnais.

DUP-SALAI, HIND. Boswellia thurifera, Olibanum.—*Roxb.*

DUR, HIND. of Kangra, Cedrela serrata.

DURANA, AFFGHAN. Cratægus oxyacantha.—*Linn.*

DURA. Daniel iii and i, tells us that Nebuchadnezzar the king made an image of gold whose height was three-score cubits, and the breadth thereof six cubits. He set it up in the plain of Dura, in the province of Babylon. This is the modern Imam Dour, on the left bank of the river.—*Rich's Residence in Koordistan, Vol.* ii, *p.* 148.

DURANA. HIND. Cratægus oxyacantha.

DURAND, Sir Henry Marion, entered the army in June 1828, as 2nd Lieut. in the Bengal Engineers; became Captain 1844, and promoted to Colonel, Feb. 1861. He served in the Affghanistan campaign; headed the explosion party, and fired the train at Ghuznee, for which he received a medal; served also at Gwalior and in the Panjab campaign at Chillanwallah and Goojerat, for which he received a medal with two clasps, and the Brevet of Major; was afterwards Agent to the Governor-General in Central India, when his conduct was frequently commended in dispatches, in 1858 he was nominated a C.B., and promoted to be Brevet Colonel; was appointed Major-General in the Army, and placed on the fixed establishment of general officers, March 1867; and invested with the order of the Star of India by the Governor-General in June 1867. He was an officer of great political sagacity. In 1857, he stood to his ground and stemmed the flood of mutiny from bursting into Hyderabad and pouring down the Deccan. Wrote on Dadapoor fossils in Bl. As. Trans., vol. v., 291.—On the Barometer, Ibid, 301.—On fossil rhinoceros, Ibid, 486; carnivora, 579; shells 661; quadrumana, 730.—*Howell Thurlow, Dr. Buist's Catalogue.*

DURANI. This Affghan race are partly pastoral and partly agricultural. All the Durani tribes have names ending in Zye, which, is equivalent to the Arabic, Ibn, or Wald, and to the Scotch Mac. There are nine of these tribes, the Popul-zye, which is the largest; Alleko-zye; Baruk-zye; Achik-zye; Nur-zye; Ali-zye; and Ishaq-zye, the last two being the smallest. In person, the Durani are stout and well made, many of them being above the standard of the Indo-Germanic races of Europe. Some have round and plump faces. With others, the countenance is strongly marked, and with most the cheek bones are prominent. When a family is by itself, the men and women eat together; but few restraints are put upon the female, and her influeuce is considerable. The Durani tribes, all but the Achik-zye, are religiously given, but not intolerant. They are Sunnis. Their national dance, called Attun, is danced almost every evening with songs and tales to accompany it. They have a strong love of country.—*Dr. Latham, p.* 202, *Elphinstone's Cabool.*

DURANTA ELLISIA, one of the Verbenaceæ, a scentless, beautiful, large shrub, with light blue pendulous flowers, it blossoms almost throughout the year, and is readily grown from cuttings. D. Plumieri is also a large shrub, with handsome drooping blue flowers having the scent of almonds: the clusters of seed berries which are numerous, when ripe, have a very pretty appearance from their dark orange colour, they do not appear to germinate readily.—*Riddell.*

DURAS or Hemb. Bafe or Bab. See Kashmere.

DURBA. HIND. SANS. See Dubh, Durva.

DURBAR. HIND. PERS. In India, an assembly held by a sovereign or ruler, equivalent to a Levee.

DURBET. See Dyassak.

DURBUNG. A river near Songnum.

DURDU, an old secluded pastoral race in Ghilghit and Chulas, on the Indus river, on the north. The Affghans on the one side and the Turkomans on the other, are gradually pressing on the less energetic Durdu. See India.

DURESHTA. HIND. Medicago sativa.

DURGA, a form or caricature of Parvati, and one of the Grama-devata. According to Bently, Durga, as wife of Siva, corresponds with the Juno of the Greeks and Roman: and the Isis of the Egyptians, as also Ceres and Proserpine. Durga, is only one of the names of the hindoo goddess who is known as Bhawani, Kali, Parvati. As Durga she is represented with ten arms. In one hand she holds a spear, with which she is piercing the giant Muhesha, in another, a sword; in a third, the hair of the giant, and the tail of a serpent twined round him, and in others, the trident, the discus, the axe, the club, the arrow, and the shield. One of her knees presses on the body of the giant, and

her right foot rests on the back of a lion, which is lacerating his arm. On her head she has a crown richly gemmed, and her dress is magnificently decorated with jewels. The giant is issuing from the body of the buffalo, into which he had transformed himself during his combat with the goddess. The plate given as the frontispiece of Moor's Pantheon, was taken from a cast by a then well-known artist, Chit Rai, and represents, with great precision the figures which are exhibited at the annual celebration of the *Durga Puja* or *Dusarah*. At this festival the images of her sons, Kartikeya and Ganesha, are also, in Bengal, usually placed on each side of her. This is the most splendid and expensive, as well as the most popular of any of the northern hindoo festivals and takes place in the month Ashwinu or in the end of September or beginning of October. The preliminary ceremonies occupy several days previous to the three days of worship. During the whole of this period all business throughout many parts of the country is suspended, and universal pleasure and festivity prevail. Sir John Malcolm, in the Transactions of the Bombay Literary Society, in allusion to the *Durga Puja* or *Dusarah*, has stated that the hindoo soldiers have converted the animals and instruments of modern warfare into emblems of their Bellona. Thus the horse is invoked to carry his master, first to victory and then to repose. The flag-staff is the ensign of Indra; the sword is celebrated under several names; the bow and arrow are also praised; and even fire-arms have their proper pre-eminence of adoration. The hindoo artilleryman, at all times, regards the gun to which he is attached as an object of superstitious reverence, and usually bestows on it the name of some deity. During the *Durga* festival, the cannon belonging to the army are planted, praised, invoked and propitiated by several species of offering. On the morning of the tenth day, the Peishwa, with all his chiefs and soldiers, used to move out to the camp in the vicinity of the city, each being ranged under his particular banner, mounted on his best horse, dressed in his finest clothes, and with his arms highly polished. Horses, elephants and camels, were all arranged in their gayest trappings, and every corps spread its gaudiest flags and banners. The whole population of the capital, either as actors or spectators, joined in this grand procession, which moved towards the sacred tree, the object of adoration. After the offerings and prayers, the Peishwa plucked some leaves off the tree, on which all the cannon and musketry commenced firing. The Peishwa then plucked from a field, purchased for the occasion, a stalk of *jowari* or *bajri*, on which the whole crowd fired off their arms, or shot arrows, and rushed in an instant and tore up the whole. Each endeavoured to procure his share of the spoil. Some succeeded in carrying off a handful, whilst others contented themselves with a few stalks; all, however, returned home with shouts of joy, and the remainder of the day and night was devoted to festivity and mirth. Many other usages prevail at this festival, which are peculiar to the Mahrattas, among others, that of sacrificing sheep and buffaloes, sprinkling the blood on the horses with great ceremony, and distributing the flesh of the former to all ranks, brahmins excepted. The chiefs often give money to enable their soldiers to buy sheep to perform sacrifices, which, from furnishing them with a good dinner, are by many considered as the most essential ceremonies of the Dusarah. The deity thus honored is, however, still the same, and Durga, who destroyed more giants than all the rest of the hindoo divinities together, is, under all the numerous names and forms derived therefrom, no other than Parvati, Bhavani, or Devi, the *sacti* or personified energy of Siva. The *Yoni*, the symbol of female energy, is the emblem of this goddess, as the *Lingam* is that of her husband. This emblem is worshipped by the Sacta sect: and, in conjunction with the Linga by the Saiva sect. It forms the rim or edge of the *Argha*, or cup, which encircles the *Linga*. —In the Durga puja, the sacred jar is an essential article in the celebration of the mysteries and is marked with the combined triangles, denoting the union of the two deities, Siva and Durga. The Sacta sect, worshippers of the Sacti, or female principle, mark the jar with another triangle. The Vaishnava sect, in their puja, use also a mystical jar, which is also marked. These marks, Mr. Paterson says are called Tantra; and are hieroglyphic characters, of which there are a vast number. He hence ingeniously deduces the identity of the hindoo puja with some Egyptian rites of a corresponding nature. An explanation of his views is given in his Essay on the origin of the hindoo religion, in the eighth volume of the Asiatic Researches, p. 401. In the different terrific forms of Siva and Durga, a necklace of skulls forms an invariable decoration, as does the crescent or half-moon on the forehead; and the moon is considered to be the peculiar reservoir of Amrita or the beverage of immortality.—In *Hind. Theatre, Vol.* ii, *p.* 59, Aghoraghanta invoking Chamunda, says of Durga,

> The elephant hide that robes thee, to thy steps
> Swings to and fro; the whirling talons rend
> The crescent on thy brow; from the torn orb

The trickling nectar falls, and every skull
That gems thy necklace laughs with horrid life.

Anna Purna Devi, a goddess in hindoo mythology, is a beneficent form of Parvati, she is described as of a deep yellow colour, standing or sitting on the *lotus*, or water-lily. She has two arms, and in one hand holds a spoon, in the other a dish. In her dress she is decorated like the other modern images of Durga, Anna Purna is a household goddess, and is extensively worshipped by the hindoos. Her name implies the goddess who fills with food, and they believe that a sincere worshipper of her will never want rice. She is possibly the Anna of Babylon and she has been considered as the prototype of the Anna Perenna of the Romans, whom Varro places in the same rank with Pallas and Ceres, and who was deified and held in high esteem by the Roman people, in consequence of having supplied them with food when they retired into Mount Aventine. Besides the great similarity of names, there is a singular coincidence in the times of their worship, the festivals of Anna Purna taking place in the early part of the increase of the moon in the month Choitru (partly in March,) and those of the Roman goddess on the Ides of March. In India, she is known simply as Anna, also as Anna Purna or Anna Devati. In his hymn addressed to her by the Rishi Agastya, she is personified as Pitu or material food. Anna Purna is from the Sanscrit, anna, food, and poornua, full. Another word is anna, food, and prashana, feeding.—*Coleman's Mythology of the Hindoos, p.* 91 ; *Wilson's Hindoo Theatre.*

DURG BANSI. Hind. A tribe of Rajpoots in Jonpur and Azimgurh.

DURGAH, properly Dargah a tomb or shrine. There are two noted shrines of this kind near Mangalore. The first is situated at the village of Cuddry (two miles off), and called *Sheikh Furreed ka Dargah.* It consists of a hole in the centre of the side of a perpendicular rock composed of laterite, which is said to lead to a considerable distance (they say all the way to Hyderabad, 450 miles.) The opening is square, about six feet above the ground, ascended by a flight of stone steps rudely constructed and just large enough to allow of a person to crawl in. The cavern is very dark, and no one knows the exact size of it, as none dare venture in. Adjoining is a chasm in the rock, and of inconsiderable size, which at its entrance has been built up with stone, and an opening left for people to creep in by as in the other ; but this is found open within (or exposed to the air) after it is once entered. Tradition states that about A. D. 1738, there was a peer named Sheikh Furreed, who made *chilla (i. e.* neither speaking, eating, or drinking for forty days, but worshipping God and living retired from the world) in Hindoostan. He resided at Cuddry for twelve years, during which time he used to observe *chillas*, remaining for forty days together in the cavern, seeing and speaking to nobody, eating and drinking nothing ; after the forty days were over he was wont to come out for four or five days, but partake of no other food but the leaves of a plant (since named after him), *Furreed-bootee* (the latter word signifying a medicinal herb), a sort of shrub which grows wild in the surrounding jungles and has a sweetish taste : he drank water, spoke during these days, said prayers in an adjoining stone building, and then retired again to this cavern to perform another forty days *chilla*, and so on. At the end of twelve years he disappeared, and it is said, this being the road to Mecca, that he set out for that town by this subterraneous route, and has never been heard of since. Mohamedans resort hither occasionally and on Fridays cook victuals, and having offered *fatiha* over them while burning incense, in his name, distribute them among the faqeers resident there, as well as those who have accompanied them. If a *durgah* be situated in a place where no food can be dressed (from want of materials or otherwise), they take sweetmeats with them, which they substitute in its stead. This *durgah* is in the charge of a *faqeer*, who receives (or rather helps himself to) the offerings that are made by visitors, and which are placed at the entrance of the cave, when he dies (the office not being hereditary) another is appointed, the one best qualified from his known piety and zeal. The committee for electing a successor consists of the four principal *mukhan-walay* (peers), residing at the four principal *mukkans* (or houses of peers), spiritual guides (so called) at Mangalore, and six or ten of their *murid* (or disciples), on such occasions numerous *faqeers* are likewise present. The four peers having come to an unanimous conclusion, appoint either one of their disciples, or the son of the deceased, if he be found duly qualified. In the days of sooltan Tippoo, the individual in charge of this *durgah* used to receive, by order of the sooltan, rupees corresponding to the number of masts of the vessels that entered the roads or harbour ; for every ship three rupees, patamars, &c., two rupees, *manji*, &c., one rupee : this rule was abolished when the place fell into the hands of the British. There is likewise a pagoda where a grand annual festival takes place, on which occasion an immense

concourse of people assemble. The second *dargah* is situated on the banks of the river at Mangalore, and consists of a large, long, tomb with minarets at each extremity. *Low Lungar Shah*, a faqir, whose name it bears is buried here. Lamps are burned here every night, and it is chiefly visited by the hindoo Tamil race, but also by mohamedans and other hindoos. Most hindoos, however, frequent *Sheikh Furreed's dargah*. These *dargahs* are resorted to when people are desirous of being freed from any distemper, misfortune, &c. If the individual who is enshrined in the *dargah* have been wealthy, large dinners are provided, *fatiha* offered, and the food distributed to any who choose to partake of it ; there being sometimes *Kanchni ka taefa* (bands of dancing girls) to entertain the guests. Among the great this takes place on every night of the year (and is never observed in the day time) ; but among the poorer classes of people, every Monday and Thursday or once a week or month.—*Herklots.*

DURGA PUJA, the festival of Durga in Bengal, in the month of Aswin, about October. On this occasion the images of her sons, Kartikeya and Ganesha, are also, in Bengal, usually placed on each side of her. This is the most splendid and expensive, as well as the most popular of any of the hindoo festivals, and takes place in the month Ashwina, the end of September or beginning of October. The preliminary ceremonies occupy several days previous to the three days of worship. During the whole of this period all business throughout the country is suspended, and universal pleasure and festivity prevail. It is known among the Mahrattas as the Dasserah and hindoo soldiers have converted the animals and instruments of modern warfare into emblems of their Bellona. Thus the horse is invoked to carry his master, first to victory and then to repose. The flag-staff is the ensign of Indra ; the sword is celebrated under several names ; the bow and arrows are also praised ; and even fire-arms have their proper pre-eminence of adoration. The hindoo artilleryman, at all times, regards the gun to which he is attached as an object of superstitious reverence, and usually bestows on it the name of some deity. During the *Durga* festival, the cannon belonging to the army are planted, praised, invoked, and propitiated by several species of offerings. On the morning of the tenth day, the Peishwa, with all his chiefs and soldiers, used to move out to the camp in the vicinity of the city, each being ranged under his particular banner, mounted on his best horse, dressed in his finest clothes, and with his arms highly polished. Horses, elephants, and camels, were all arranged in their gayest trappings, and every corps spread its gaudiest flags and banners. The whole population of the capital, either as actors or spectators, joined in this grand procession, which moved towards the sacred tree, the object of adoration. After the offerings and prayers, the Peishwa plucked some leaves off the tree, on which all the cannon and musketry commenced firing. The Peishwa then plucked from a field, purchased for the occasion, a stalk of *jawary* or *bajree*, on which the whole crowd fired off their arms, or shot arrows, and rushed in an instant and tore up the whole. Each endeavoured to procure his share of the spoil. Some succeeded in carrying off a handful, whilst others contented themselves with a few stalks, all, however, returned home with shouts of joy, and the remainder of the day and night was devoted to festivity and mirth. Many other usages prevail at this festival, which are peculiar to the Mahrattas, among others, that of sacrificing sheep and buffaloes, sprinkling the blood on the horses with great ceremony, and distributing the flesh of the former to all ranks, Brahmins excepted. The chiefs often gave money to enable their soldiers to buy sheep to perform sacrifices, which, from furnishing them with a good dinner, were by many considered as the most essential ceremonies of the Dasserah. In the Durga puja, a sacred jar, is an essential article in the celebration of the mysteries and is marked with the combined triangles denoting the union of the two deities, Siva and Durga. The Sacta sect, worshippers of the Sacti, or female principle, mark the jar with another triangle. The Vaishnava, in their worship, use also a mystical jar, which is also marked. These marks, Mr. Paterson says, are called Tantra ; and are hieroglyphic characters, of which there are a vast variety. He hence deduces the identity of the hindoo puja with some Egyptian rites of a corresponding nature.—*Sir John Malcolm, in the Transactions of the Bombay Literary Society, Cole. Myth. Hind. p.* 91 *; Paterson, Essay on the origin of the Hindoo religion, Asiatic Researches, vol.* viii, *p.* 401.

DURGARAZ PATNAM, in the Nellore District one of the earliest of the British stations.

DURGARI, of Panjab, Albizzia stipulata. —*Boiv.*

DURGAVATI, pronounced Durgonti, was the daughter of the Chandail king of Mahoba, the ancient capital of Bundelcund. With her father's consent, the Gond king of Gurrah Mundla carried her off with an army of 50,000 men. After her husband's death, Asof Khan, a general of Akbar, in 1564, ad-

vanced to annex Gurrah Mundla, but as her son was a minor Durgavati assembled 1,500 elephants, 8,000 horse and some foot, and, clothed in armour, met the Moghul forces and drove them back. Asof again advanced and was again defeated with a loss of 600 men. A third effort was successful, her son was wounded, and her troops fled, she herself was wounded and she ended her life with a dagger. Her tomb is still to be seen in a narrow defile between two hills, and passers bye place crystals on her grave. Her name still rests in Gond story.

DURGOTSAVA. See Kali.

DURGOWTI. A river in the Benares district of Bengal.

DURHAWUT, See Burabur caves.

DURIA MADDEE, also kora maddee and koraman, *Tel.* Briedelia spinosa. A tree of the Godavery, wood appears to be very strong and good. Cattle eat the leaves most voraciously.—*Captain Beddome.*

DURIAN. Two high islands, in the Duryan Strait and distinguished as the Great and Little; Great Duryan being called by the Malays Pulo-Sanglar.—*Horsburgh.* See Duryan.

DURI-HAR. See Jogi or Yogi.

DURIO. A genus of plants of which the name has been derived from Durion, a well-known fruit of the Malayan Archipelago. The specific name of *zibethinus* has been applied to the tree which forms this genus from the fondness of the Malayan zibet (*Viverra rasse*, Hors.) for this fruit. The genus *Durio* belongs to the natural family of *Bombaceæ*, considered by some botanists to be only a tribe of *Sterculiaceæ*. It is characterized by having its five petals smaller than the five lobes of the calyx. The stamens, long and numerous, are arranged in five bundles, and have twisted anthers; the free germen is surmounted by a long filiform style and capitate stigma; the fruit, roundish and muricated, is divided internally into five cells, and easily separates when ripe into five parts; each cell contains from two to four or five seeds enveloped in soft pulp.—*Eng. Cyc.*

DURIO ZIBETHINUS, *Linn.*

Echinus arboreus.

Du yeen, BURM.	Dorian, ENG.
Du yeen yaing, BURM.	Turrien, Siamese.

The Dorian is a large and lofty tree of the Malay Peninsula, the Eastern Archipelago and the Moluccas, large in shape, the flowers are arranged in clusters on the trunk and older branches, where is also borne the fruit, as in the Jack and Cocoa trees. It is of the size of a melon, covered with sharp points; when it is ripe, the outer skin opens spontaneously, and the interior consists of five lobes of a creamy consistence and a whitish colour in which are nuts more or less numerous. The Durian is a favourite food of the natives during the time, May and June, when it is in season; but there is usually also a second crop in November. It is as remarkable for the delicacy, combined with richness, of its flavour, as for the intolerable offensiveness of its odour. It is delicious to the taste, but the strong and persistent smell repels most Europeans from using it. In size it is equal to a melon, or a man's head, and sometimes compared to a rolled-up hedgehog hence it has been called Echinus arboreus in consequence of its hard and thick rind, which is yellow-coloured when ripe, being covered with firm and angular projections. The seed, with its edible enveloping pulp, is about the size of a hen's egg; the pulp is as white as milk, and as delicate in taste as the finest cream, and should be eaten fresh, as it soon becomes discoloured and undergoes decomposition. The seeds of the Durian are likewise eaten when roasted, and have something of the flavour of chestnuts. The wood of the tree is valued for many economical purposes, especially when protected from moisture. The rind, probably from containing potash, is used in the preparation of some dyes. Although possessing an odour, so powerful and diffusive as to taint the air of a whole town when it is in season, the pulp is rich without being cloying. The natives of the countries yielding the Durian, prize it beyond all other fruits. In countries with a suitable climate, it flourishes without care or culture. It is most abundant in the western portion of the Archipelago and extends east as far as the island of Mindano, the only one of the Philippine group in which it is known. It is abundant in Siam, however, up to the 13th and 14th degrees of north latitude; and again it is found on the coast of Tenasserim, in about the 14th degree of latitude, which is the furthest distance from the equator to which it has been successfully propagated. All attempts to cultivate it in any part of Hindoostan have failed; nor has it, like some other Asiatic fruits, been transferred to tropical America. Crawfurd did not find that it was grown in Cochin-China, although he thinks it most likely that it is so in some parts of Kamboja. A hot, moist, and equable climate would seem to be indispensable to the Durian, but soil seems to be indifferent to it, for it thrives in the granitic, in the sandstone, and in the calcareous soil of the Peninsula and Sumatra, in the volcanic soil of Java, and in the rich alluvium of the valley of the Menam in Siam. The name, is pure Malay, and is a derivative from the word Duri, a

thorn or prickle, in reference to the sharp tubercles with which the rind is covered. This name, with trifling variations, is that of the fruit in every country in which it is found from Java to Siam, and it has no other. From this, therefore, it may be inferred that the tree is a native of the country of the Malays, viz., Sumatra, the Peninsula, and their adjacent islands, and that through the Malays it was more widely disseminated. In the interior of the Malay Peninsula, in several places in the forest are found Durian trees, always in a body together, to the number of about ten or twelve trees. Such places are for the Jakuns an object of great attention, and matter of work. They cut with the great axe all the other trees which surround the Durians, that these, by receiving more air, may grow up more easily, and give finer, and a greater quantity of fruit. They build there a small house, and then return to their ordinary habitations, which are sometimes distant from such places one or two days' journey. Durian, is seen to grow spontaneously in one of the small islands off the eastern coast of the Peninsula, and which is nearly one entire forest down to the margin of the sea. On Pulo Tingi, the orang-laut, or sea-gypsies, assemble, attracted from the coasts of the Peninsula, as well as from the islands of the Jehore Archipelago. On one occasion six boats from Moro, an island of that group, were found on their way to Pulo Tingi; they had travelled by sea a distance of 180 miles, to partake of the fascinating fruit.—*Roxburgh, Vol.* iii, *p.* 398; *Marsden's Hist. of Sumatra; Mason's Tenasserim; Mc Clelland, Eng. Cyc.; Crawfurd Dict., p.* 126.

DURIYA MADDI, Tel. Briedelia spinosa, *Willde.*

DURMA, Beng. Amphidonax karka. See Graminaceæ.

DURMUR, Hind. Xanthoxylon alatum.

DUROOD, Hind., Pers. Blessing or benediction. Durudi, a person who reads prayers or reads the koran at the tombs of deceased persons.

DURPANA, Sans. From drip, to shine.

DURRA also ZURRUT, Arab. Sorghum vulgare.

DURRA, a corruption of *Dwâr*, a barrier, pass, outlet or portal, and *Mokund*, one of the epithets of Krishna. *Mokundurra* and *Dwaricanat'h* are synonimous :—" the pass and portal of the Deity."—*Tod's Rajasthan, Vol*, ii. *p.* 702 703.

DURRABUND. See Khyber, p. 514.

DURRAH. See Pindara.

DURRAWAL, 18 coss, equally between Ahmedpoor and Bahawalpoor is the chief fortress of the Bahawalpoor state.

DURRE. See Chepang, Haiyu, Chetang.

DURRIKHANA, is a hall of audience, appropriated for ceremonies, carpets are spread.—*Tod's Rajasthan, Vol*, i. *p.* 185.

DURRUMPOOR. A revenue district in Bengal, formed out of ancient Bahar.

DURRUNG. A division of Lower Assam.

DURSHUA, Tel. Acacia sirissa—*Buch.*

DURAKHT-I-MUKUL, Pers. Commiphora Madagascarenis.

DURUNG, Malay, in Bawean, a hall of audience or of reception, before the houses.

DURUNGA, Hind. Artemisia elegans.

DURVA, Hind. Poa cynosurioides. Vishnu as Rama, in his seventh incarnation, assumed the colour of this grass, which is, therefore, held sacred to that god, and used by the hindoos in all religious ceremonies. See Graminaceæ.

DURVASA, in hindoo legend, a rishi of a choleric temper, whose curse was of dreadful effect. See Lakshmi.

DURWAN, Pers., Hind. A doorkeeper.

DURWESH, or FAQEER, a mohamedan religious mendicant or devotee, the Dervis of the Arabian Nights.

DURYA KA KEKRA, Duk., Crab.

DURYA-KA-NAREL, Duk. Guz. Hind. Sea-cocoa-nut of Seychelles.

DURYAN, of Dryon : Lodoicea Strait, is above 120 miles long, from Pulo-Varela to the Carimons ; and is bounded on the west side by the coast of Sumatra, False Durian, Sabon and the contiguous islands : on the East side by the islands off the South and West sides of Lingin, Great and Little Durian and the adjacent islands. Throughout these Straits the tides are very irregular.—*Horsburgh.* See Durian.

DURYODHANA, the head of the Kuru race, who made war with the Pandava race, as the elder branch, retained his title as head of the Kuru, while the junior, Yoodishtra, on the separation of authority, adopted his father's name, Pandu, as the patronymic of his new dynasty. The site of the great conflict known as the Mahabharat between these rival clans, is called Kuru Khetu, or 'Field of the Kuru.' The rivalry between the races was continuous, but Duryodhanu, who often failed in his schemes against the safety of his antagonists, determined to make the virtue of Yoodishtra the instrument of his success. He availed himself of the national propensity for play, in which the Rajpoot continues to preserve his Scythic resemblance. Yoodishtra fell into the snare prepared for him. He lost his kingdom, his wife, and even his personal liberty and that of his brothers, for twelve years, and became an exile from the plains of the Yamuna.

DURZI properly DARZI, HIND., a tailor.

DUSA, TEL. Panicum fluitans.—*Retz.*

DUSARI TIGE, TEL. Cocculus villosus. —*DC.*, also Menispermum hirsutum.—*Roxb.* The withies are woven into small baskets and are used instead of cord by the ryots.

DUSH-BAHOO, BENG. Pardanthus chinensis.

DUSHTISTAN means a level country, from "Dusht;" a plain ; but it is particularly applied to the low country extending along part of the shores of the Persian Gulf.—*Fraser's Journey into Khorasan, p.* 54.

DUSHTUPA CHETTU, TEL. Dæmia extensa.—*R. Brown.* Asclepias echinata.—*Roxb.*

DUSHA-BHOOJA, SANS. From dashan, ten, and bhooja, an arm. Dashahara, SANS., from dashan, ten, and hree, to take away. Dasha-koomara, SANS., from dashan, ten, and koomara, a son. Dusha-dik-pala, SANS. Pala signifies the cherishing of a person. Dasha-Rat'ha, SANS., from dashan, ten, and rat'ha, a chariot. Dashama-Padshahé-grant'ha, SANS., from dashama, the tenth, badshah, king, and grant'ha, a book.

DUSKY PRESBYTES. See Simiadæ.

DUSMASA. Vide Faqeer.

DUSS, HIND. Colebrookia oppositifolia, also Elsholtzia polystachya.

DUSSAUN, a small river of Banda running near Nureeawullee, near Bhopal, and 9 miles from Saugor.

DUSSAYRA, prop. Dush'hra, a great hindoo festival in the Deckan, answering to the Doorga puja in Bengal. As Arjuna and his brothers worshipped the "Shumee" tree, the Acacia suma and hung up their arms upon it, so the hindoos go forth to worship that tree on the festival of the Dussera. They address the tree under the name of Uparâjeetâ, the invincible goddess, sprinkle it with five ambrosial liquids, the Punchâmrit, a mixture of milk, curds, sugar, clarified butter and honey, wash it with water, and hang garments upon it. They light lamps and burn incense before the symbol of Uparâjeetâ, make chândlos upon the tree, sprinkle it with rose-coloured water, and set offerings of food before it.—*Forbes' Râs Mâlâ, Hindoo Annals, Vol.* ii, *p.* 335.

DUSSUMIERIA ACUTA, *Cuv. and Val.* Tamban bulat of the Malays. This fish is one of the Clupeonia. Head above, back and upper third of the sides deep glossy blue, bordered by a longitudinal band of pale copper-red ; the rest of the head and body shining silvery ; single individuals of this species occur at Penang at all seasons, but numbers from June to September. It is highly valued for its delicate flavour, and passes commonly as a 'Sardine.' The latter denomination it shares, however, with *Clupeonia perforata,* with which it is also confounded by the Malays under the common name of *Ikan tamban.* Both species have been prepared as 'Sardines a huile.' The family Clupeidæ may be thus shown.

Clupeidæ.

FIRST GROUP.—Engraulina.

Gen. 2 Cetengraulis, 37 Engraulis, 10 Coilia.

SECOND GROUP.—Chatoëssina.

Gen. 10 Chatoëssus.

THIRD GROUP.—Clupeina.

Gen. 61 Clupea, 3 Clupeoides, 1 Pellonula, 1 Clupeichthys, 14 Pelona, 7 Pristigaster, 1 Chirocentrodon.

FOURTH GROUP.—Dussumieriina.

Gen. 3 Spratelloides, 2 Dussumieria, 2 Etrumeus.

FIFTH GROUP.—Albulina.

Gen. 1 Albula.

SIXTH GROUP.—Elopina.

Gen. 2 Elops, 2 Magalops.

SEVENTH GROUP.—Chanina.

Gen. 2 Chanos.

DUST, is carried along with winds to great distances. Sirocco or African dust is found by the microscope to consist of infusoria and organisms whose habitat is, not Africa, but S. America, and brought in the tract of the S. E. trade wind of S. America. In the dust of the Cape Verdes, Malta, Genoa, Lyons and the Tyrol, Ehrenberg discovered separate forms. Dust storms are very frequent in India. A dust storm passed over Madras on Sunday the 19th May, which had travelled all the way from Allahabad nearly twelve hundred miles away. It commenced at Allahabad about seven A. M., that day and continued till 1 P. M., retaining the same fury as when it began ; it reached Madras soon after the last named hour. On the evening of the 17th, Secunderabad had been visited with an unusually severe dust storm. It came from the North West and was accompanied by lightning and thunder. The air to a considerable height was rendered almost opaque by dense clouds of red dust. The wind raged with great fury for upwards of half an hour and on its abating was followed by a heavy shower of rain. The storm at Madras on Sunday the 19th, passed over Kristnapatam seventeen miles S. E. of Nellore at half past ten o'clock in the forenoon of that day accompanied by a slight fall of rain. In the north of the district between Ongole and Ramapatam, there was a heavy fall of rain in the forenoon of Sunday, averaging from two to four inches. At Chingleput, thirty six miles South of Madras, the storm was experienced in full force at that station at two P. M. the same day. It came from the N. W. and the

wind was laden with vast quantities of reddish dust, no refreshing shower succeeded the storm.

DUSTAR OR PUGGREE. The name given in India, to the turban, worn on the head by mohamedans of Turkey and India, and by hindoos : the word turban is unknown to mohamedans of India.

DUST BOSEE, lit. hand-kissing.

DUSTH-BULLA. See Kurb-bulla.

DUSTOOR, properly written dastur, is perhaps a mere abbreviation of dastur-ul-amal. A body of instructions and tables for the use of revenue officers under the native Government of India.

DUST PANNA. A pair of tongs carried by faqeers.

DUSTUGIR-WALAY. An appellation given by the Gyr-mahdian mohamedans to all other sects.

DUSTAR-KHAN. A table cloth or rather a floor cloth, one spread on the ground.

DUSUN, or hill tribes of Ambong.

DUTA. In hinduism, messengers of the gods.

DUTCH. The name in the English language given to the people of Holland, in Europe, who call their own country Neiderland or Netherland. They have occupied parts of the East Indies since the close of the sixteenth century and designate their possessions in the Archipelago Netherlands India. Ceylon was occupied by the Portuguese in 1596, was taken possession of by the Dutch in 1658, and by the British in 1797. They had small possessions on the continent of India chiefly near Cochin, but at present they occupy or hold under feudatories a great part of the Eastern Archipelago, and their territories are styled the Dutch East Indies also the Dutch Indies, also the Netherland possessions in India. This nation first came to the Eastern Archipelago as the servants of the Portuguese. Pedro da Covilham and Alfonso de Payva, were sent as merchants in 1494, viâ Genoa, Alexandria, Cairo and the Red Sea, to Aden, where they separated to meet again at Cairo, in Abyssinia, Payva to search for Prester John, whom he heard of as reigning there over a highly cultivated people, but he died before reaching Abyssinia. Covilham went on to India where he made drawings of cities and harbours, especially, Goa and Calicut. Thence he returned along the coast of Persia to Cape Gardafui, and continued south to Mozambique and Zofala where he ascertained that the land joined the Cape of Good Hope. From Zofala he returned to Abyssinia and sent his diary, charts, and drawings to Genoa by some Portuguese merchants who were trading to Memphis. On receipt of these, king Emanuel, in 1495, sent four ships under Vasco de Gama, who visited Natal and Mozambique : in 1498, he was at Calcutta, in 1499 back at Lisbon.

In 1509, the Portuguese leader Sequiera entered the Eastern Archipelago. In 1510, Alfonso Albuquerque visited Sumatra, and in 1511, took Malacca, which he fortified, and sent out Antonio d' Abreu to search for the Spice Islands. On his way eastward, D'Abreu touched at Agasaj (Gresik) in Java. In 1511, the Portuguese visited Bantam. Ludovico Barthema was the first European who described Java from personal observation, but some of his statements as to the cannibal propensities of the inhabitants are questionable. In 1596, the Dutch, under Houtmann first arrived off Bantam, and found the native king at war with the Portuguese. They lent him aid, on condition of having land at Jacatra allotted for a factory. The earliest expedition sailed from Holland in 1594, under Houtmann, who visited Bantam and then Madura, where he had to pay 2,000 rix-dollars to liberate some of his crew. On the 3rd of March 1599, he arrived off Hitu-Lama. War then ensured between the Spanish, Portuguese, and Dutch, which lasted till 1610, when the Dutch remained masters of these seas and monopolized the lucrative trade. The British tried to enter on that trade but they too were finally driven off. In 1610, the Dutch fortified the village of Jacatra which they named Batavia. In 1619, this was destroyed, but it was then rebuilt by Mr. Bolt, the Dutch governor-general, and this was the beginning of the present town of Batavia. In 1811, when France overran Holland, the flag of France was hoisted at Batavia, but in the same year the British captured it, only to restore it, on the 19th August 1816. Java, up to the 13th century was partly hindoo, partly budd'hist, partly mohamedan, but in the 15th century, mohamedanism took the lead, and in 1475 a mohamedan prince took the throne at the overthrow of the great kingdom of Majapahit, which had dominion over the whole of Java and the eastern parts of Sumatra. In 1749, the reigning prince abdicated in favour of the Dutch East India Company. Seven years prior to that event, the sovereignty had been divided into a spiritual head, the "Susunan" or "object of adoration," whose descendants now reside at Surakarta near Solo, and a second prince who was styled sultan, and whose descendants reside at Jokyokarta, both of them highly pensioned, by the Dutch rulers in the Archipelago. The

principal revenues of the Netherland Archipelago are derived from the undermentioned sources, viz. :—

1st.—Various Imposts.

The capitation of the Chinese	f.	41,725
The tax on the killing oxen, buffaloes and sheep		315,966
„ „ „ hogs		156,132
„ on the consumption of fish.		179,546
Farm of the fisheries		155,388
Tax on the consumption of arrack		293,882
„ „ palm wine		13,244
„ „ indigenous tobacco.		120,000
Bazar (market) duties		3,044,974
Tolls		81,000
Farm of the small isles in the bay.		7,812
„ „ Birds' nest (Salangane)		70,004
Pawnbrokers' offices		334,866

2nd.—Territorial Taxes.

Land tax of the Javanese communes	f.	10,047,121
Farming of the felling of wood		36,560
Impost on the fisheries		192,331
Tithe		97,741
Land tax on European properties		314,957

3rd.—Various Receipts.

Tax on imports and exports	f.	5,171,100
5 per cent. additional for maritime works		256,775
Taxes on consumption		70,332
„ tobacco		15,000
„ the port and anchorage		96,215
„ timber		317,434
„ succession		55,021
„ transcription		178,625
„ private bazars		6,098
„ passage		20,000
Capitation of slaves		24,768
Taxes on horses and carriages		66,365
Tributes of the native princes		39,445
Taxes on public auctions		290,143
„ the Chinese games Pho To-pho		445,220
The Government printing		58,000
Posts, horses, and letters,		218,722
Monopoly of opium		9,560,165
Sale of birds' nests (Salangane)		221,250
„ timber for construction, &c.		505,700
Monopoly of Salt		4,609,908
Sale of Rice		516,525
„ Palm Sugar		90,620
„ Gunny bags		167,860
„ Gold and gold dust		50,900
„ Tin		3,000,000
„ Different articles		115,200

It is said that Java and its dependencies reckon upwards of 16,000 of chiefs of villages.

The soil of Java does not present any products which are exclusively proper to it, but all tropical productions can be transplanted there and cultivated with success. If the imperfect knowledge and limited means of the Javanese have only until now permitted them to cultivate rice, coffee, tobacco, sire, katchany, maize and a little cotton, we may reasonably hope that a gentle and enlightened persuasion, will easily lead them also to cultivate pepper, gambier, cardamums, and the many kinds of tobacco and cotton, on procuring for this purpose seeds from Virginia and Brazil ; whilst the culture and manufacture of indigo, sugar, the extensive culture of cotton, coffee, tobacco, the manufacture of potass, of rum, &c., may furnish to European industry powerful means of augmenting products suited to exterior commerce and immense sources of riches and prosperity. In 1830, only two-ninths of Java were cultivated, and the other seven-ninths still presented a vast field for improvement. In 1843, the whole private Imports from Java and Madura, amounted to :—

Merchandize	f.	21,980,792
Gold and Silver specie		570,596
Exports of Java and Madura in 1843 — Total	f.	22,551,388

The whole private Exports has amounted to :

In Merchandize	f.	58,159,237
Specie		833,599
Total	f.	58,992,836

Area of the principal islands of Netherlands India according to Baron Melville Van Carnbee, 4,45,411 Square English geographical miles.

Java and Madura	38,251	Timur	9,808
Sumatra	1,28,560	Sandal-wood Islands	3,784
Pulo Nias	1,200	Tenimber Island	2,400
Babi	480	Aru Islands	1,040
Pagi	560	Islands of Banda	17
Banca	3,568	Ceram	4,944
Billiton	1,904	Buru	2,624
Borneo	2,03,888	Gilolo	5,016
Celebes	57,248	Bachian	800
Buton	1,379	Ternate	11
Bali	16,848	Amboina	2,128
Lombok	16,560	Total Area of N. India	4,45,411
Sumbawa	4,448		
Floris	4,032		

Population of the Netherlands India, 1865.

Islands.	Europeans.	Natives.	Chinese.	Arabs.	Other Eastern nations.	Total.
Java and Madura	27,105	13,704,535	156,192	6,764	22,772	13,917,368
"West coast" of Sumatra, including the islands from Nias to the Pagis	1,188	872,173	3,172	54	1,116	877,703
Residency of Bencoolen	174	119,691	596	6	47	120,514
„ Lampong	52	88,113	180	8	4,666	93,019
„ Palembang	132	522,345	2,790	1,716	67	527,050
Banca	116	37,070	17,097	56	.....	54,339
Billiton	34	12,786	1,781	.....	1,223	15,824
Rhio	136	10,454	19,972	2	119	30,688
Borneo (the parts under the Dutch Govt.)	328	802,889	26,393	1,736	597	931,843
Celebes	1,176	292,619	4,385	42	.....	298,222
Residency of Amboina	1,219	104,841	311	85	817	107,273
„ Banda	545	5,876	153	12	.....	6,586
„ Ternate	732	2,062	427	70	.....	3,291
The Minahassa	550	102,423	1,437	11	.....	104,418
Timur	190	Unknown.	752	3	.....	945
Bali and Lombok	.....	863,725	.....	.....	.....	863,725
Total	33,677	17,641,602	235,535	10,565	31,424	17,952,803

In 1854 Amboina, Ternate, Banda and Kayeli, were made free ports.—*Bikmore, p.* 147, *Count de Hogendrop, Coupid'œil sur l'isle de Java, Brussels,* 1830; *No. IV, October* 1857, *Journal of the Indian Archipelago, Temminck's General View of the Dutch possessions in the Indian Archipelago.*

DUTCHNA. See Parvati.

DUTRO, Port. Thorn apple.

DUTTATREYA, Sans. From Datta, a gift, and atreya, from Atre, a sage.

DUTTURAMU, Tel. Datura alba, *Rumph.* Datura metel.—*Roxb., Rheede.*

DUVALI, Hind. A hindoo festival; a sort of "feast of lamps" in September; rain falling at this season is good. See Dipawali.

DUVET D'AUTRUCHE, Fr. The Estrich, Ostrich, Estridge.

DUWANLOO, the Kujur of Duwanloo took their name from Duwanloo, a village near Erivân, in the vicinity of which they were long encamped.—*Malcolm's History of Persia, Vol.* ii, *p.* 262.

DUYONG, Malay. Halicore. Dugong.

DUZ, Hind. Asparagus Punjabensis.

DUZHAKA. See Arian.

DVAITA or DAUHITY, a system of hindoo philosophy. See Dwaitya.

DVAPARA-YUGA, in hinduism the third age of the world.

DVARA-PALAKA, a door-keeper.

DVIPA GUSTIA, Sans. Cassia alata.

DWADUSHATMA, Sans. From dwadushu, twelve, and atma, form..

DWAITA. Muttra boasts almost as high an antiquity as any city in India. It is the Sursena of Valmiki and Menu, the Methora of Strabo and Arrian and the Mo-thow-lo of Hwen Thsang. Long before Khansa reigned or Krishna was born, Muttra was 'a jungly tract occupied by the aboriginal Dwaita, who were probably the ancestors of the Mair and Meena of our day. Their king contemporary with Rama was Lubbin.—*Tr. of Hind., Vol.* ii, *p.* 21.

DWAITYA, Adwaitya and Vasista dwaitya, the three great schools of brahmanical philosophy.

DWAPARA, Sans. From dwa, the second, and para, after. See Suryavansa Yuga.

DWA-NEE, Burm. Eriolæna, sp.

DWARA, a portal, a door. Amongst all the nations of antiquity, the portal has had its peculiar veneration: to pass it was a privilege regarded as a mark of honour. The Jew Haman, in the true oriental style, took post at the king's gate as an inexpugnable position. The most pompous court in Europe takes its title from its porte, the "Bab" or door, where, as at Oodipoor, all alight. The tripolia, or triple portal, the entry to the magnificent terrace in front of the Rana's palace, consists, like the Roman arcs of triumph, of three arches, still preserving the numeral sacred to the god of battle, one of whose titles is Tripuri, which may be rendered Tripoli, or lord of the three places of abode, or cities, but applied in its extensive sense to the three worlds, heaven, earth and hell. From the Sanscrit "Pola," we have the Greek "polis," gate, or pass; and in the guardian or "Polioh," the door-keeper or porter; and the English language is indebted, not only for its portes and porters but its doors (dwára). Pylos signified also a pass; so in Sanscrit these natural barriers are called Pala, and hence the poetical epithet applied to the aboriginal mountain tribes of Rajast'han, namely Pálipati and Pala-indra, 'lords of the pass,' Nat'h-dwara,' is the most celebrated of the fanes of Krishna the hindoo Apollo. Its etymology is 'the portal (dwára) of the god' (nat'h), of the same import as his more ancient shrine

of Dwarica. Nat'hdwara is twenty-two miles N. N. E. of Oodipoor, on the right bank of the Bunas. Although the principal resort of the followers of Vishnu, it has nothing very remarkable in its structure or situation. It owes its celebrity entirely to the image of Krishna, said to be the same that had been worshipped at Mat'hura ever since his deification, between eleven and twelve hundred years before Christ. As containing the representative of the mildest of the gods of Hind, Nat'hdwara is one of the most frequented places of pilgrimage, though it must want that attraction to the classical hindoo which the caves of Gaya afford.—*Tod's Rajasthan, Vol.* i, *pp.* 323-589.

DWARAKA, the most amount shrine of Kistnah, is at the point of the Saurashtra peninsula called Juggut Koont. In the time of Krishna it seems to have been a hot bed of drunkenness. The people suddenly fell on each other after a great drinking time, and many were killed. Shortly after that, a storm wave overwhelmed the city and destroyed more of them, but Krishna, his brother Arjuna and a few others escaped. At Dwarica, the god of thieves is called Boodha Trivicrama, or of triple energy,—the Hermes Triplex, or three-headed Mercury of the Egyptians.—*Tod's Rajasthan, Vol.* i, *p.* 75; *Wheeler's History of India.* See India, Kattyawar; Koosust'hulli, Krishna.

DWARA SAMUDRA, p. 324. See India.

DWARENA, Hind. Arundo donax.

DWARF ALMOND. Cerasus Japonica.

DWARF PALM. Chamærops Khasiana.

DWARKANATH TAGORE, an enlightened hindoo of Bengal and religious reformer who travelled through Italy and France on his way to England. He returned once to his native country but again visited England and died. He took with him several medical pupils to be educated there. He adopted theistical views and his example originated the hindoo sects known as the Brahmo-Samajh and Vedo-Samajh.

DWIJA, Sans. A twice-born man, a man of any of the three first classes or castes of the hindoos, the brahmans, chetriya and vesya, after being initiated into their respective tribes, by investiture with the sacred thread which is called a second birth. Various ceremonies are attendant upon hindoo boys between infancy and the age of eight years. After that age, and before a brahmin boy is fifteen, it is imperative upon him to receive the *poita, zonar, janavi* or *jhandiam,* the sacred thread, which the brahmans, in their secret ceremonies, call Yadnupavita. The investiture, after a variety of preliminary ceremonies is thus performed. The priest first offers a burnt sacrifice, and worships the salagrama, repeating a number of prayers. The boy's white garments are then taken off, and he is dressed in yellow or red, and a cloth is brought over his head, that no Sudra may see his face: after which he takes in his right hand a branch of the vilva, Ægle marmelos, and a piece of cloth in the form of a pocket, and places the branch on his shoulder. A poita of three threads, made of the fibres of the suru, to which a piece of deer's skin is fastened, is suspended from the boy's left shoulder, falling under his right arm, during the reading of the incantations or invocations. The father of the boy then repeats certain formulas, and in a low voice, pronounces three times, the Gaitri O'm! Bhurbhuvă ssuvăhă, O'm! Tatsa vit'hru varennyăm. B'hargo devăsyă dhimahi dhiyo yonaha pracho dăyath. O'm! Earth, air and heaven, O'm! "Let us meditate on the adorable light of the divine Sun, (ruler) (*Savitri*) may it guide our intellects." After this the *suru poita* is taken off, and the real *poita,* or sacred thread, put on. During this ceremony the father repeats certain formulas; the *suru poita* is fastened to the *vilva* staff, shoes are put on the boy's feet, and an umbrella in his hand. The receiving of the *poita* is considered as the second birth of a hindoo, who is from that time denominated "dwija" or twice-born. A brahman boy cannot be married till he has received the poita. The sacred thread must be made by a religious brahman. It consists of three strings, each ninety-six "hath" or cubits, (forty-eight yards) which are twisted together: it is then folded into three, and again twisted; these a second time folded into the same number, and tied at each end in knots. It is worn over the left shoulder (next the skin, extending halfway down the right thigh) by the brahman, khetric, and vaisya castes. The first are usually invested with it at eight years of age, the second at eleven, and the Vaisya at twelve. The period may, from especial causes, be deferred; but it is indispensable that it should be received or the parties existing it become outcastes. It is regarded by the brahmins as of highly mysterious and sacred import; and they do not consider an individual as fully a member of his class until he have assumed this holy emblem. It is, in its import, the counterpart of the confirmation of the Anglican church. Of these zonars, a brahman wears four; the other privileged tribes but three. Some writers call this the brahmanical, or priestly or sacerdotal, thread; but not, it would appear, in strict correctness, it not being confined even to the priestly tribe, but worn by three out of the four tribes of

hindoos and by all the five sections of the artizan class, the kansala of the hindoos, viz : the goldsmith, brazier, blacksmith, stone-cutter and carpenter, and the number of three threads, each measuring ninety-six hands, for the sacrificial string, may have some mystical allusion to the ninety-six fixed annual sacrifices. The number three is mystical with almost all nations ; and, with the hindoos, may refer to the same source as the three sacred fires, the three legs of *Agni*, the triad of divine powers, &c., ninety-six does not however, arise from any ordinary process of three, and seven, and two ; the distinguishing numbers of Agni's legs, arms and faces. —*Moor, p.* 379, *Cole, Myth. Hind., pp.* 155, 245.

DWIJA RAJA, Sans. From dwija, twice-born, and raja a prince.

DWIPA, Sans. An island, from dwi, two, and ap, water : also an extensive region or continent. The cosmography of the Agni Poorana divides the world then known to the hindoos, into seven dwípa, or continents : one of these is "Sácá-dwípa, whose inhabitants, descended from Bup'ha, are termed Saceswara, (*i. e.*, Sacæ-lords)." His (Bup'ha's) offspring or descendants were Julud, Sookmar, Manichuk, Koorum, Ooturés, Darbeeka, Drooma, each of whom gave his name to a Khand, or division (qu. Sookmar Khand ?) The chief ranges of mountains were Juldus, Raivat, Siamah, Indue, Amki, Rim and Kesari. There were seven grand rivers, viz., Mug, Mugud, Arverna, &c. The inhabitants worship the sun. Slight as this information is, we must believe that this Sácá-dwípa or Sacataí, is the Scythia of the ancients ; and the Saceswara (the saca of Menu), the sacæ so well known in western history, the progenitors of the Parthians, whose first (ad) king was Arsaca. The sun-worship indicates the adorer of Mithras, the Mitra or Súrya of the hindoo ; the Arverna re-calls the Araxes applied to the Jaxartes, while Julud, the proper name of the son of the first king of Sácá-dwípa, appears to be the Juldus of the Tatar historian Abulgazi, who uses the same term as does the hindoo, to designate a range of mountains. Whence this identity between Pooranic and Tatar cosmography. The grand international conflicts amongst the "fifty-six Yadu tribes," at Cúrú-khéta and subsequently at Dwarica, are sufficiently known to the reader of hindoo history. A chief of the twice-born tribe (*i. e.*, brahmins) was brought by Vishnu's eagle from Sácá-dwípa, and thus have Sácá-dwípa brahmans become known in Jambu-dwipa. And Menu says that it was only on their ceasing to sanction brahmans residing amongst them, that the inhabitants of these remote western regions became 'Mletcha,' or barbarians, testimonies which must be held conclusive of perfect intercourse and reciprocity of sentiment between the nations of Central Asia and India at periods the most remote.—*Tod's Rajasthan, Vol.* ii, *pp.* 218 *and* 219 ; *Transactions of the Royal Asiatic Society, Vol.* iii, *Vide paper entitled "Comparison of the Hindoo and Theban Hercules ;" Mr. Colebrook on Indian classes ; Asiatic Researches, Vol.* v, *p.* 53.

DWIPAGUSTIA, Sans. Cassia alata, *L.*

DWOIMATOORA, Sans. From dwo, two, and matr, a mother.

DYA. See India.

DYAK. The people thus denominated must not be confounded with the Daya of the west coast. They inhabit the borders of the river of Banjermassing and some of the other southern rivers, and their proper designation is Ngajur or Biaju. They are also called Kahayan from the great river of that name. The notions of the Dyak respecting the spiritual world are in general much confused and at variance with each other. They agree, however, in the belief in good and evil spirits. The good spirits are divided into two classes, viz., spirits of the world above or of the higher regions, who are comprised under the collective denomination of "Lengiang," and spirits of the lower regions, or more properly such as have their dominion in the waters, in great rivers, and those are called "Jata." The collective name of the evil spirits is "Talopapa," which word signifies in general all bad things. It is to be observed here that the Dyak describe the aspect of the regions above as similar to the terrestrial world, mountains, valleys, streams, lakes, &c., &c., are found there as well as here beneath, and the dominions of various spirits are bounded by the different streams and branches of the rivers. The Sarebas Dyak live along the Batang Lupar river of Borneo and on the Batang Lupar mountains. Soon after Sir James Brooke visited the Archipelago, common fame brought to him accounts that the powerful tribe of the Sarebas, wearing small ear-rings, were the most fierce and treacherous of all the Dyak race. Excepting the Sakarran, they were the most savage, delighting in pillage and head-hunting, both by sea and land. The Dyak appear to be divided by many customs and usages naturally into two classes, which have been called by Mr. Brooke, land and sea Dyak ; the latter appear to have been the more savage and powerful, the former the more quiet and easily managed. Amongst the sea Dyak the practice of preserving the heads of their enemies, anciently instituted that they might be kept as memo-

rials of triumph, has degenerated, from its originally sufficiently barbarous intention, into a passion for the possession of these horrid trophies, no matter how obtained. Amongst the land Dyak the custom still remains as it was probably at first instituted, and no wish for the possession of a head would tempt these people to take one unless it were that of their enemy with whom they were avowedly at war. These land Dyak differ more decidedly in other particulars from those who frequent the sea, the sea Dyak, or such as are in the constant habit of frequenting the ocean for the purposes of carrying off the heads of fishermen. Settlements of them, which, however, appear to differ in some measure, are also found on the Karawit and the neighbouring branches of the river Rejang. This tribe, the name of which is Sebooyoh, mis-printed Sibnowan in Captain Keppel's book, came originally from the country situated about the sources of the western branch of the Batang Lupar river, in the direction of the lake Danau Malayu and the Pontianak river. They were expelled from thence by their enemies, and descending the Batang Lupar, established their villages on a small river named Sebooyoh, from which they are now designated. Another large village of the Sebooyoh Dyak is established on a creek of the Sarawak river about a mile below the Malayan town; the creek is called Pedungan, and the Dyak are often designated as orange or Dyak Pedungan—the men or Dyak of Pedungan. The banks of the rivers are the chief sites of the Dyak tribes. The villages of the sea Dyak are formed upon one plan, the houses being, if the tribe be small —that is to say, of about sixty families— all collected under one roof. Each house has its separate door. And the houses being built on very strong posts with wooden sides, and covered with atap, they present frequently a neater and more comfortable appearance than the frequently ruinous houses of the Malays. Besides the door opening into the verandah, they have on each side of their dwellings, which consist only of one room, a door communicating with the residence of the next family. The windows of their houses are part of the roof, which, in the construction of the house, has been separated for that purpose; it is raised and supported open by a notched bamboo or other stick, and when shut, is undistinguishable from the rest of the roof. The atap composing the thatch are not each tied to the rafters, but being bound into large sheets are secured only in a few places, so that in case of fire, by the few fastenings being cut, they are easily slid from the steep sloping roof. The Dyaks eat their food from the ground for a table; each having taken a portion of rice which he considers sufficient for him, this, if he be not provided with a plate, which many of them are, is placed upon a clean leaf of the Dillenia speciosa, and he dips his hand into the common stock of salt which is placed in the centre of the group. If they have flesh to their repast it is partaken of in a similar manner to the salt. In general appearance, the sea Dyak have the advantage of the Malays and land tribes, being of a higher, though still short, stature, well made, and with limbs of excellent proportions; a subdued and calm, but resolute air; an imposing carriage, walking with a light and graceful step, and peculiarly self-possessed bearing; these qualities impress the stranger more favourably than the smaller stature, less elegant figures, darker features, and more cunning expression of the countenance of the Malays. The women of the Sakarran and Sarebas tribes are, like their husbands and brothers, short in stature, generally more stoutly made than the Malay women, and with well-developed figures; they are very much fairer than they, or even than the men of their own tribes: while young, many of them would be thought very pretty, but soon, from their hard duties and other causes, they become stout and plain, and when old are frequently very ugly. When brought up amongst the Malays they continue much longer in their prime, and are generally thought prettier than the women of that nation: their hair, though naturally as good, from want of care and cultivation, never attains such length and profusion amongst those who reside in their own villages, though in circumstances which give them time for the adornment of their persons it attains equal length and luxuriance. The passion for head-hunting, which now characterizes these people, was not formerly so deeply rooted in their characters as it is at present; and up till the middle of the 19th century many of the inhabitants of Sarawak well recollected the tribes first visiting the sea with that ostensible and avowed object. In a limited extent the custom is probably as ancient as their existence as a nation; but though other tribes appear to be equally addicted to the practice, there can be little doubt that it is a corruption of its first institution, unless, as Forrest says of the Idaan of the north of Borneo, they consider human sacrifice the most pleasing to the divinity, and lose no opportunity of presenting it; but having conversed with the Dyaks frequently respecting this practice, they gave no such reason for it, and merely accounted for it, in their usual method, by saying, that

it was the adat ninik, or custom of their ancestors. The state of morality amongst the Sakarran and Sambas Dyaks is strangely more lax than in any of the other tribes. It is affirmed, and they themselves have frequently told that it is the common custom for the unmarried women to have amongst the similarly situated of the other sex, lovers to whom they are liberal of their favours: this proceeds with the knowledge and consent of the parents for some time, but if the girl should prove pregnant, the father of the child must take the mother for his wife; but if the connexion should long continue without the attainment of this desired result, the acquaintance is discontinued and they each seek new sharers of their loves. Should they not be constant to each other during this stage of their intimacy, the offence, though public, never becomes an occasion of scandal to either person concerned, and nothing is said of it except, perhaps, by the one who has been deceived. Though virtue before marriage is thus little respected, faithlessness after the marriage feast has taken place, is a grave and serious offence in which the whole village is concerned, it is punished by fine. The license granted to the young women appears amongst these people only to extend to their own nation, but it is probable, and in fact certain, in some tribes, that their favours are liberally extended to the Malays, should any happen to reside in their vicinity. This laxity of manners has been carried so far, that should a chief, or distinguished warrior of another tribe, travelling through the country, rest for a night at the village, it is a necessary part of their hospitality to provide a girl for his companion; but the information on this particular is derived from the Malays. It may be correct, as a similar custom is always followed by the Kyan tribes. The chief of the land Dyak, who is, or was named Ninik, is called Pa Jaguen, Jaguen being the name of his eldest child. Nearly all the beasts of the forest are eaten by these people, even monkeys, alligators (if small), snakes and other reptiles are esteemed. They regard frogs as a delicate dish, and bestow considerable pains in procuring them: their rice is cooked in brass or earthen pots, called priuk, which they purchase from the Malays The whole of the sea tribes dispose of their dead by burial, they do not abstain from the flesh of animals. On a head-hunting party approaching the village, they announce to its inhabitants their fortunes by a horrid cry which is soon imitated and prolonged by the women and children, who have stayed at home. The trophies are brought on shore with much ceremony and wrapped up in the curiously folded and plaited leaves of the nipah palm, though frequently emitting the disgusting odour peculiar to decaying mortality. On shore and in the village, the head, for months after its arrival, is treated with the greatest consideration. In action, the left hand of the Dyak supports a large wooden shield, which covers the greater part of his body. It is made of the light wood of the plye or jelutong, about three feet long and twenty inches broad, convex towards the centre, and of the same breadth throughout. The heads of their enemies are, amongst the sea-tribes, preserved with the flesh and hair, still adhering to the skull, and these trophies are not, as amongst the land-tribes, the general property of the village, but the personal property of the individuals who capture them, though the honour of the tribe is augmented by their being in the village. The skull being freed from the brain, which is extracted by the occipital hole. This resembles the custom of those nations who sacrificed their slaves on the funeral pile of their deceased masters; and it is said that in the countries of the Kyan, which bounds that of the Sarebas Dyaks on the south and east, this custom of sacrificing slaves is still prevalent on the death of a chief. The sea Dyaks are described by one of the best informed writers on Borneo, as frequenting the neighbouring waters in their prahus. They inhabit chiefly the tracts about the rivers Sarebas and Sakarran, with their numerous and large branches, which form estuaries and deltas, with many avenues to the sea, very favourable to clandestine enterprises, and the facility of retreat. The hill Dyaks, or as they call themselves, "Orang Gunong," or men of the hills, differ in many peculiarities from the Dyaks of the sea tribes. The principal tribes of the Dyaks of the country of Sarawak are of this division, and they are the people whose miserable and oppressed condition called forth so much of the attention and sympathy of Great Britain. This division of the Dyak race occupies the most western portions of the island. The tribes of the Malayan states of Pontianak, of Sarebas, of Sarawak, and of Sadong, all belong to it, and the hilly interior of these countries is peopled entirely by them. In personal appearance, the Dyak of the hills very much resemble those of the other tribes already described, but they have a more grave and quiet expression of countenance, which gives to their features a melancholy and thoughtful air. It is natural to them, being observable, in a less degree, in all the tribes of both divisions. Their countenance is an index to the charac-

ter of their mind, for they are of peculiarly quiet and mild dispositions, not easily roused to anger, or the exhibition of any other passion or emotion, and rarely excited to noisy mirth, unless during their periodical festivals. Their dress, when they have property sufficient to obtain one, is the long cloth, or "chawat," the manufacture of the Sakarran Dyaks; but poverty more frequently compels them to supply its place with a rough substance made of the bark of several trees, particularly that of the genus Artocarpus, which produces the bread-fruit. For ornaments, they wear bracelets of the red wood of the heart of the Tapang tree, which, after exposure to the air, becomes black as ebony, and being without its brittle qualities, is more durable. Amongst the tribes on the western branch of the Sarawak river, the dress of the women is increased by the addition of an article, called by them "Saladan:" it is made of a bamboo, split, flattened, pared thin, and dyed black: being thus prepared, it is fitted to the body, and secured in its form and position by brass wires passing across its breadth, which also serve for the purposes of ornament: they are placed at the distance of about one inch apart from each other. Girls begin to wear it at the age of five or six years, and as it is too small to be taken off and on, being made on the body, it is only removed by destroying it, when the condition of the wearer renders a larger one necessary. This curious article of dress is confined to the tribes of Sarawak, called Singhie, Sow, Serambo, Bombuck, and Peninjow, who in their dress further differ from the other tribes of the hills. The amiability of the Dyaks of the hill tribes is of a superior character to that of those before described; intercourse between the unmarried is not here permitted; the young and unmarried men are not permitted to sleep in the houses of their parents, after having attained the age of puberty, but occupy a large house, of peculiar construction, which is set apart for their use in the village. Neither has the passion for taking the heads of their fellow-creatures, for the mere purpose of complying with a brutal custom and satisfying a barbarous appetite, ever entered their civil institutions, though to preserve the skulls of their enemies, as memorials of their triumph, has prevailed. —*Brooke, Mundy, Vol.* i, *p.* 202; *John's Indian Archipelago, Vol.* ii, *p.* 177; *Low's Sarawak, pp.* 165—247; *Temminck*, ii, 384; *Pritchard, Physical History*, i, 455; see also v, 84, 87.

DYES. Dyeing is the art of imparting to wool, silk, cotton, linen, leather, &c., colours which resist the operation of washing and the wear to which they are subject when made up into articles of furniture or clothing. This art was known at a very early period. Jacob made for Joseph a coat of many colours, (Gen. xxxvii. 3;) and in Exodus frequent mention is made of the ornaments for the Tabernacle as being composed of blue, purple, scarlet and fine linen. We read also in 2 Chro. ii. that Solomon having sent to Tyre for coloured linens, the king of that country answered his request by sending him a man skilful to work "in purple, in blue, and in fine linen, and in crimson." Ezekiel, (593 B.C.) in his prophecy against Tyre (xxvii. 7,) speaks of "blue and purple from the isles of *Elishah*," which has been supposed to refer to Elis on the west side of the Greek Peloponnesus, and hence it has been inferred that the Tyrians in the time of Ezekiel drew their supply of shell-fish used for dyeing purple from the coast of Greece. The Tyrian purple was greatly prized among the nations of antiquity. It is supposed to have been obtained from two different kinds of shell-fish, described by Pliny under the names *purpura* and *buccinum;* it was extracted from a small vessel or sac in their throats, one drop only being obtained from each animal, but an inferior colour was obtained by crushing the whole substance of the buccinum. A quantity of the juice having been collected, sea salt was added, and it was allowed to stand three days; after this, it was diluted with five times its bulk of water, kept at a moderate heat for six days more, and occasionally skimmed, and when thus clarified it was used for dyeing white wool previously prepared by the action of lime-water or of a species of lichen. For the finest Tyrian purple, the wool was first plunged into the juice of the purpura, and then into that of the buccinum; by exposure to air and light the wool passed through various shades of citron yellow, green, azure, and red, and after 48 hours a fine purple was produced. In some cases the wool was first dyed with a cheap dye, and the woven cloth was finished with the precious juice. The colours were durable, but very costly: Pliny states that a pound weight of the double-dipped Tyrian purple was sold in Rome in the time of Augustus for 100 crowns, (equal to about 30*l.* of our money.) This enormous price did not prevent many of the citizens of Rome from wearing purple attire until the time of the emperors, when the use of purple was limited to them. This exclusiveness proved fatal to the manufacture: it languished until the eleventh century, and then became extinct. In the seventeenth century the art of dyeing purple was revived by Mr. Cole, of Bristol, and in the eighteenth

century by M. Reaumur, of France; but by this time finer colours had been discovered, and cheaper processes invented. The ancient Greeks do not seem to have attended much to the art of dyeing: the people of Athens wore woollen garments of the natural colour, and although the more luxurious Romans patronised those who cultivated the art, yet the processes of a trade or manufacture were thought to be beneath the notice of any writer capable of describing them. We learn incidentally from Pliny that the competitors in the circus were clothed in dresses of green, orange, grey, and white. The art was lost at Rome after the invasion of the northern barbarians in the fifth century; but it was practised in the East and revived in Europe about the end of the twelfth century. Florence became celebrated in the art, and in the early part of the fourteenth century numbered not less than 200 dyeing establishments. The discovery of America supplied Europe with a variety of new colouring-matters, such as indigo, logwood, quercitron, Brazil-wood, cochineal, arnotto, &c. Before the introduction of indigo, woad was used for dyeing blue, and the cultivators of this plant in England and on the Continent endeavoured to prevent the use of indigo, which, by a decree of the German Diet in 1577, was declared to be "a pernicious, deceitful, eating, and corrosive dye." The introduction of logwood was opposed from similarly interested motives: its use was prohibited by a statute of Elizabeth, under heavy penalties, and all that which was found in the country was ordered to be destroyed: it was not until the reign of Charles II, that its use was permitted. Such prejudices of course interfered with the progress of the art in Britain: but by degrees, valuable improvements were made, and new processes introduced from abroad, such as the method of dyeing Turkey-red,—one of the most durable of colours. It was discovered in India, and afterwards practised in other parts of Asia and in Greece. About the middle of the eighteenth century some Greek dyers established dye-works for this colour in France; and in 1765 an account of the method of producing it was published, by order of the French Government. About the end of the last century the method was practised in England, when a Turkey-red dye-house was established in Manchester, by a Frenchman, who obtained a grant from Government for the disclosure of his process, which however, was not very successful. A better process was introduced into Glasgow by a Frenchman named Papilon; but before this, Mr. Wilson of Ainsworth, near Manchester, had obtained the secret from the Greeks of Smyrna, which he made public. The methods of imparting a permanent colour to textile fabrics are almost as numerous as the colouring matters employed. Most of the colours used in dyeing are vegetable: a few are animal and mineral. The most vivid and brilliant vegetable colours, such as those of flowers and other parts of plants exposed to the light, are small in quantity, very fugitive, and difficult to separate. The colouring matters of plants capable of being isolated, are mostly yellow, brown and red; the only blue dyes furnished by plants are indigo and litmus; no black vegetable dye has been isolated. Most vegetable colours are soluble in water; and those which are not so can be dissolved in alcohol, ether, or the fixed oils. Vegetable colours are permanent in dry air; but they gradually fade in moist air, especially under the influence of light. The blue of most flowers is converted into red by an acid, and into green by an alkali. Not only do the methods of dyeing vary with the nature of the dye-stuff, but also with that of the material to be dyed; different methods being adopted for cotton, silk and wool. In Southern Asia, the art of dyeing is no doubt of very ancient date, and one with which the people of India and Chinese have long been well acquainted. Their countries furnished all the raw materials for producing a great variety of colours; some of these are of so conspicuous a nature, such as the large flowers of plants, that the desire must early have occurred to transfer these colours to the person in savage nations, or to the clothes of so early civilized a people as the hindoos. This could easily have been done with the fugitive colours, but as they know how to make a colour like that of indigo, which undergoes a considerable degree of chemical change during its formation as well as while applied to the dyeing of its blue colour, it is evident, even if we had no other information on the subject, that they must have paid attention to some chemical subjects. But we know that they have long possessed, and knew how to manufacture, the several salts which have long been employed as mordaunts. That the art of dyeing was early practised we have the proof in the fact mentioned by Pliny, that flags of various colours were displayed by the Indians. It has been supposed that the hindoos may have learned this art from the Egyptians, but the probability is as great that the latter learned the art from the former, from whom also they probably obtained the alum which was celebrated by the name of Egyptian alum. Alum is still manufactured in Cutch; the natives of India have long known the use of sulphate of iron and of acetate of iron. The latter

they prepare by macerating iron in sour palm-wine, or in water in which rice has been boiled. The alkalis and acids with which they are acquainted may have assisted them in changing the shades of colours. Many of the details of the dyeing processes, are well known, and seem to have been the original of many of those followed in Europe until very recent times. The Exhibition of 1851 showed the people of Europe that they can dye every colour, and of a great variety of shades, and that, in a complicated pattern, they know the value and power of each in contrasting the effect of others, so as to produce a harmonious whole. Though the methods of dyeing practised in India are generally tedious and complicated, the natives have long possessed the art of giving beautiful and permanent colours to cotton goods. The country supplies all the raw materials for producing variety of colours, and the hindoos have long been acquainted with the alum and the salts of iron, &c., which are still employed as mordaunts. But in a country where chemical science may be said to be unknown, we naturally cannot look for any of those signs of progress, which in Europe, have marked the application of that science to the art of dyeing. The process is as rude as it was ages ago, and any improvement in colour, or production of a new one, has been rather the result of a happy accident, or an elaborate pains-taking experiment, than a skilful combination upon understood principles. Yet the field is one that well merits labour and research, for whatever be the external influence that operates in this country, the colours produced in dyeing are unquestionably brilliant, and the best test of their superiority is understood to have been afforded some years past, when Manchester cloths were sent out to the country to be dyed, and returned home to enter the market as the "blue cloths of commerce." It is almost entirely cloth of cotton that the natives of Southern India treat, and they are able to impart durable colours to this in reds, blacks and blues, and the various modifications of these; but their deep greens, yellows and other colours appear to be very fugitive. Dr. Heyne has published an accurate account of the mode of dyeing cotton yarn, as practised on this Coast, in his Tracts, (p. 204,) and a statement was furnished by a native working dyer at Madras, of the manipulation and materials employed by him for producing various colours. It is very evident from these documents, that the native dyers have at this day much to learn, and that their processes may be very materially improved. From the great diversity of substances used in dyeing, including metals, woods, flowers, roots, barks, leaves, fruits, lichens, insects, &c., all of which require essentially different treatment,—there is considerable variation in the methods practised,—and this variety is further increased by the different nature of the materials submitted to the dyes, viz., animal substances, wool, silk and leather; or vegetable materials, as cotton, flax and wood. Experience shows that the colouring matter, which takes upon animal substances, will not suit vegetable matter, a piece of wool will bear an acid, which would corrode and destroy a cotton fabric and the dyeing of mixed fabrics, where animal and vegetable matters are combined, and where several brilliant colours are blended together, requires the manufacturer to practise all the nicety of his art. Dyeing is indeed a purely chemical process, and it is owing to the progress of that science in Europe, that such great improvement has been made of late years, and that many colouring matters, which were formerly considered of but little value, are now rising in importance, such as Munjeet, Chayroot, Logwood, Annotto, and are being more extensively brought into use, with a few little known substances as Puply Chuckay, Ratinara, Lichen, and extract of Casuarina, &c. Amongst some of these little known dyes, there are several well deserving a careful examination. It is to be hoped, that some method may be devised of rendering them available, as well as of applying more economically, those long in use, and which may be procured in large quantities and at low prices. A list of the principal part of the colouring materials of Southern Asia is given further on, at p. 182. The beautiful specimens of materials imported from China, India, New Zealand, the Continent, and other countries, and exhibited at the Crystal Palace, proved to England that she has yet much to learn from other nations in the art of fixing colors and obtaining brilliant dyes. The French are much superior in dyeing and the production of fast and beautiful colours. Their chemical researches and investigations are carried out more systematically and effectively than those of Britain. The Jury Reporters at the Great Exhibition observed that a vast number of new colouring materials have been discovered or made available, and improved modes have been devised of economically applying those already in use; so that the dyer of the present time employs many substances of the very existence of which his practical predecessors were wholly ignorant. From the increased use of many of the vegetable colours, and from the improved modes of applying the colouring matters, a demand has naturally

sprung up for various dye stuffs: and at the present time, many of the dyeing materials of distant countries are beginning to excite the attention of practical men; for though they have been acquainted with many of these substances, it is only recently that the progress of the art has rendered their use desirable or even practicable. It would be quite impossible, within due limits to make even a bare enumeration of the various plants and trees from which colouring substances and dye stuffs can be obtained: we must, therefore, be content to specify only a few. The roots of some species of Lithospermum afford a lac for dyeing and painting. Dried pomegranates are said to be used in Tunis for dyeing yellow; the rind is also a tanning substance. In the "Comptes Rendus," (xxxv., p. 558,) there is an account by M. J. Persoz, of a green colouring matter from China, of great stability, from which it appears that the Chinese possess a colouring substance having the appearance of indigo, which communicates a beautiful and permanent sea green colour to mordants of alumina and iron, and which is not a preparation of indigo, or any derivative of this dyeing principle. It was in thin plates of a blue colour, resembling Japanese indigo, but of a finer grain, differing also from indigo in its composition and chemical properties. On infusing a very small quantity of it in water, this fluid soon acquired a deep blue colour with a greenish tinge; upon boiling and immersing a piece of calico on which the mordants of iron and alumina had been printed, it was dyed a sea green colour of greater or less intensity according to the strength of the mordant—the portions not coated remaining white. A berry called *Makleua* grows on a large forest tree at Bankok, which is used most exensively by the Siamese as a vegetable black dye. It is merely bruised in water, when a fermentation takes place, and the article to be dyed is steeped in the liquid and then spread out in the sun to dry. The berry, when fresh, is of a fine green colour, but after being gathered for two or three days it becomes quite black and shrivelled like pepper. It must be used fresh, and whilst its mixture with water produces fermentation. The bark of *Datisca cannabina* dyes yellow. It contains a bitter principle, like quassia. A colouring matter is prepared from the dried fruit of the *Rottlera tinctoria*, to dye orange, which is a brilliant and tolerably permanent dye. It is apparently of a resinous nature. Turmeric is used in dyeing. The bark and roots of the barberry dye yellow; the colour is best when boiled in ley. *Symplocos racemosa*, known as lodh, and *S. tinctoria*, a native of Carolina, are used for dyeing. The scarlet flowers of *Butea frondosa*, the Dhak tree, and of *B. superba*, natives of the Indian jungles, yield a beautiful dye, and furnish a species of kino (*Pulas' kino*), also used for tanning. *Althea rosea*, the parent of the many beautiful varieties of hollyhock, a native of China, yields a blue colouring matter equal to indigo. Indigo of an excellent quality has been obtained in the East from a twining plant, *Gymnema tingens* or *Asclepias tingens*. The juice of the unripe fruit of *Rhamnus infectorius*, *R. catharticus*, and *R. virgatus*, known as Turkey or French berries, is used for dyeing leather yellow. When mixed with lime and evaporated to dryness, it forms the colour called sap green. The roots of the aal tree, *Morinda citrifolia*, and of *M. tinctoria*, found abundantly in all the Asiatic islands, are extensively used as a dye stuff for giving a red colour. It is usually grown as a prop and shade for the pepper vine and coffee tree. The colouring matter resides principally in the bark of the roots, which are long and slender, and the small pieces are the best, fetching 8*s*. to 10*s*. a maund. It is exported in large quantities from Malabar to Guzerat, and the northern parts of Hindoostan, but seldom finds its way to Europe. The wood and roots of another species, *M. umbellata*, known in the eastern islands as "Mangkudu," are used extensively for their red dye, in Celebes and Java. Specimens of all these, and of the Lopisip bark, bunchong bulu wood, and the gaju gum (from undescribed plants), have been introduced into England. They are said to furnish excellent dyes in the Asiatic islands. Native dyes from Arracan have also been imported, viz., thittel and the-dan yielding red dyes, ting-nget and reros, affording dark-purple dyes; and thit-nan-weng, a chocolate dye. These would be worth enquiry, and particulars of the plants yielding them, the quantities available, and the prices might be procured. Dyes and colors from the following plants are obtained in India, viz., from several species of *Terminalia*, *Semecarpus anarcardium*, *Myrica sapida*, *Nelumbium speciosum*, *Butea frondosa*, and *Nyctanthes arbortristis*. The bunkita barring, obtained from an undescribed plant in Borneo, produces a dark purple or black dye. A species of Ruellia, under the name of "room," is employed in its raw state by the Khampti and Singpho to dye their clothes of a deep blue. It is described by the late Dr. Griffiths as a valuable dye, and highly worthy of attention. It might, perhaps, be usefully employed as the ground for a black dye. In Nepaul they use the bark of *Photinia dubia* or *Mespilus bengalensis* for dyeing scarlet. Though the methods of dyeing in use in India

are generally very tedious and complicated, yet the people have long possessed the art of giving beautiful and permanent colours to cotton goods, and Dr. Heyne suggested the advantage that might accrue to European dyers from a knowledge of their methods, and the process by which the beautiful Turkey red dyes are at present, owing to a late invention, given to cotton goods in Europe, very much resembles, in many of its features, the process of dyeing yarn red practised on the Coromandel coast, with substitution of madder for chay-root. Mr. Rohde does not think that any durable colours are communicated by natives to cotton cloth, except reds and blacks and modifications of the one or the other, their deep blues, yellows and other colours seem to him very fugitive. In New Zealand, the natives produce a most brilliant blue-black dye from the bark of the Eno tree, which is in great abundance. Some of the borders of the native mats, of a most magnificent black, are dyed with this substance. It has been tried in New South Wales; but, although found well suited for flax, hemp, linen, or other vegetable productions, it could not be fixed on wools or animal matter. It is of great importance that chemical science should be applied to devise some means of fixing this valuable dye on wool. As the tree is so common, the bark could be had in any quantity at about £3 10*s*. a ton; and tweed manufacturers are in great want of a black dye for their check and other cloths. Arsenic is principally employed in trade to produce a peculiarly vivid and showy shade of green which has superseded the less decided tints of nature. The form in which it is generally employed in England is that of a green powder, which is commonly known as "emerald green," known to chemists and writers on science as Scheele's green, after its discoverer. Another kind is also called "Swienfurth green," from a town in Franconia, where it was extensively manufactured on its early introduction. The chemical composition of Scheele's green is arsenious acid, six parts; oxide of copper, two; acetic acid, one. This dangerous material colours children's toys and sweetmeats: papers, coloured with this green, line fruit boxes, wrap up confectionery chocolate, line books, house walls, and it is used for tinting food articles, and colouring articles of dress.

Red Sanders wood, from the *Pterocarpus santalinus*, is hard and of a bright garnet red colour, and is employed to dye a lasting reddish brown on wool. It only yields its colour to ether or alcohol. The exports of this wood from Madras in one year amounted to nearly 2,000 tons. The imports of red Sanders wood from Calcutta and Bombay chiefly, into London, are to the extent of 700 or 800 tons a year, worth £6 to £9 per ton.

Sappan wood (*Cæsalpinia sappan*) is the bukkum wood of India, and is procured in Mergui, Bengal, the Tenasserim Provinces, Malabar and Ceylon. In 1842 as much as 78,000 cwts. were shipped from Ceylon, but the export from thence has decreased. A large quantity is exported from Siam and the Philippine Islands; as much as 200,000 piculs annually from the former, and 23,000 piculs from Manilla, 3,524 piculs were shipped from Singapore in 1851, and 4,074 piculs in 1852.

Arnotto, from the *Bixa orellana*, is used to impart a bright orange colour to silk goods, and to afford a deeper shade to simple yellows. The dry hard paste is also found to be the best of all ingredients for giving a golden tint to cheese or butter. A convenient liquid preparation is now sold to dairymen. The Spanish Americans mix it with their chocolate, to which it gives a beautiful rich hue.

Safflower is obtained from two species of *Carthamus*, viz., *C. tinctorius*, which has small leaves and an orange flower, and *C. oxyacantha*, with larger leaves and a yellow flower, a native of Caucasus. The former is cultivated in Egypt, the Levant, &c., where it forms a considerable article of commerce. The quantity annually imported into Great Britain ranges up to 5,000 tons, and it fetches, according to quality, from £1 to £8 the cwt.

Gamboge is extensively used as a pigment, from its bright yellow colour. The Ceylon gamboge is procured from the *Hebradendron cambogoides*, Graham; a tree which grows wild on the Malabar and Ceylon coasts, and affords the coarsest kind. The pipe gamboge of Siam is said to be obtained from the bruised leaves and young branches of *Stalagmites cambogoides*. The resinous sap is received into calabashes, and allowed to thicken, after which it is formed into rolls. Several other plants, as the *Mangostana gambogia*, Gaertner, and the *Hypericum bacciferum* and *Cayanense*, yield similar yellow viscid exudations, hardly distinguishable from gamboge and used for the same purpose by painters. The *Garcinia elliptica*, Wallich, of Tavoy and Moulmein, affords gamboge, and approaches very closely in its characters to Graham's *Hebradendron*. In like manner the Mysore tree bears an exceedingly close resemblance to that species. It is common in the forests of Wynaad in the western part of Mysore, and has been named by Dr. Christison, *Hebradendron pictorium*. Another gamboge tree has recently been found inhabiting the western Burmese territories. Both these seem to furnish an equally fine

pigment. As it can be obtained in unlimited quantity, it might be introduced into European trade, if the natives learn how to collect it in a state of purity, and make it up in homogeneous masses in imitation of pipe gamboge, the finest Siam variety. It seems to possess more colouring matter, more resin and less gum than the ordinary gamboge of commerce. Gamboge owes its colour to the fatty acid. The resin must be regarded as the chief constituent, and is most abundant in that imported from Ceylon, which contains about 76 per cent., and is therefore best adapted for painting. About 33 tons are annually imported into Great Britain where it sells at £5 to £10 a ton.

Indigo yielding plants grow chiefly in the East and West Indies, in the middle regions of America, in Africa and Europe, and are species of the genera *Indigofera, Isatis, Wrightia, Polygonum*, and *Nerium*. *Indigofera tinctoria* or *cærulea*, furnishes the chief indigo of commerce, and affords in Bengal, Malabar, Madagascar, the Isle of France, and St. Domingo, an article of middling quality, but not in large quantity. The *Indigofera disperma*, a plant cultivated in the East Indies and America grows higher than the preceding, is woody, and furnishes a superior dye-stuff. The Guatemala indigo comes from this species. *Indigofera anil* grows in the same countries, and also in the West Indies. The *Indigofera argentea*, which flourishes in Africa, yields little indigo, but it is of an excellent quality. *I. pseudotinctoria* cultivated in the East Indies, furnishes the best of all. *I. glauca* is the Egyptian and Arabian species. There are also the *I. cinerea, erecta* (a native of Guinea), *hirsuta, glabra*, with red flowers, species common to the East, and several others. The *Wrightia tinctoria* of the East Indies, an evergreen, with white blossoms, affords some indigo, as does the *Isatis tinctoria*, or Woad, in Europe, and the *Polygonum tinctorium*, with red flowers, a native of China. *Baptista tinctoria* furnishes a blue dye, and is the wild indigo of the United States. Indigo is at present grown for commercial purposes in India, from the 12th to the 30th deg. of north latitude; in the provinces of the Madras Presidency; in Java, in the largest of the Philippine islands, in Guatemala, Caraccas, Central America and Brazil. Indigo grows wild in several parts of Palestine, but attention seems not to have been given to its cultivation or collection. On most parts of the eastern and western coasts of Africa, it is indigenous; at Sierra Leone, Natal, and other places it is found abundant. Bengal is however, the chief mart for indigo.

Madder is the product of the long slender roots of the *Rubia tinctorum*, a plant of which there are several varieties. The principal supplies of this important article of commerce are obtained from Holland, Belgium, France, Turkey, Spain, and the Balearic Isles, the Italian States, India, and Ceylon. The plant is generally raised from seed, and requires three years to come to maturity. It is, however, often pulled in eighteen months without injury to the quality; the quantity only is smaller. A rich soil is necessary for its successful cultivation, and when the soil is impregnated with alkaline matter, the root acquires a red colour; in other cases it is yellow. The latter is preferred in England, from the long habit of using Dutch madder, which is of this colour, but in France the red sells at two francs per cwt. higher, being used for the Turkey-red dye. Madder does not deteriorate by keeping, provided it be kept dry. It contains three volatile colouring matters, madder purple, orange, and red. The latter is in the form of crystals, having a fine orange red colour, and called Alizaine. This is the substance which yields the Turkey-red dye.

Madder is extensively grown on the central table land of Affghanistan, forming one of the leading products of Beloochistan; and, according to Lt. (Sir Henry Pottinger), it sells in the Kelat bazar at about 10 lbs. for 2*s*.

Chay-root, employed in the East Indies as a substitute for madder, is the root of *Morinda citrifolia*, under the name of Sooranjee. Turkey madder roots realise about 33*s*. per cwt. About 1,100 tons are annually shipped from Naples, worth about £30 per ton. Madder has become an article of great request, on account of the fine scarlet colour produced from its roots, and is so essential to dyers and calico printers that without it they cannot carry on their manufactures. It is cultivated extensively in Holland, from whence it is imported in large quantities into both England and France, though it is cultivated to some extent in both countries.

Indian madder or munjistha, is the *Rubia cordifolia*, a variety with white flowers, a native of Siberia, but is cultivated largely in the East, particularly about Assam, Nepaul, Bombay, Sind, Quetta, China, &c., for its dye-stuff, and is known as Munjeet. A small quantity is exported from China and India; about 338 Indian maunds were shipped from Calcutta in 1840, and 2,328 in 1841. It fetches in the London and Liverpool markets from 20*s*. to 25*s*. and 30*s*. per cwt., duty free; 405 tons were imported into Liverpool from Bombay and Calcutta, in 1849, and 525 tons in 1850, but none was imported in 1851 and 1852. The Jury in 1851, at the Great Exhibition,

are generally very tedious, that some dye-stuff, that some yet the people have with it are quite as perma- of giving beautiful ed with madder, and even cotton goods, an The well-known imitations advantage the handkerchiefs, white figures dyers from a ground of Turkey-red are the proces of an aqueous solution of chlorine. red dye is made to flow down through the tion, cloth in certain points which are mdefined and circumscribed by the pressure of hollow lead types inserted into plates of lead contained in a hydraulic press. The press is furnished with a pair of pattern plates, one attached to the upper block of the press, and the other to the moveable part of it. From twelve to fourteen pieces of cloth previously dyed in Turkey-red are stretched over each other as evenly as possible, and then rolled round a drum. A portion of the fourteen layers equal to the area of the plates being drawn through between them, the press is worked, and the plates are brought together with a force of upwards of 300 tons. The solution of chlorine is then allowed to flow into the hollows of the upper lead plate, whence it descends on the cloth and percolates through it, extracting the Turkey-red dye, the intense pressure preventing the bleaching liquor from spreading beyond the limits of the figures perforated in the plates. When a certain quantity of bleaching liquor has passed through, water is admitted in a similar manner to wash away the chlorine. The pressure is then removed, and another square of the fourteen layers is moved forward under the plates, and the process is repeated. When all the pieces have been discharged, they are winced in water, and further treated so as to improve the lustre both of the white and of the red.

The annual quantities of dye woods consumed in Great Britain average 50,000 tons, of value £300,000. The imports into Britain of indigo range to near 3,000 tons a year, value £1,344,000. The exports of dyes from India is considerable. Exclusive of indigo and of Munjit, the following were the values :—

1857-58.....	£ 87,076	1859-60.....	£104,089
1858-59.....	106,343	1860-61.....	138,871

The following mineral and vegetable dyes, are those in general use in India ;

Acacia arabica.
„ catechu.
„ rugata.
Adenanthera pavonina.
Alnus, *species.*
Althœa rosea.
Alum.
Anacardium occidentale.
Anchusa tinctoria.
Arsenic.
Artocarpus integrifolia.
Avicennia tomentosa.
Bunchong bulu wood ?
Berberis aristata & others.
Betula, *species.*
Bigonia chica.
Bixa orellana.
Borrera ushna.
Bunkita Barring of Borneo, undescribed.
Butea frondosa.
„ superba.
Cactus indica.
Cæsalpinia sappan.
Calotropis gigantea.
„ procera.
Carpesium, *species.*
Carthamus tinctorius.
„ oxyacantha.
Casuarina.
Cathartocarpus fistula.
Cedrela toona.
Ceruse, or white lead.
Chirongia sapida.
Chromate of lead.
Chulchuliera.
Cinnabar.
Citrus galgala.
„ medica.
Conocarpus latifolia.
Copper, sulphate of
Cratæva religosa.
Crocus sativa.
Cupressus, *species.*
Curcuma longa.
Cuscuta reflexa.
Cydonia vulgaris.
Datiscus cannabinus.
Delphinium saviculæfolium.
Diospyros mollis.
Dracæna draco.
Elsholtzia polystachya.
Emblica officinalis.
Ficus venosa.
Gall-nuts.
Gamboge trees, bark.
Gamboge.
Garcinia elliptica
Gardenia florida.
Geranium nodosum.
Green-earth.
Grislea tomentosa.
Gymnemia tingens.
Hedyotis umbellata.
Hebradendron gambogoides.
„ pictorium.
Hibiscus rosa sinensis.
Hypericum bacciferum.
„ cayanense.
Impatiens, *species.*
Indigofera tinctoria.
„ disperma.
„ cœrulea.
Iron, sulphate of
„ sesqui „ „
Isatis indigotica.
Lajward, ultramarine.
Lapis lazuli.
„ „ artificial.
Lamp-black.
Lawsonia inermis.
Lead, chromate of
„ red oxide of, sandur
„ white, ceruse.
„ yellow oxide, litharge
Lime.
Lopisip bark.
Makleua, berry of Bankok.
Macrotomia euchroma.
Mangifera indica.
Mangostana gambogia.
Mang kudu of Celebes & Java.
Melastoma, fruit.
Memecylon tinctorium.
Mespilus bengalensis.
Morinda citrifolia.
„ tinctoria.
„ umbellata.
Musa paradisiaca.
Myrica sapida.
Natron.
Nelumbium speciosum.
Nerium tinctorium.
Nyctanthes arbortristis.
Ochre, red, yellow.
Oldenlandia umbellata.
Orpiment, Hartal.
Parmelia kamtschadalis.
Peganum harmala.
Photinia dubia.
Phyllanthus, *species.*
Pistacia cabulica.
„ terebinthus.
„ vera.
Polygonum aviculare.
„ barbatum.
„ chinense.
„ tortuosum.
„ tinctorium.
Potash, impure carbonate
„ bi-chromate.
Potentilla nepalensis.
Prussian blue.
Psychotria, root.
Pterocarpus santalinus.
Punica granatum.
Quercus incana.
Rhamnus, infectorius, catharticus, virgatus.
Rheum emodi.
Rocella montagnei.
Rottlera tinctoria.
Rubia cordifolia.
„ munjista.
„ tinctorium.
Ruellia, *species.*
Sal-ammoniac.
Salvadora oleoides.
Sapindus emarginatus.
Semecarpus anacardium.
Soda, carbonate of.
Stalagmites, gambogoides.
Symplocos cratægioides.
„ racemosa.
„ tinctoria.
Tamarindus indica.
Tamarix dioica.
„ furas.
„ orientalis.
Taxus baccata.
Tephrosia, *species.*
Terminalia bellerica.
„ catappa.
„ chebula.
„ citrina.
Thespesia populnea.
Urostigma religiosum.
Vachellia farnesiana.
Verdigris.
Ventilago.
Wrightia tinctoria.

Henna (*Lawsonia inermis,*) the mohamedan women in Asia use the shoots for dyeing their nails red, and the same practice prevails

in Arabia. In these countries the manes and tails of the horses are stained red in the same manner.

Burmese green dye-plants, are the turmeric and the leaves of the soap-acacia, *Acacia rugata*, which afford a beautiful green-dye.

Of red-dye plants, the rose-coloured fruit of the tamarind "yields a beautiful deep red colour, approaching purple;" the wood of the *Adenanthera pavonina* dyes red, and the wood of the black varnish tree affords a red-dye.

Of yellow-dye plants, the wood of the jack, the root of the pyschotria, the bark of the gamboge trees, the flowers of the butea, the rind of the Bengal quince, and the leaves of the memecylon and the touk-yat, all produce bright yellow-dyes.

Black dye-plant, the blossoms of the shoe-flower plant are used by the Chinese to dye leather black, the juice of the cashew tree gives a black to linen, and the fruit of the melastoma affords a black-dye.

The Shan black celebrated vegetable dye is made from the fruit of a species of ebony, *Diospyros mollis*, which is said to grow on the mountains that separate the province of Tavoy from the Siamese territories. Isolated plants may be seen in the gardens of Tavoy, and Moulmain.—*Mason.*

Javanese dyeing, the Javanese, of all the Malayan race, have made the highest progress in all the useful arts. They have a specific term for dyeing or tinting,—"madal;" but the Malays express it only by the word for dipping, "*chalup*." Yet the only generic words which either of them possesses for "colour," are the Sanscrit, warna; and the Portuguese, tinta. Their colours are usually sombre,—little varied, but generally fast. Blues are always produced from indigo, yielded for the most part by the Indigofera tinctoria, as in other parts of India, but in Sumatra, occasionally, from the Marsdenia tinctoria, a plant of the natural order of the Asclepiadeæ. Yellows are produced from the woods of two species of Artocarpus, the jack and champadah, and from turmeric; and reds from the bark of the root of the "*mangkudu*," the Morinda umbellata,—from the "*kusumba-java*," safflower or Carthamus tinctorius, from the "*kusumba-kling*," which is the annotto, or Bixa orellana, from the sapang, or sapan-wood, Cæsalpinia sapan, and from the nidus of the lac insect. Black is produced from the rinds of the mangostin fruit, and of the "*Katapang*," Terminalia catappa, with sulphate of iron. Sails and nets are dyed, and perhaps also tanned with a wood called in Sumatra "*ubar*," which is the Ricinus tanarius of botanists. The mordants used are rice-bran, alkalies from the combustion of some vegetable matters, as the fruit stalks and mid-ribs of the cocoanut palm and alum brought from China.

Chinese dyes.—In China, colouring matter used for dyeing blue is derived from two species of plants, the *Polygonum tinctorium* in the South, and the *tien tsing* or *Isatis indigotica*, cultivated at Shanghai and Chusan. The Shanghai indigo (Isatis indigotica) is largely cultivated in the Ke-wang-meow district, a few miles to the south. The "Kong-wha," a variety of safflower (Carthamus tinctorius,) was found for the first time in fields near Cading. This dye, is held in high esteem by the Chinese, and is used in dyeing the red and scarlet silks and crapes which are so common in the country, and so much and justly admired by foreigners of every nation. Large quantities are annually produced in the Chekiang province near Ningpo. The Chinese and Indian safflower have turned out to be alike, or nearly so. When Mr. Fortune prepared to take up his late residence in China, his attention was directed by the Calcutta Agricultural Society, to the Chinese varnish tree, *Rhus* species, the wax-insect tree, *Fraxinus* species, and to the soap-bean tree, *Cæsalpinia* species: to the various trees valuable for their fruit or timber and ornamental plants; but above all, to the green indigo (so called), *Rhamnus* species, which yielded a dye that was at that time attracting much attention in France.

Ruellia indigotica.—In China, in one part of the Chekiang province, and also amongst the Fung-hwa mountains to the westward of Ningpo, there are large quantities of a blue dye produced, which is in fact the indigo of that part of the country. A valuable kind of Indigo is made from a species of woad (Isatis indigotica) which is cultivated extensively in the level country a few miles to the westward of Shanghai. The kind in Chekiang equally valuable, if not more so, is made from a species of Ruellia, which may be called Ruellia indigotica. The same plant, apparently, has lately been discovered in the Assam country in N. E. India, where it is also cultivated for the blue dye it affords. On examining it in the garden of the Agricultural and Horticultural Society at Calcutta, alongside of the Chinese kind, it certainly bears a most striking resemblance.—*Fortune's Res. among the Chinese, p.* 145; *Wanderings in China*, 1846.

Rhamnus—"Green indigo," has been attracting much notice lately both in India and in Europe. A portion of cotton cloth obtained in China by the French manufac-

turers being greatly admired on account of the peculiar green of its dye, was submitted to the celebrated chemist, M. Persoz, with a request that he would endeavour to ascertain the composition of the green colour. The following is a translation of this report upon this subject to the Academy of Sciences. He was led to the conviction, by isolating the colouring principle, that the green was produced by a dyeing material of a peculiar nature and *sui generis*. It further was evident,

1st.—That the colouring matter was an organic product of vegetable origin.

2nd.—That the fabric on which it was fixed was charged with a strong dose of alum and a little oxide of iron and lime, bodies the presence of which necessarily implied that mordants had been used in dyeing the calico.

These results were so positive, and at the same time so opposed not only to everything known in Europe regarding the composition of green colour, but also to all that is recorded by writers regarding the dyeing processes employed in China for the production of green, that Mr. Fortune was induced to go into a more detailed investigation of the subject; and he applied to Mr. Forbes, the American Consul at Canton, for some of this valuable material. The substance is met with in thin plates, of a blue colour, having a strong analogy with that of Java indigo, but of a finer cake and differing besides from indigo both in its composition and in all its chemical properties. On infusing a small fragment of the substance in water, the liquid speedily became coloured of a deep blue with a shade of green. After the temperature had been raised to the boiling point, a piece of calico, prepared for printing with mordants of alum and oxide of iron, was dipped in it and a true dye was the result. The following appearance were observed. The portion of the fabric to which alum had been applied showed a deep green, of more or less intensity, according to the strength of the mordant. The portions charged with both alum and oxide of iron yielded a deep green, with a shade of olive. The portions charged with oxide of iron alone yielded a deep olive. The parts of the cloth where no mordant had been applied remained sensibly paler. The colours thus obtained were treated with all the re-agents to which the Chinese calico had in the first instance been subjected, and they behaved in precisely the same manner. From these experiments it may be inferred,

1st. That the Chinese possess a dye-stuff presenting the physical aspect of indigo, which dyes green with mordants of alum and iron.

2nd. That this dye-stuff contains neither indigo or anything derived from that dyeing principle. Mr. Fortune adds, that by some the flowers of the Whi-mei (Sophora japonica) were sent home as the "green indigo," but this plant yields a yellow dye and even when mixed with blue to make a green, the green is not that kind noticed by the French manufacturers. He found fields under cultivation with a kind of Rhamnus apparently. The Chinese farmer called it "Loh-zah, or "Soh-loh-shoo," and they showed him samples of the cloth which had been dyed with it. These samples corresponded exactly with those sent back from France, and they told him that two kinds were necessary—namely, the variety they cultivated in their fields and one which grew wild on the hills—in order to produce the dye in question. The former they called the yellow kind and the latter the white kind. The dye itself was not extracted by them; they were merely the growers. Further inquiries on the subject of the manufacture of the "green indigo" were conducted in connexion with Dr. Lockhart and the Rev. J. Edkins, of Shanghai, who found that a considerable portion of this dye was made near a city called Kia-hing-foo, situated a few miles west from Shanghai. Dr. Lockhart, writes from information procured by Mr. Edkins that the bark of two kinds of the tree known as the 'green shrub' (Luk-char,) one wild, which is called the white, and another cultivated, which is called the yellow, are used to obtain the dye. The white bark tree grows abundantly in the neighbourhoods of Kea-hing and Ningpo; the yellow is produce at Tsah-kou-pang, where the dye is manufactured. This place is two or three miles west from Wang-steen, a market town situated a little to the south of Kea-hing. The two kinds are placed together in iron pans and thoroughly boiled. The residuum is left undisturbed for three days, after which it is placed in large earthenware vessels, and cotton cloth, prepared with lime, is dyed with it several times. After five or six immersions the colouring matter is washed from the cloth with water, and placed in iron pans to be again boiled. It is then taken up on cotton yarn several times in succession, and when absorbed in this way it is next washed off and sprinkled on thin paper. When half dry the paper is pasted on light screens and strongly exposed to the sun. The product is called Lukkaon. In dyeing cotton cloth with it, ten parts are mixed with three parts of subcarbonate of potash in boiling water. "The dye made at Tsah-kou-pang is not used to dye silk fabrics, because it is only a rough surface which takes it readily.

To colour silk with it, so much of the material must be used that it will not pay. All cotton fabrics, also grass-cloths, take the colour readily. The dye does not fade with washing, which gives it a superiority over other greens. It is sent from Kea-hing as far as Shanting. It is also made in the province of Hoonan and at Ningpo, but the dye at these places is said to be of an inferior quality. It has long been used by painters in water-colours, but the application of it to dye cloth was first made only about twenty years ago. If some method could be discovered of applying it to silk fabrics it would become still more useful." The chips brought from Kea-hing were identical with the " Soh-loh," or " Loh-zah" (Rhamnus, sp.) The mode of extracting the dye from the bark or wood (for both seem to be used), as practised by the Chinese, appears to be slow and tedious, but with the European knowledge of chemistry this might possibly be improved. From these investigations it would appear that two colouring principles are necessary to the production of this dye. This however, will not affect the value of it as a rich and permanent green, a quality which has been appreciated by the French manufacturers, and which is also well known to the Chinese.—*Fortune's Residence among the Chinese, page* 167.

Chay-root.—Dr. Heyne's description of dyeing cotton yarn with chay-root, is as follows :

The yarn being washed and untwisted that it may not become entangled and being so separated that every part may be equally penetrated by the colouring matter, is divided into bundles of thirty or forty threads, through each of which at the middle and extremities a cotton thread is loosely sewed, but so as to allow of every thread being exposed to the sun's rays when hung up and the threads spread out on a bamboo.

The yarn is washed and cleansed in cold water aided by half an hour's manipulation, it is then kept in water in covered vessels till it acquires a putrid smell which takes place in from twenty-four to thirty-six hours, during which it is occasionally pressed and worked for a quarter of an hour together, it is then to be washed as clean as possible, beaten on a stone or earthen pot and then hung up to dry

While this process is going on a lye is prepared of the ashes of the plantain or other tree in cold water, it is an object to have this lye of sufficient strength which is determined by adding to a small quantity about half as much gingilie oil and giving to it a gentle motion : should it turn immediately white having no visible globules of oil swimming on the surface, it is good.

The quantity required of clean lye being poured off and strained, sheep dung in the proportion of three ounces to a pint of lye is dissolved in one-half of it, and this solution is again strained. The other half of the lye is mixed with half its bulk of gingilie oil and half as much tsiky (the saponaceous water procured during and retained from former process being in fact a solution of soap in water) the two liquors are then mixed together ; and if things are favourable, a milky scum arises.

The proportions required for, say half a pound of a yarn, would be gingilie oil half a pint by two pints, tsiky, (soapy liquor from former process) a quarter of a pint, sheep dung two or three ounces.

The yarn having been thoroughly imbued with this mordant is dried in the sun for some hours, it is then again soaked and dried as before. The same night it is treated with an additional portion of mordant ; is put into covered vessels and allowed to remain till morning. If any mordant remain the same process is again repeated.

The yarn is at night moistened with the lye first prepared diluted with one-third of its bulk of water and put into covered vessels. The yarn in drying, it should be remarked, should have the position constantly changed to prevent the mordants or lye from accumulating in the lower part.

Next day the yarn is spread out to dry on the bamboo, it is taken in at night and treated with lye, this alternate soaking or thorough moistening with lye at night and exposure during the day are continued without intermission till the yarn appears saturated with lye, or in fact till the oil is converted into soap, this if the lye is sufficiently strong may occupy five days. This is ascertained by washing a few inches from off the bundle in water holding some astringent in solution a whitish scum will arise, and it is from the feeling of this scum when worked between the hands, and the appearance of it afterwards that they determine the state, the workman being satisfied of the completion of this process, the yarn is again moistened for one day, morning and evening, with much diluted lye or plain water. The yarn may be immediately washed, but the process is much improved by retaining it for some weeks probably to allow the anamalizing matter to get fixed.

Before washing it thoroughly the yarn is washed in a small quantity of water which receiving the soapy particles in solution is retained by the dyer under the denomination of tsiky, it gradually acquires some consistence and a disagreeable smell. The yarn is then washed in a tank till nothing of the mordant

seemingly remains, but the smell and a certain softness to the touch. Occasionally the whole process is again repeated.

The yarn being thus thoroughly impregnated with the mordant, a cold infusion of cassah leaves in water is made, and after some hours the yarn is put into it and handled in such a manner as to expose every thread to its action, it is allowed to remain therein all night, the quantity of leaf used in the infusion is so great that it resembles a paste.

Next morning the water is wrung out from the yarn, the adhering leaves are shaken off and fresh ones with an equal quantity of chay-root substituted for half a pound of yarn, a handful of each is sufficient: after two hours the yarn is laid in the liquor.

The same process is repeated on the third day; by this time the yarn usually changes to a reddish yellow colour with occasional red spots, a liquor in which to soak the yarn is now prepared of a handful of chay-root in water.

On the fourth day the yarn will appear in the evening of a light red colour, it is to be treated in the same manner as on preceding days, and a similar liquor to the last named is prepared for soaking it in at night.

On the fifth day the yarn is washed in a tank and afterwards dried in the sun: as usual for soaking it in at night, a liquor is prepared of pounded cassah leaves mixed with gingilie oil sufficient to form a dry paste, of which about half an ounce is mixed in the usual portion of water after standing two hours a handful of chay-root is added and the yarn immediately immersed for the night.

The mode of proceeding on the sixth day is precisely similar, but the liquor for the night is prepared wholly of chay-root.

On the seventh day the yarn is again washed, dried, &c., on this and the next day it is immersed in a liquor composed of equal parts of cassah leaves and chay-root in water.

The yarn is now boiled in a liquor composed of that strained from it at the last night's process with the addition of chay-root, a handful for half a pound of yarn, and sufficient water to give room to agitate the yarn freely. The pot containing the liquor is placed on the fire which is kept up briskly till it begins to boil, it is then kept simmering till a rose-coloured froth rises and covers the surface when the fire is withdrawn and the pot with its contents allowed to cool gradually; during the boiling, the contents of the pot is stirred quickly so as to expose the yarn as little as possible to the action of the air, when cold the yarn is taken out and washed in a tank beaten as usual and dried in the sun; its colour should be a bright and lively red, if it fail it is occasionally brightened by steeping once more in a liquor composed with cassah leaves and chay-root, the former being mixed first with a little gingilie oil, a temporary brilliancy is further given by putting it in a cold infusion of safar wood.

The process appears to have been introduced for nearly eighty years into Europe: of late, improvements have been made but the process is still a tedious one.

Madder—In Ure's Dictionary of Arts under "Madder," several processes are described with minuteness: the following is one in which the several processes in use at Elberfola are enumerated:

1. Cleaning the cotton by boiling in a weak alkaline bath for four hours; cooling and rinsing.

2. Working it thoroughly four times over in a steep consisting of 300 lbs. of water, 15 lbs. of potash, 1 pailful of sheep's dung, and 12½ lbs. olive oil, in which it should remain during night. Next day it is drained for an hour, wrung out and dried, this treatment with the dung steep and drying is repeated three times.

3. It is now worked in a bath containing 120 quarts of water, 18 lbs. of potash and six quarts of olive oil, then wrung out and dried, this steep is repeated four times.

4. Steeping for a night in the river is the next process; a slight rinsing, wringing and drying in the air.

5. Bath made of a decoction at 110° F. of semul and not gulls in which the goods remain during the night, they are then strongly wrung and dried in the air.

6. Aluming with the addition of potash and chalk; wringing, working it well through this bath where it is left during the night.

7. Draining, and strong rinsing, the following day piling up in a water cistern.

8. Rinsing repeated next day and steeping in water to remove any excess of alum from the fibres, the goods continue in the water till taking to the dyeing bath.

9. The maddering is made with addition of blood, sumach, and nut galls, the bath is brought to the boil in 1¾ hour and kept boiling for an half an hour.

10. The yarn is rinsed, dried, boiled from 24 to 36 hours in a covered copper, with an oily alkaline liquid; then rinsed twice, laid two days in clean water and dried.

11. Finally the greatest brightness is attained by boiling for three or four hours in a soap bath containing muriate of tin, after which the yarn is rinsed twice, over-steeped and dried.

This is an instance of the very little progress that art has made in simplifying a pro-

cess which at first sight seems unnecessarily tedious, the superiority in the result is, chiefly to be attributed to the solution of salts of tin used to brighten the colours.

Morinda.—In many parts the roots of the Morinda umbellata are employed instead of chay-root in dyeing cotton yarn red: the colour is neither so bright or so durable. Dr. Heyne thus describes the process. Take 3½ lbs. of white cotton yarn and soak it in 1½ lb. of gingilie oil: a strong lye made of the ashes of the milk hedge, and the yarn steeped in it for four nights being dried in the sun during the day, it is then washed in brackish water and dried in the sun.

Five seers (kutcha 13¼ lb. ?) of togara root finely powdered are put into a pot of water together with the yarn and kept all night over a fire of cowdung, in the morning it is taken out and dried in the sun, the same process is repeated for two successive days and nights which completes the process. It is probable that a superior dye might be obtained if the same nicities were observed as in dyeing with chay-root. The green dye, China, the "*louk-ka*," "*lo-kao*," or "*king-lok*,' was first made known to Europe in 1845 since which time, scientific men have prosecuted inquiries regarding it. Its price in China has continued steady at 24 dollars the catty. In China, the green cloths dyed by this material, are called *liou-sai*, but are known to the trade as *so-lo-pou*, green colour cloth, when dyed by the bark: *nghiou-lo-se* (green nymphæa colour) and *nghiou-lo-pou* (green nymphæa cloth,) that is, cloth dyed with the *lo-kao* of the colour of the leaves of the nymphæa. Each piece of *liou-sai*, is feet *chin*, long, and one foot or one foot one inch broad, and in 1848, cost from 50 to 53 cents. In addition to the *lo-kao*, the French Consul, M. Montigny, sent one green dye stuff called *pih-chou-elle*, ten catties of which cost 4,920 sapeques: and another called *tong-loh*, green paint said to be prepared from the *no-me*, fifty catties of which cost 20,800 sapeques. *Tong-loh* is the Chinese for verdigris, and *no-mi* is the Chinese name of the glutinous rice. From this plant, it is not probable that any green dye can be prepared, and *tong-loh* is probably the green substance obtained from the berries of the *loh-chou*. Lo kao or lou kao, in Chinese signifies green glue or green lac, and all who have sent samples of the green dye itself, call it lo kao or lo kiao. In Canton it is louk-ko; in Fokien liok-koa and lek-ko. The first considerable consignment of the green dye was received in Paris in 1853, since which date, it has become an article of trade. At the Universal Exhibition held at Paris in 1855, samples of green dye were exposed, and Dr. Royle subsequently stated that there are three kinds of the green dye of China or green indigo. The first from China, the second from the Burman empire, and the third from Assam. That from the valley of the Brahmaputra, in Assam, is called *roum*, and is extracted from a species of Ruellia. This plant, the specific name of which is not known, or a nearly allied species is cultivated with the same object in Pegu and Burmah. It is altogether different from the *lila-roum*, which is the product of the Wrightia tinctoria of R. Brown, which by some is supposed to be the *R. Comosa, Wall.*, the Ebermaiera axillares, *De Cand.* Others point to the *R. Comosa, Roxb.*, which is the R. eucoma of Steudel, and the Buterœa ul mifolia of *De Cand.* MM. Edan and Remi, in 1854, reported that. they had procured a very fine green from the fruit of the lo-za, but were unsuccessful in regard to the bark. Mr. Fortune informed Mr. Edan that without doubt the bark of the lo-za was employed to furnish the stuff with which to dye cloth green, and that the fruit was used in the preparation of green paint for paper. These points were repeated by M. Remi in 1855. All the experiments hitherto made with the bark and the leaves of the Rhamnus chlorophorus and Rhamnus utilis, have not been decisive. M. Persoz has succeeded in extracting a yellow dye from the bark of Rhamnns chlorophorus and the berries of the Rhamnus utilis, but he could not discover a trace of the green dye in the extracts prepared from the berries of both kinds, which were sent to him by the Agri-Horticultural Society of India. Nevertheless, if we are to receive the united testimony of Fathers Helot and Aymeri, MM. Arnaudtizon, Edkins, Fortune and Remi, we must believe that it is the bark of the branches, and perhaps also of the roots of the Rhamnus chlorophorus and Rhamnus utilis, but especially of the former, that gives to the green dye that brilliant colour which it assumes under the influence of artificial light. The fruit, at least that of the Rhamnus chlorophorus, probably yields a green colouring matter analogous to the bladder green, and differing from the true green dye both in colour and properties. The Chinese declare that other species of the same genus have dyeing properties. The Pe-piu lo-chou, is the Rhamnus chlorophorus of DeCaisne; and the *hong-pi to-chou*, the Rhamnus utilis and the author remarks that, "Until some European chemist shall have discovered traces of the green dye in some of the parts of the plants I am about to treat of, the flowers, the berries, the seeds, the leaves, the bark or the

root, it cannot be asserted that these plants are really those theChinese use to dye their cottons with or from which they prepare the *lo kao*." There are some European plants which dye a green colour, the blue-flowered Scabions, is used for that purpose in Sweden : the Melissa officinalis yield under the action of spirits of wine, a permanent green dye, and the Mercurialis perennis yields a permanent blue green. The green dyes from the *Ruellia ;* Justicia tinctoria, *Lour. ;* Adenostemma tinctorium, *Cass. ;* Sanseviera læte-virens, *Ham. ;* Asclepias tingens, *Roxb. ;* Melissa officinalis, *Linn.*, have not yet been examined. Various plants stated to yield a green dye, colouring matter have been examined, but in vain for the *green dye of China*, there are the Arundo phragmitis, *Linn. ;* the Artichoke, deadly night shade, wild chervil, ash-tree, lucerne, Lycopersicum esculentum, *Mill. ;* Mercurialis perennis, *Linn.*, Ronabea arborea, *Blanco ;* the groundsel and the common field clover. In the experiments of M. Michel, he has obtained tolerable greens from the berries of Rhamnus catharticus, *Linn.*, and Rhamnus alaturnus, *Linn.*, but not improving by artificial light. He found that cloth taken out of the bath with a light nankeen dye, and placed at night on the grass, had assumed towards morning and long before it was exposed to the rays of the sun, a deep green colour. A damp atmosphere and dew were found to increase the intensity of the tint. The lower side near the grass was scarcely at all coloured, and a cloth left all night in a dark room was found in the morning to be unchanged. M. Persoz found the fruit of a buckthorn to yield a pretty lilac or silk. The green fruit of the Rhamnus infectorius, *Linn.*,(Avignon berries ; R. saxatilis, *Linn.*), Persian berries of R. alaternus, *Linn.*, and R. amygdalinus *Desf.*, afford a yellow colour. The fruit of the R. frangala, *Linn.*, gathered in July and August before they are ripe, yield according to Dambourney and Leuchs, a fast and brilliant yellow. According to Buchoz, a green. And when they are ripe, in September and October, they dye a purplish blue without any mordant, and green, violet and blue-violet, or blue according to the nature of the mordant employed. Dambourney obtained on wool, from the juice of the ripe berries fermented, very fine and fast greens, varying from an apple to a dark-green. The colouring matter of the berries of the R. infectorius, is—yellow before they are yellow, and dark-purple red as soon as they have attained maturity. Buchoz notices a similar peculiarity in the fruit of the R. catharticus, before ripening it yields a saffron-red ; after maturity, a green, known as bladder-green, and still later a scarlet. According to Waldstein and Kitaible, the green berries of R. tinctorius have dyeing properties similar to those of the fruit of R. catharticus, but more esteemed by the dyers. The inner bark of R. infectorius dyes yellow, when fresh : brown-red, when dry. The dry bark of the R. frangula yields a brown or dark-red, and the fresh a yellow dye, and its root as well as the bark and seeds of R. catharticus, a yellow and volatile colour named *Rhamno-xanthine*, which is dissolved by the alkalis and converted into a magnificent purple. The bark of R. catharticus and R. alaternus dye yellow : the wood of the latter species dyes dark-blue, and the root of R. infectorius a brown. The leaves of R. alaternus yield a yellow colour, and those of R. frangula, a greenish yellow. A mixture of the cuttings of R. alaternus, which yield a dark-blue, with the fresh bark of the same buck-thorn and of R. catharticus, R. frangula, and R. infectorius, which contain a yellow colouring matter, ought to produce a green. It is established that the European Rhamni contain a volatile principle, and nearly the same changes take place in the colouring matter of the several species, from red to violet, to blue, to green, and to yellow. The *lo kao* possesses similar qualities, and it is possible that the green dye, so remarkable when exposed to light, is a compound of blue and yellow having separately the same property and united in the bark of R. chlorophorus. But M. Rondot suspects that the supplementary yellow requisite to produce the green of *lo koa* is not obtained from one of the Rhamni, but from the *hoang-chi*, the fruit of Gardenia, or the hoai-hoa, the flower bud of the Styphno-lobium Japonicum. In 1855 when Mr. Robert Fortune was sent to China by the E. I. Company to procure tea plants for the nurseries in the Himalayas, he was particularly directed to give his attention to plants of that country stated to produce a green dye. Accordingly he sent seeds and samples to the Agri-Horticultural Society of Bengal, from which numerous plants have been forwarded to all parts of India. It seems established that the trees from which the green dye is prepared are two species of Rhamni, one wild, called by the Chinese white skin, and which grows in abundance in the vicinity of Kiahing and Ningpo. The other is called yellow skin by the Chinese, is cultivated at Tsoh-kaou-pang, where some thirty men are employed in the preparation of the dye stuff. M. Fortune sent to India and to England plants of both the cultivated and wild species. The flowers, leaves, roots, bark and fruit have all been indicated as the part of the plant from which the lo kou was

prepared. The wild species is a shrub and is called hom-bi-lo-za, from the circumstance that when its bark is boiled in water, a white scum is formed, which subsequently passes to rose, hom-bi, meaning Red-scum bark. The bark of the pa-bi-lo-za, or white skin, however long it be boiled. The Pe-pi lo-chou, or Rhamnus chlorophorus, is cultivated between 25° and 36° of N. L., but more especially, about the 30° and 31° of N. Lat. The hong-pi-lo-chou or Rhamnus chlorophorus, is mentioned as high as N. L. 39° and down to N L. 30°. This seems the hardier buck-thorn and capable of withstanding the severe frosts of Tchi-li, but it is evident that both species exist in abundance in the northern parts of the province of Tche-kiang, over a space of 45 square miles. Lo sa, or Lo-za or Lok zah is the term applied to the branches, of the plant when tied up in faggots for sale to the dyer. But there are two kinds of such faggots, one termed pa-hi-lo-sa, or white-skinned green vine branch, and the other hom-hi-lo-sa, red skinned green vine branch. Father Helot states that the people of Canton, on whose mountains the plant grows, call it *lieu-lo-chou*,—willow green tree. Fortune states that a farmer near Hong-tcheou-fou, who had some plantations of the cultivated Rhamnus, named it loh sah, and soh-loh-shu. Mr. Sinclair gives hwuy-chiang-chi or lee-chi, as the name of a bark used in Fokien for dyeing cotton green. The Hong-pi-lo-chou has all the characteristics of a wild shrub. The magnificent lustre, is only obtained after immersion in the infusion of the pe-pi-lo-chou. At Ayè, Father Helot was assured that the lo-kao, was prepared from the bark of the pe-pi,—and the dyers of Khin-tcheou-fou described a process for dyeing silks and cottons with the pe-pi only. It would seem that the pe-pi alone yields violet, blue and green, according to circumstances, and a peculiar kind of the lo-kao, or green dye on cloth of a watery green tending to azure, with lime or alum ; that the hong-pi yields a yellow to impart a green to the colour, and that the lo-kao is impure if the admixture of this yellow be in too great a proportion. The shrubs from which the green dye is obtained are thorny. Rhamnus tinctorius of China differs from R. chlorophorus only in the shape of the calyx. The Rhamni indigenous to China are—

R. crenatus, *Sieb.* and *Zuccarini*, Japan.
R. globosus, *Bunge*, North China.
R. lineatus, *Lour.* Berchemia Loureiriana, *De Cand.* China, Cochin-China.

Mr. De Caisue told M. Rondot that an English horticulturist had reared a scrophularaceous plant, which had been sent to him as the Lo-za.

Ma-ly is the name of a tree growing wild in the province of Hit-cheou, the bark of which is used to dye common cloths.

Toxocarpus Wightianus, *Hooker*, is the Asclepias curossavica of *Lour.* It is called in Chinese Ma-li-kiu.

The Chinese have two modes of dyeing green, *first*, with the flowers of the hoai-hoa and indigo ; *second*, by indigo alone.

Green-dyes.—Since the middle of the 18th century, various accounts have been published of stuffs which dye fibrous substances of a green colour. Amongst these, the Tsai of Cochin-China was mentioned by Poivre about the year 1750, and again by Father Horta in 1766. Poivre's small work, printed at Verdun in 1768, mentions that " Tsai," on being fermented like the indigo, furnishes an abundance of green flowers, which of themselves yield an emerald green and persistent dye. Father Horta, writing in 1766 seems to repeat the above when he states that the Tongkinese cultivate a plant named " tsai" as he says, found only in Tongkin and Cochin-China, which, being steeped, furnishes a green flower, that yields a very strong emerald green dye. The word " tsai" is not Cochin-Chinese, but Chinese, and has two meanings, a plant or herb, and a pot-herb or vegetable. Subsequently in the year vii. of the French Revolution, a green dye plant of Cochin-China, was brought to the notice of Europe by de Cossigny, under the name of *Diuh-xanh.* He describes the plant as very like balm, and adds that a green fecula is obtained from it by trituration, and used to dye every shade of green.

Chinese Green.—M. Rondot's book entitled *Notice du Vert de Chine*, contains specimens of calico and silk dyed with the 'green,' and engravings of two plants, *Rhamnus utilis* and *Rhamnus chlorophorus*, from which it is derived. These plants are new to European cultivators ; they are, however, allies of the *Rhamnus theezans*, which has long been known as a tree from which the poorest class of Chinese pluck the leaves to use as a substitute for tea. The colour of the dyed silk is remarkably bright, a blue green, one of that class of colours which increase in brilliance in the light. It contains, in fact, some immediate principle which can only be developed by light, and it is a nice task for chemists to discover what this is. Persoz says that light will have to be more and more regarded as an industrial agent ; and of the Chinese green he remarks that it is *sui generis*, containing neither yellow nor blue. By experiments made at Lyon, it appears that six species of the European *Rhamnus* will yield a green dye.

Blancard's Manual of Trade of India mentions what Europeans call *Green Indigo*. M. Lefevre, Vicar Apostolic of Lower Cochin-China, was acquainted with the green dye, and one of his Cochin-Chinese interpreters at Touranne informed him that the green dye plant grows in the provinces of *Quang-nam* and *Quang-due*, but especially in the latter in the vicinity of Houé-fo—and that it imparts a green dye both to silk and cotton, and he supposes it possible that the fæcula of the dinh-xang (xang in Cochin-Chinese means green yellow) may be identical with the "tsai," of Poivre and Father Horta. In 1779, Charbentier de Cossigny when noticing the *dinh-xanh* asserted that the Indigo plant, when boiled by a process differing from that followed to obtain the blue, also yields a green fecula. Neither Loureiro, in his Flora, nor Pigneaux and Taberd in their dictionary, make any allusion to the "*dinh-xanh*," green dye of Cochin-China. M. Rondot seems to think that the "*Tsai*" and "*Dinh-xang*" are identical : and that the plant belongs to the genus Melissa or is identical with the Mercurialis perennis. He adds, however, that Correa considers the "Tsai" of Poivre to be from the Justicia tinctoria of *Lour. and Roxb.* and the Peristrophe tinctoria of *Nees*. About 1780, Loureiro noticed the green dye of Cochin-China, called *Kim-long-nhuom*, a product of this plant, the leaves of which he describes as saturated with a green dye, and used in dyeing cloths of a beautiful colour, and M. M. Pigneaux and Taberd agree with Loureiro in this account of its properties.

The *Kaiboung-boung*, and the *Cham-lon-la*, were also noticed by Loureiro as green dye plants of Cochin-China. The *Kai-boung-boung*, is the Aletris Cochin-Chinensis of Loureiro and the Sauseviera lœte-virens of Haworth in his *Hortus floridis cocincinæ*. The other plant, the *Cham-lon-la* is Spilanthus tinctorius of Loureiro, the Adenostemma tinctorium of Cassini, and both a blue and a green colour are stated by Loureiro to be obtained from the pounded leaves, *optimam tincturam cæruleam viridemque*. He adds that this colouring matter is also obtained and equally brilliant from the indigo plant.

Vegetable Green-dye.—Dr. R. F. Thompson, Civil Surgeon of Malda, writes as to a green-dye as follows :—

"One maund of the dried leaves will dye 1,280 yards of cloth of a fine apple green colour. The supply cheap and unlimited ; cultivation easily extended from cuttings or seed, requires little care or watching as no animal will eat it. The plant is doubly valuable from the seeds yielding a fine clear limpid oil for burning purposes, sample of which I also forward. It takes half an hour to dye a whole "than" of cloth. The oil is obtained from the seeds of the plant yielding the green-dye, and expressed in the ordinary bazar fashion in the common "koloo," it has a beautiful colour, limpid and burns well.

Carthamus tinctorius, the safflower, is a pretty annual plant, found wild in Egypt and the Levant. The petals of the safflower contain a red colouring matter insoluble in water, and called carthaméine, derived probably from the oxidation of a peculiar principle existing in the petals, called *carthamine*, and by Dumas, *carthamous acid*. When a weak soda solution of carthamine is left in contact with oxygen, it first becomes yellow and then red, and on saturating this red liquor with citric acid, red carthamine is thrown down. The affinity of carthaméine for cotton and silk is such, that when it is recently precipitated, those substances immediately combine with it, and become at first rose-coloured, and afterwards of a fine red, so that they may be thus dyed without the intervention of the mordant ; the stuffs so dyed are rendered yellow by the alkalis, and the colour is to a certain extent restored by the acids. Carthaméine is never used in dyeing wool. When it is precipitated from concentrated solutions, it furnishes a liquid paint, which, evaporated upon saucers, leaves a residue of somewhat metallic lustre, used as a pink dye-stuff, and which, mixed with finely powdered talc and dried, constitutes common rouge. Safflower also contains a yellow substance soluble in water. When the infusion is evaporated it leaves an extract very soluble in water, precipitated by acids and soluble in alkalis. It is not reddened by oxidizing agents. The safflower is cultivated in China, India, Egypt, America, Spain, and some of the warmer parts of Europe, and is indigenous to the whole of the Indian Archipelago. A large quantity is grown in and exported from Bali. The Chinese safflower is considered the best, and that from Bombay is least esteemed. The price of safflower in the English market varies from £1 to £8 per ton, according to quality. The annual quantity imported into England is from 400 to 500 tons, $\frac{3}{4}$ths of which is sent from Calcutta, and about 150 tons is grown in the Dacca Collectorate.—*Engl. Cyc., p.* 787 ; *Tomlinson, p.* 333 ; *Simmonds, p.* 450 ; *Faulkner.*

The Javanese, who of all the Malayan race, have certainly made the highest progress in all the useful arts, have a specific term for dyeing or tinting,—"madal ;" but the Malays express it only by the word for dipping, "*chalup*." Yet the only generic words which either of them possesses for

"colour," are the Sanscrit, warna; and the Portuguese, tinta. Their colours are usually sombre,—little varied, but generally fast. Blues are always produced from indigo, yielded for the most part by the Indigofera tinctoria, as in other parts of India but in Sumatra, occasionally, from the Marsdenia tinctoria, a plant of the natural order of the Asclepiadeæ. Yellows are produced from the woods of two species of Artocarpus, the jack and champadah, and from turmeric; and reds from the bark of the root of the "*mang-kudu*," the Morinda umbellata,—from the "*kusumba-jaiva*," safflower or Carthamus tinctorius, from the "*kusumba-kling*," which is the annotto, or Bixa orellana, from the sapang, or sapan-wood, Cæsalpinia sappan, and from the nidus of the lac insect. Black is produced from the rinds of the mangostin fruit, and of the "*Katapang*," Terminalia catappa, with sulphate of iron. Sails and nets are dyed, and perhaps also tanned with a wood called in Sumatra "*ubar*" which is the Ricinus tanarius of botanists. The mordants used are rice-bran, alkalis from the combustion of some vegetable matters, as the fruit stalks and mid-ribs of the cocoanut palm, and alum brought from China.

Yellow Dyes.—"Asbarg," produces a yellow for silk.

"Akal-bir" gives a yellow dye; the wood of the jack, the root of the pyschotria, the bark of the gamboge trees, the flowers of the butea, the rind of the Bengal quince, and the leaves of the memecylon and the touk-yat, all produce bright yellow dyes.

A plant grows wild in the southern part of the Chittagong district. The Mug make yellow and red dye, by grinding the plant and its roots into powder, and boiling the same in water. The colours are dull but seem to last for a long time.

Pupli chikay.—The bark of the pupli root is used in Mysore and elsewhere, as yielding an orange dye. It is treated with alum, myrobolans, &c. This dye stuff is in very common use in India, and deserves a fair trial in Europe. The pupli is seldom used alone, but generally as an adjunct with chay-root, to produce a rich chocolate colour, or, if with galls, a black.

The red dye obtained from the roots of the Morinda citrifolia is equal in every respect to that of the sapan wood; it is in fact in general use with the natives for dyeing the yarn of the native cloths, both silk and cotton; and with the exception of some specimens of Java dyes obtained from the same tree, better single colours of the kind are rarely seen; it must be borne in mind in relation to such a comparison, that the use of mineral mordant in the native process is unknown, and with the exception of weak ley made from the ashes of some of the plants of the jungles no other application is made beyond the simple solution of the extract from the wood itself.

Catechu has been used in India to give a brown dye to cotton; and has lately been very extensively employed in the calico-printing works of England. The salts of copper with sal-ammoniac, cause catechu to yield a bronze colour which is very permanent. The proto-muriate of tin produces with it a yellowish brown. A fine deep bronze hue is also produced from catechu by the perchloride of tin, with an addition of nitrate of copper. Acetate of alumina gives a brown, and nitrate of iron a dark-brown. For a golden coffee brown, catechu has entirely superseded madder, one pound of it being equivalent to six pounds of that root.

Japan materials for dyeing are taken from a species of Betula, from the Gardenia florida, Polygonum Chinense, barbatum and aviculare, all produce a beautiful blue colour, much like that from Indigo. The leaves were first dried, then pounded, and made into small cakes, which were sold in the shops.

In late years, in the latter half of the nineteenth century, coal-tar colours have been largely brought into use as dyes, and several of them have been employed by the dyers of India, and are likely to become considerable imports. Mauve first, about the year 1856, and next magenta about 1868, were made known, but each year has seen additions to this remarkable class of dyes, and when it is mentioned that of madder alone to the value of about 2,150,000*l.* is annually imported into Great Britain, about £1,000,000 worth of which is retained for consumption there, and that one of the coal-tar colours will take its place, their importance cannot be exaggerated. It is from benzol, discovered by Faraday in 1825, that all the aniline colours are prepared, and the latest discovered colours were from the hydrocarbon. Authracene, Alizarine, discovered in 1831, is the colouring principle of madder, but it is supposed that Authracene will take its place. In the year 1848, purpurine, a second colouring matter in madder, was discovered. It contributes to the full and fiery red colour in ordinary madder-dyeing, but dyes a bad purple, alizarine being essential to the latter. Many of the coal-tar colours are derivatives of aniline, one of the organic bases found in coal-tar. By the action of nitric acid, benzol is converted into a dense yellow oil, called nitro-benzol, and by the action of nascent hydrogen, this new compound is transformed into Aniline. Runge's blue, is obtained from

the destructive distillation of coal. The base of magenta is rosaniline, which now takes the position formerly held by aniline. Mauvine is the basis of the mauve. A product of rosaniline is aldehyd, from which, with hyposulphate of sodium, is formed the splendid fast colour aldehyd green or night green.—*Dr. Mason's Tenasserim, Mr. E. O'Reilly in Journ. Ind. Arch., Thunberg's Travels, Vol.* iv, *pp.* 61-90.

DYE-PHAL, Anglo-Beng. Grislea tomentosa.—*Roxb.*

DYER'S BUGLOSS, Eng., is one name of the alkanet, the root of Anchusa tinctoria, a native of Britain. But, in the Panjab, a root is in use as a dye, to which the name of alkanet is given. It is probably the root of Onosma emodi, *Wall.* as other species of Onosma, also Echium rubrum and Lithospermum tinctorium are in Europe and elsewhere, substituted for alkanet.—*Birdwood.*

DYER'S GREEN WEED, a native of Britain, the Genista tinctoria, *W.*, yields a yellow dye, and, with woad, a green-dye.

DYER'S OAK, Quercus infectoria. It is also called Gall Oak, because the gall or nut-gall is produced in it. It is a native of the countries from the Levant to Kurdistan, and is supposed to yield the product known as Mecca galls, E. I. galls; and Bussorah galls.—*Birdwood.*

DYE-STUFFS, a term applied to drugs and dry-salteries of every kind used by dyers in producing colours.—*Poole, Statist. of Commerce.*

DYER'S WEED, Reseda luteola, a native of Britain, yields oil of "weld" seed. It is also known as dyer's yellow weed. It affords a beautiful yellow dye, from which Dutch pink is obtained.—*Birdwood.*

DYE-WOODS, a mercantile term applied to all kinds of wood, from which colouring or dyeing matter is extracted. About 50,000 tons of dye woods value £300,000, are annually imported into Great Britain.—*Poole, Statist. of Commerce.*

DYJA, also written daija, a dowry or portion which the hindoo wife brings a husband in marriage. It is the Maritagium of the Civil Law. Wilson, in a note to Mill's India (Vol. i, p. 447), says that "amongst the hindoos the practice of purchasing a bride by a dower is apparently of modern growth and a violation of the law." There are, however, passages in Menu on the subject which appear contradictory. These passages would imply the observance of both practices; and the same may perhaps have continued till the time of the Greek invasion, for Arrian (*Indica*, cxvii,) says the Indians neither took nor gave money in marriage; while Megasthenes (*Strabo*, Lib. xv), says their wives were purchased for a yoke of oxen. Amongst the agricultural tribes in the North-west Provinces, the present practice is most usual for the bride's father to purchase the bridegroom, so that the man receives the dowry, or Dyja, which consists for the most part, of money and household utensils. Thus, even when the daughter of Jye Chund was forcibly abducted by Pirt'hi Raj, her father sent to him the richest gems, the fruits of the victory of Beejy Pal, inestimable wealth, pearls, elephants and dyes. This system, the fruitful source of female infanticide, arises from the almost universal desire to obtain for the daughter the privilege of marrying into a higher family, which is only to be acquired by purchase. Sometimes, indeed, an imaginary purchase is made, similar to that which took place at certain Roman marriages, under the name of *Coemptio*,—though of course not with a view of securing the peculiar kind of privileges which the *Coemptio* gave,—but merely as a type of a custom of which the breach is thought preferable to the observance. This subject is noticed in Steele's "Summary of the Law and customs of Hindoo castes."—*Elliot.*

DYOKARAN, Maleal. A blacksmith.

DYOOMANEE, Sans., from div, the sky, and manee, a precious stone.

DYSCHIRIUS, a genus of the Coleoptera of Hong Kong.

DYSOPUS, Barbastellus, Hipposideros, Kerivoula, Myotis, Plecotis, Pteropus, Rhinolophus, Rhinopoma, Nyctecejus, Scotopholus and Vespertilio, are genera of bats in India.

DYSOXYLON, a *species*, in Java yields a fruit used as garlic.

DYSOXYLON CHAMPIONII, a great tree of the central province of Ceylon, found up to an elevation of 4,000 feet.—*Thw. En. Pl. Zeyl., p.* 61.

DYSOXYLON MACROCARPUM, *Bl.*
Guarea binectarifera, *Roxb. Cat.*
Amoora ficiformis, *Wight Illust.* i. 147.

A great tree of Ceylon, found in the central province, up to an elevation of 3,000 feet, and at Batticaloa.—*Thw. En. Pl. Zeyl., Vol.* i, *p.* 60.

DYSOXYLUM MULTIJUGUM, *Arn.*
Guarea paniculata, *Roxb.*

A tree of Chittagong and Tipperah, *Roxb. Vol.* ii, *p.* 240.

DYTE or Asura Dyte, of the hindoos, Titans, were either the aborginal Bhils or the Scythic hordes.—*Tod's Rajasthan, Vol.* i, *p.* 94.

DYTERIA, a town in India, in L. 75° 59 E., and L. 18° 44′ N.

DYTISCUS GRISEUS, one of the aquatic coleoptera, is found in Europe and in Bengal.

DYUPETI, also Dyupetir. A name of Indra, seemingly the origin of the name Jupeter, perhaps from jiva, life, and pitra, father. Dyupetir may, however, be from words deo, god, and pitra, father, or from div, the sky, and pitra, father.

DYUTA, SANS. Gambling with dice, chess, &c., or betting on cocks, rams, &c. Dyuta-pratipad, also Dyuta-purnima, in hindooism, is the night of the last day of the light half, and eve of the first day of the dark half of the month Kartik, which is to be spent in gambling, in honour of Lakshmi the goddess of fortune.— *Wilson.*

DZAY KEIRA, a town in India, in L. 74° 20′ E., and L. 20° 52′ N.

DZASSAK. In Ili, the *tsiankiun* has authority over the Eluth and Chahar of his own central province of Ili, who have also Chinese ministers ; over the Eluth, Chahar, and Hassack under the *tsantsan* minister, resident at Tarbagatai, and over the mohamedans of the eight cities in Ili, south of the Tien Shan, who are under resident ministers of different degrees. In the Uliasutai province, which receives, a small garrison from the tsiangkiun of Shansi, there are Tangnu Uriankai, some of them *yumuh*, herdsmen, some *tasang*, peltry-men, under the *tsiangkium* in observation at Kurun, who is farther supreme over the ministers at Kobdo, having charge of the Mingat, Eluth, Chaksin, Altai Uriankai, and Altai-Nor Uriankai of the far province. On the borders of Tibet, are Tamuh, or Dam Mongol under 8 standards, amenable to the authority of the resident *tsantsan*. Of the feudal constitution of these tribes, it will be advisable to note the following particulars. The six *ming*, *chalkan* or leagues, into which these 24 tribes are formed, are each under a head or elder, and a lieutenant, chosen from a list of Dzassak, presented to the emperor by the Colonial Office. Every tribe is bound to assist any other in the same league which may be in danger. Once in three years, the leagues are mustered by four high commissioners selected by the emperor from incumbents of high civil and military posts in the empire ; their visit is of a thoroughly inquisitorial character. The Dzassak are in turn compelled to pay visits to Peking ; the year in which it is not the duty of this or that Dzassak to go, he sends a *taikih* ; on stated occasions all assemble in court costume to do homage in token of fealty before the door consecrated to Majesty at the headquarters of the tribe. The internal economy of the Outer, is much the same as that of the Inner Mongolians. Their Dzassak are ennobled by all the same titles except *tapunang*, of which there are none. Some of the Dzassak, whether otherwise ennobled or not, have the title Khan, which is superior to any of the rest, and brings with it a higher allotment of pay and gifts. Their chalkan or leagues, have each a Captain-general and a Lieutenant like the Inner Mongols, and are, like them, mustered and inspected triennially. Their military organization is, with a few exceptions, the same. First, in the region of outer Mongolia, we find four leagues of Kalkas, each under a Khan : 1st, the Tuchetu khanate, numbering 20 standards under 58 tsoling ; 2d, the Sainnoin, 24, including 2 Eluth standards, in 38½ tsoling companies ; 3d, the Tsetsen, 23 standards in 46½ companies ; 4th, the Dzassaktu, under 19 standards, including one of Khoits, in 24½ companies. Now come the Durbet, in two wings, each of which is a league under a lieutenant-general, appointed as above : the left comprising 10 standards of Durbet and one of Khoit, in 11 companies ; the right three of Durbet and one of Khoit in 17 companies. Their position is beyond the north-west frontier line of the Dzassaktu ; they extend across the province of Kobdo, north of the city of that name, and their troops, amounting in 1,812 to 1,400 makia, were under the tsantsan of the Chinese government at Kobdo. The two wings are subject to one Khan. Under the same officer of Kobdo, are the troops of the new Turguth of the Urungu River, in the south-east of the same province, and Hoshoit of the Djabkan, farther north. The former under two standards in three companies, which would give but 150 makia, form a league, the single standard and company of the latter, furnishing 50 makia, belong to none. Under the Kurun general are 595 Tasang families of Uriankai Tangnu paying two skins of marten fur, and 412 pay 80 graymouse skins under the tsantsan of Kobdo, 412 of Altai Tangnu, paying graymouse skins, 256 marten skins, and 429 paying four fox skins each : also 61 of Altai Nor Tangnu paying graymouse skin, and 147 paying marten fur. Of Yumuh there are, under the general, eight companies of Uriankai, and under the tsantsan, seven of Altai and two of Alti Nor. Of the leagues whose soldiery is under command of the tsiangkiun of Ili, there are four of old Turguth and one of Hoshoit distributed in five circuits. The north contains the old Turguth of Hopoksiloh, three standards in 14 ; the east, those of Tsirholang, two in 7 ; the west, those of the River Tsing one, in 4 companies. These are north of the Tengkiri, stretching well

into Tarbagatai. Following the outline of modern Kansuh, we find in the north-east of the Tsing Hai, or Koko Nor, territory, five tribes in one league of 29 standards; it is peculiar in having no captain or lieutenant like the rest. Their standards are 21 of Koshoit in 80 companies; one of Khoit in 1; four of Turguths in 12; one of Kalkas in 1; and two of Choros in 6½ companies. Their fighting strength in 1812, would thus be 5,025 makia under the command of the Resident at Si-ning, on the borders of Kansuh. There are mohamedans in Kami and Turfan, as well as in the cities in East Turkistan. —*Wade's Chinese Army, pp.* 68 *to* 70.

DZA-WET-THA, Burm. Hydrochlorate of Ammonia

DZAYTANA, a town in L. 74° 31′ E., and L. 21° 10′ N.

DZIALA, Pol. Cannon.

DZUNGARIA, a territory in Central Asia, separated from Chinese Tartary by the Tian-Shan range of mountains. Late in the seventeenth century, Hojah Appak, of Kashgar, of the party of the White Mountain, sought the aid of Galdan Khan, sovereign of the Eluth or Kalmuk of Dzungaria. Taking advantage of the occasion, Galdan Khan, in 1678, invaded the states south of the Tian Shan, carried off the khan of Kashgar and his family, and established Hojah Appak over the country in authority subordinate to his own. Great discord for many years followed, sometimes the party of the White Mountain, sometimes the party of the Black Mountain being uppermost, but some supremacy always continuing to be exercised by the khans of Dzungaria. In 1757, however, the latter country was conquered by the Chinese, who, in the following year made a tool of the party of the White Mountain which was then in opposition and succeeded in bringing the states of Turkistan, also, under their rule.—*Yule Cathay, Vol.* ii, *p.* 547.

D'ZUTU, Tel. See Hindoo.

E. This letter of the English language has three distinct sounds, as in the words "here," her, and there.

In Sanskrit, the E is always long; and the sound of the Arabic E can be better indicated by the English letter "y" but to imitate the sounds of some of the letters of the languages of South-Eastern Asia, the English E has to be duplicated, thus Ee. To obtain, by means of the English E, its sound as in "there" the "e" is usually accented as in Véda.

E. This letter in the Chinese tongue means a barbarian, and is applied by them to all foreigners, as the hindus apply Mh'lecha, the Greeks and Latins, barbaros and barbarus. In the 50th article of the British Treaty with the Chinese, it was stipulated that E should not be used to designate the people of Britain. Yuen is another Chinese term for foreigner, the exact meaning of which has not been mentioned, and the term "Hungmou yin," "red-bristled man" was also applied to the British.

EAGLE, Eng.

Nesr, Arab.	Nisr, Heb.
Neshr, Chal.	Sherza, Hind.

The Eagles, the aqualinæ, are arranged by naturalists as a sub-family of the falconidæ, of the order Raptores or Birds of Prey, the Accipitres of Linnæus and the Rapaces and Raptatores of other authors. Dr. Jerdon further divides the Aqualinæ into five groups, viz., True Eagles, Kite Eagles, Hawk Eagles, Serpent Eagles, and Fishing Eagles. They are birds powerful in flight and are often named in Scripture. Job xxxix. 27 says

> Is it at thy voice that the eagle soars?
> And therefore maketh his nest on high?
> The rock is the place of his habitation.
> He abides on the crag, the place of strength.
> Thence he pounces upon his prey.
> His eyes discern afar off.

1st.—*True Eagles.*

(*a.*) Aquila chrysaetos, *Linn.* The Golden Eagle.

Falco niger, Gmel.	Aquila daphænia, Hodgson.
,, melanonotus, Lath.	,, nobilis, Pallas.

The Golden Eagle is found over the greater part of Northern and Central Europe, Asia, and America, it is however rare in India, and only in the Himalaya, for, in Oudh and the N. W. Himalaya, it is the Lammergeyer, to which Europeans give the name of Golden Eagle. It is named *Berkut* and *Bjurkut* by the Mongols, and is the *Bearcoote* which Atkinson notices in his travels. It is 3 feet to 3½ feet long, and the Kirghis and other Mongol tribes train it to kill antelopes, foxes and even wolves, it is carried on a perch betwixt two men, or on a horse.

(*b.*) Aquila Imperialis, *Bechst.* The Imperial Eagle.

Aquila moglnik, Gmel.	Aquila Nipalensis, Hodgs.
,, heliaca, Sav.	,, chrysaetos, Jerdon
,, bifasciata, Gray and Hardw.	
Frus, Beng.	Jumbiz, Hind.
Jumiz, Hind.	

The Imperial Eagle is found throughout the Himalaya, is not uncommon in Central India and on the Table Land, but is rare in the South of India. It commences to seek its prey about an hour after sunrise, hunting slowly at no great elevation over bushy valleys and ravines, and occasionally over cultivated ground, pouncing on hares, florikin, rats, lizards, &c., but will eat carrion.

(*c.*) Aquila Nævia, *Gmel.* The Spotted Eagle.

A. melanaetus, Sav.	A. vittata, Hodgs.
,, clanga, Pall.	
Bukayari Jiyadha, Beng.	Nallagadha, Tel.
Kaljanga, Hind.	

The Spotted Eagle is found throughout India, N. Africa, Western Asia and the S. of Europe, and is tolerably common in the Carnatic and in Malabar; it prefers the vicinity of cultivated places, it lives on small animals, rats, squirrels, lizards, and frogs.

(*d.*) Aquila fulvescens. *Gray.* The Tawny Eagle.

A. punctata, Grey & Hardw.	A vindiana, Frank, Jerd.
,, fusca ,, ,,	,, nævioides, Blyth.
Wohab, Hind.	Salwa, Tel.
Ali, Tam.	Dholwa of the Wagri.
Alawa, Tel.	Bursawul of the Yerkli.

This resembles the Imperial Eagle in miniature. It is found in a great part of India, is very abundant in the Deccan, but is unknown in Malabar, Bengal, and to the East of India. It prefers dry open plains. It quests slowly over fields, and feeds on hares, partridges, rats, lizards, and occasionally enters villages and towns and carries off chickens and ducklings. It pursues and robs kites, falcons, and other birds of prey.

(*e.*) Aquila hastata. *Less.* The Long Legged Eagle. Spizaetus punctatus, *Jerd.*

Jiyadha, Hind.	Phari Tisa, Hind.
Gutimar, ,,	

This Eagle is not common. It robs bird's nests.

(*f.*) Aquila pennata. *Gmel.* The Dwarf Eagle, also Garden Eagle.

Aquila minuta, Brehm.	Butaquila strophiata, Hodgs.
Spizaetus milvoides, Jerd.	
Bagati Jumiz, Hind.	Punja Prandu, Tam.
Gil'hrimar, ,,	Oodatal Gedda, Tel.

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This eagle is found in Western Asia, N. Africa and S. Europe, and throughout India, frequenting groves of trees, gardens, and cultivated land, and pouncing on squirrels, rats, doves, pigeons, chickens; hens with chickens readily recognize it and call their young to them. Crows often pursue it out of their bounds.

2nd.—Kite Eagles.

(*g.*) Neopus Malaiensis, *Reinwardt.* The Black Eagle.

Aquila per-niger, HODGS.	Nisaetus ovivorus, JERD.
Heugong, BHOT.	Adavi Nalla Gedda, TEL.
Lahmong-Bong, LEPCH.	

This eagle is found in most of the hilly and jungly districts of India, in Burmah and Malayana. It is generally seen circling or questing for prey at no great height. Its chief food is obtained by robbing bird's nests of the eggs and the young.

3rd.—Hawk Eagles.

(*h.*) Nisaetus Bonelli, *Temm.* The Crestless Hawk Eagle.

Nisaetus niveus, JERD.	Aquila intermedia, BONELLI.
M'hor-augah, HIND.	Rajali, TAM.
M'hor-angi, do.	Kundeli-salwa, TEL.

This eagle is about 27 inches long, and is found throughout India, in the hilly and jungly districts. It preys on game birds and peafowl, ducks, herons and waterfowl, also on tame pigeons. Dr. Jerdon thinks it could be trained to hunt hares, antelopes, fawns and bustard.

(*i.*) Limnaetus nivæus, *Temm.* Changeable Hawk Eagle.

Faclo limnaetus, VIGORS. | Nisaetus pallidus, HODGS.

Sadal, BENG.

This small eagle occurs in Bengal and North to the Himalaya, and Easterly into Burmah, Malayana and the Archipelago.

(*j.*) Limnaetus cristatellus, *Temm.* The Crested Hawk Eagle.

Falco Lathami, TICK.	F. cirrhatus, GMEL.
Shah-Baz, HIND.	Jutu Bhairi, TEL.

The Crested Hawk Eagle is found throughout Central India, the peninsula, and Ceylon, and is said to inhabit the Himalaya, Kamaon and Bhutan. It sits on a high tree and pounces on hares, partridges, young peafowl, junglefowl, &c.

(*k.*) Limnaetus Nipalenesis, *Hodgs.* The Spotted Hawk Eagle.

Nisaetus Nepalensis, HOD.	Falco orientalis, TEMM.
„ pulcher, „	
Reijore BHOT.	Kanzha Chil, LEP.

This has been found in the Himalaya, Khassya Hills, and Ceylon. It kills pheasants, partridges and other small birds.

(*l.*) Limnaetus Kienierii, *de Sparre.* The Rufous-Bellied Hawk Eagle.

Spizaetus Albogularis, TICKELL.

This is found in the Himalaya and Central India, but is rare.

(*m.*) Limnaetus caligatus, *Horsf.* Is a dark coloured bird of Malacca.

4th.—Serpent Eagles.

(*n.*) Circaetus Gallicus, *Gmel.* The Common Serpent Eagle.

C. brachydactylus, MEYER.

Sap-maril, BENG.	Pamula Gedda, TEL.
Mal-patar, CAN.	Rawul of the Wagri.
Samp-mar, HIND.	Kondatelle of the Yerkali.
Pambu Prandu, TAM.	

This Serpent Eagle is found in the South of Europe, North Africa, all over India and Asia, and prefers the open ground, questing like a harrier. It eats any creature, but snakes and lizards are its chief food, hovering in the air, and pouncing suddenly like a stone down. It seizes with its talons the snake by the part of the head, and the snake often twines its body around the bird, and encumbers it.

(*o.*) Spilornis cheela, *Daud.* The Crested Serpent Eagle.

Falco albidus, CUV.	Circaetus Nipalensis, HOD.
„ undulatus, VIGORS.	Buteo Bacha, FRANKLIN.
Circaetus „ JERD.	„ melanotis, JERD.
Tilai-baj, BENG.	Goom, CAN.
Sab-cheer, „	Botta-genda, GOND,
Furj-baj, „	Murayala, MAHR.

Nalla Pamula gedda, TEL.

The Crested Serpent Eagle is found all over India, in Assam and Burmah. It lives on snakes, lizards, rats, frogs, and insects.

(*p.*) Spilornis Bacha, *Daud.* From Java and Sumatra is the Falco Bido, of Horsfield.

(*q.*) Spilornis spilogaster, *Blainv.* From Ceylon and Southern India.

(*r.*) Spilornis holospilus, *Vigors.* Is from the Phillipines.

5th.—Sea Eagles, or Fishing Eagles.

(*s.*) Pandion haliætus, *Linn.* The Asprey or Fish Hawk.

Pandion Indicus, HODGS.	Pandion flumialis.
Macharya, BENG.	Macha-rang, HIND. of NEPAUL.
Mach-manga, „	Verali adi pong, TAM.
„ moral, „	Kora-min-gedda, TEL.
Bala, „	Hegguli of Yerkali.
Pantiang, LEPCH.	

The Fish Hawk of Europe, Africa and Asia is spread all over India, abundant near the coast and along marine lagoons. It plunges from a great height into the sea and carries

off a goodly sized fish, but is frequently robbed by the Haliætus leucogaster. P. Leucocephalus, *Gould*, occurs in Australia.

(*t.*) Polioætus ichthyætus, *Horsf.* The White Tailed Sea Eagle.

Pandion lineatus, JERD.	Icthyætus lucarius, HOD.
Icthyætus bi-color, GRAY.	Haliætus plumbeus, HODGSON
,, Horsfieldii, HODGS.	
Mach-moral, BENG.	Mudhuya, HIND.

This Eagle is rare, south of the Nerbudda, but common in Hindustan, Burmah and Malayana. It lives chiefly on fish, but will carry off a teal or wounded duck.

(*u.*) Polioætus humilis, *Temm.* A miniature of the last, is found in Malacca and the islands. It is the I. nanus of Blyth.

(*v.*) Haliætus fulviventer, *Viell.* The Ringtailed Sea Eagle.

Falco Macei, TEMM.	Haliætus unicolor, GRAY.
Haliætus ,, BLYTH.	,, lanceolatus, HODGS.
,, albipes, HODGS.	
Macharang, BENG.	Bala, BENG.
,, manga, ,,	Kokna of the KOL.
,, korol, ,,	Ugus, ,, ,,
Koral, BENG.	

The Ring Tailed Sea Eagle is found throughout the N. of India, along the Ganges and Indus up to Kashmir. It lives on fish, turtle and snakes.

(*w.*) Haliætus leucogaster, *Gmel.* The Grey Backed Sea Eagle.

Blagrus leucogaster, BLYTH	Falco blagrus, DAUD.
Ichthyaetus cultrungus, BLYTH.	,, dimidiatus, RAFFLES
	,, maritimus, GMEL.

This Sea Eagle is found throughout India, in Burmah, Malayana and Australia, chiefly on the coast and near the mouths of rivers. It lives on sea snakes, crabs, rats, and on fish which it picks up on the beach.

(*x.*) Haliætus leucocephalus is of N. America and N. E. Asia, *Jerdon. Birds of India, pp.* 57 *to* 86.

EAGLE STONES of the ancients, one of them was probably the bonduc nut of the Guilandina bonduc, and the Greeks believed that the Eagle Stone or Ætiles were only found in the nests of eagles. The Eagle Stones are the Hajar-ul-akab of the Arabs, who describe them as resembling tamarind stones, but hollow, and found in eagles' nests and believe that the eagles bring them from India, *King.* See Ærolites.

EAGLE WOOD.

Agalugen, AR.	Agalocha, ENG.
Ugoor, BENG.	Black agalocha, ,,
Ag'r, ,,	Bois d' aigle, FR.
Ag'r, DUK.	Agallochee, GR. ?
Agel-hout, DUT.	Agallochum, of Dioscorides.
Lign aloes, ENG.	Ahel, HEB.
Aloes wood, ,,	Ahelim, ,,
Eagle wood, ,,	Ahiloth, ,,
Incense wood, ,,	Ud-i Chini, HIND. PERS.
Ud-i Hindi, HIND. PERS.	Garu, MALAY.
,, ,, Kimari, ,, ,,	Kayu gahru, ,,
,, ,, Bukhoor, ,, ,,	Pao d' agila, PORT.
,, ,, Samudri, ,, ,,	Pao d' aguila, ,,
Aggur, ,, ,,	Pao d' aquila, ,,
Kalambak, JAV.	Agara, SANS.
Agallochum, LAT.	Agarhu, ,,
Al-camericum, ,,	Kisna, SIAM.
Lignum aloes, ,,	Agaru, TAM.
Xylo-aloe, ,,	Agaru, TEL.
Tarum of Pliny, ,,	Krishna agaru, ,,
Agila gahru, MALAY.	Haud and Ud of Gorcias.

A highly fragrant wood, much esteemed by Asiatics for burning as incense. It is made into the pastilles, called Ud batti, in Hindi. There are several kinds in commerce, and supposed to be obtained from the Aloexylon agallochum, *Lour.*, Aquillaria agallocha, *Roxb.*, the Aq. Malaccensis, *Lam.* and the Aquilaria secundaria, q. v. The Eagle wood seems to be a resinous deposit in the interior of the tree. A good specimen of it is in the Government Central Museum, Madras. It is mentioned in *Num.* xxiv. 6; *Prov.* vii. 17; *Cant.* iv. 14. In Siam, only one kind of tree is known to produce this, it is only found in one tree out of twenty, and labourers often cut up several before finding any of it. It chiefly occurs in the trees on the islands, in the Gulf of Kambodia. They have a knowledge of the outward indications and felling the tree preserve the dark diseased portion which is sold at ten shillings the pound.—*Drs. Bowring, Siam: Royle, Ill Him. Bot. O'Shaughnessy and Roxburgh, Eng. Cyc., Voigt.*

EAGRE. CHIN. called in India, the "*Bore.*" That of the Tsien-tang river, is famous in Chinese history. According to a Chinese proverb, it is one of the three wonders of the world, the other two being the de[illegible]us at Tang-chan and the thunder at Lung-chan. As in other countries it appears generally on the 2nd or 3rd day after the full or change of the moon or at what are called spring tides, and particularly in spring and autumn, about the time the sun is crossing the line. Should it so happen that strong easterly gales blow at these times the Eagre rolls along in all its grandeur and carries everything before it. Dr. Macgowan gave an account of it at Hang-chow-foo. Mr. Fortune from a terrace in front of the Tri-wave temple saw, on a sudden, all traffic in the thronged mart suspended porters cleared the front street of every description of merchandize; boatmen ceased lading and unlading their vessels and put out into the middle of the stream, so that a few minutes sufficed to give a deserted appearance to the busiest part of one of the busiest city in Asia: the centre of the river teemed with craft from small boats to large barges, including the gay flower-boats, loud shouting

from the fleet announced the appearance of the flood which seemed like a glistening white cable stretched athwart the river at its mouth as far down as the eye could reach. Its noise, compared by Chinese poets to that of thunder, speedily drowned that of the boatmen, and as it advanced at the rate of 25 miles an hour—it assumed the appearance of an alabaster wall or rather of a cataract four or five miles across, and about thirty feet high, moving bodily onward. Soon it reached the advanced guard of the immense assemblage of vessels awaiting its approach, all intently occupied in keeping their prows towards the wave which threatened to submerge everything afloat: but their boats all vaulted, as it were, to the summit with perfect safety, and when the Eagre had passed about half-way among the craft, on one side they were quietly reposing on the surface of the unruffled stream, while those on the nether portion were pitching and heaving in tumultuous confusion on the flood. Others were scaling with the agility of salmon the formidable cascade. This grand and exciting scene was but of a moment's duration; The wave passed up the river in an instant, but from this point with gradually diminishing force, size and velocity, until it ceased to be perceptible, which Chinese accounts represent to be eighty miles distant from the city. A slight flood continued after the passage of the wave, but it soon began to ebb. The Chinese say that the rise and fall of the tide is sometimes forty feet at Hang-chow. The maximum rise and fall at spring tides is probably at the mouth of the river, or upper part of the bay, where the Eagre is hardly discoverable. In the Bay of Fundy, where the tides rush in with amazing velocity, there is at one place a rise of seventy feet, but there the magnificent phenomenon in question does not appear to be known at all. It is not, therefore, where tides attain their greatest rapidity, or maximum rise and fall, that the wave is met with, but where a river and its estuary both present a peculiar configuration.—*A Res. among the Chi.*, *p.* 317. See Bore.

EAJATA. Can. Elate sylvestris.

EAPAY. According to the Karen, the Creator. *See Karen*, *p.* 468.

EAR-GULIE, the Tamil name of a Ceylon tree which is about fourteen inches in diameter, and eight feet in height. It is not a useful wood.—*Edye's Ceylon.*

EARL George Windsor, devoted many years to the investigation of the countries and races of the Eastern Archipelago, the principal part of his writings on which appeared in the Journal of the Indian Archipelago. He also wrote a book on that Archipelago.

EARNEST MONEY, Eng. Tirmantha, Tam. This is paid down in almost every transaction of India.

EARRING, *Evotia*, Gr. Inaures, Lat. mentioned in Gen. xxxv. 4—Judges viii, 24—Hos. iii. 13 are worn in the ears, by men and women in eastern countries, and other ornaments are worn round the neck like the golden bulla and leather torum of the Roman youth. Philacteries are mentioned in Deut. vi. 8, ix. 18.

EAR-SHELLS, belong to the genus Haliotis and family Haliotidæ of the Mollusca.

EARTH, English.

Arad, Arab.	Danya, Hind.
Myay, Burm.	Terra, Lat.
Globe, Eng.	Zamin, Pers.
World, ,,	Bhu, Sansc.
Terre, Fr.	Bhum, Tam.

The surface of the globe has 31,625,625$\frac{1}{12}$ sq. miles: of which the waters are 23,814,121. The surface covered with water is, therefore, to dry land as 3·8 to 1·2. The islands form scarcely $\frac{1}{22}$ of the continental masses. In astronomy the symbol of the earth (♁) is the inverted emblem of life, and probably bears some reference to terrestrial corruption and decay. *Proctor's Saturn*, *p.* 197, Maury.

EARTHENWARE.

Aardegoed, Dut.	Terraglia, It.
Crockery, Eng.	Glinianæ naczynia, Pol.
Vaisselle de terre, Fr.	Gorschotschnue possodu, Rus.
Poterie, ,,	Loza de barro, Sp.
Irdene Waaren, Ger.	Pani, Tam.
Chenikam, Guz. Hind.	Kunda, Tel.
Stoviglie, It.	

Porcelain, stone-ware, flint ware, delft, iron-stone, China ware, &c.—*Faulkner.* McCulloch.

EARTH—GOD. Human sacrifices are made to this deity, in the Tributary Mehals. See Ammun, Chinna Kimmedy, India, Meriah, Sacrifices.

EARTH NUT. Arachis hypogea. Ground-nut.

EARTH OIL is found in great abundance in Burmah, where deep pits are sunk to obtain it. It is found more or less in almost every Residency of Java, oozing into wells dug in certain spots in the ground, for it to drain into.—*Journal of the Indian Archipelago, Nos. VI.—XII. June—December*, 1853, *p.* 268. See Naphtha, Petroleum.

EARTHQUAKES. Eng.

Myay-gyee, Burm. | Zalzalah, Hind. Pers.

Captain Baird Smith, in his Memoir on Indian Earthquakes, enumerates one hundred and sixty-two of them between the years 1800 and 1842. Many of which were felt in the Delta of the Ganges and since

1842, there have been at least fifty more shocks felt in various parts of Southern and Eastern Asia. Captain Baird Smith likewise refers to a great storm and earthquake that devastated Calcutta in 1737, published in the Gentlemen's Magazine printed in 1738-39, which runs thus:—"In the night between the 11th and 12th October 1737, there happened a furious hurricane at the mouth of the Ganges which reached 60 leagues up the river. There was at the same time a violent earthquake which threw down a great many houses along the river side. In Golgotta (Calcutta) alone, a port belonging to the English, two hundred houses were thrown down, and the high and magnificent steeple of the English church sunk into the ground without breaking. It is computed that 20,000 ships, barks, sloops, boats, canoes, &c., have been cast away; of nine English ships then in the Ganges, eight were lost, and most of the crews drowned. Barks of 60 tons were blown two leagues up into land over the tops of high trees: of four Dutch ships in the river three were lost with their men and cargoes; 300,000 souls are said to have perished. The water rose forty feet higher than usual in the Ganges." The steeple of the church was described to have been lofty and magnificent, and as constituting the chief ornament of the settlement.

On the 11th November 1842, occurred a severe earthquake of which Calcutta appeared to be the centre of emanation; the shocks extended 300 miles North, to Darjeeling in the Himalaya Mountains; to Chittagong or 250 miles on the East; and to Monghyr or 210 miles on the West; it was also felt on board the "Agincourt," seventy miles South of the Floating Light.

The surface of the Soonderbuns has more than once sunk below the level of the ocean the evidence of subsidence are on the whole coast from Cape Negrais to Akyab on the Eastern side of the Bay of Bengal. The Island of Reguain or Flat Island, as well as all the other islets and rocks on that part of the coast of Arracan, are now undergoing the process of upheaval. This fact was brought to notice in 1840, by means of the nautical surveys of the Brig "Childers." The coast from Akyab to Cape Negrais, is indented by deep and narrow gulfs similar to the fiords of Scandinavia, and lies within the prolongation of the great volcanic band of the Sunda Islands, which extends from Java to Sumatra, Barren Island and Norcondam: and indeed all the islands on the coast of Arracan bear evident marks of subterranean fire. In the Island of Cheduba 300 miles South-East from the Sandheads, in latitude

18° 51′ N., longitude 93° 28′ East, there are two mud volcanoes which rise to a height of from one hundred to two hundred feet. This line of upheaval is in the direction of N. W. by N., to S. E. by S. It is one hundred geographical miles in length, and varies in breadth from twenty miles to a very narrow strip of islets and rocks. The upheaval has been greatest in the middle of the line. At the Terribles it was 13 feet; at different parts of the N. W. reefs of Cheduba, 22 feet; at the North point of the Island 16 feet; in the middle or the West Coast 13 feet; at the South end 12 feet; and the islands south of Cheduba to Foul Island 9 to 12 feet. The first symptoms of upheaval were observed about the year 1750 or 1760 on the occurrence of a great earthquake by which the sea was driven over the land and the effects of which were felt as far as the city of Ava. An earthquake is said to have occurred one hundred years earlier, and the inhabitants believe that a similar phenomenon occurs every century. In the island of Kyouk Phyoo, 35 geographical miles north or nearer the Soonderbuns, a volcanic eruption took place suddenly, east of the station, at 6 P. M. in June 1852. Again, "on Christmas eve 1855, the island was illuminated for miles around by a huge column of fire thrown up by the volcano, and in April 1857 about 10 A.M. the volcano was again in commotion." We learn from the Philosophical Transactions, (volume LIII.) and from the Journal of the Asiatic Society, (volume X., pp. 351-433,) as condensed by Sir Charles Lyell that "the town of Chittagong in Bengal, was violently shaken by an earthquake on the 2nd April 1762, the earth opening in many places, and throwing up water and which of a sulphurous smell. At a place driven Bardavan a large river was dried which apat Bar Charra, near the sea, a tract of campong. sunk down, and 200 people with were overcattle were lost. It is said that six ve, which, miles of the Chittagong coast sud206. Two permanently subsided during th point and quake, that Ces-lung-Toom, one of n. Large Mountains, entirely disappeared, an the sea for sunk so low, that its summit only colossal old visible. Foul Hills are also des ood on the having been variously rent asunde hes broken open chasms for thirty to sixty feet nces from Towns which subsided several cubits much overflowed with water; among others Ito Gong, which was submerged to the depth of seven cubits. Two volcanoes are said to have opened in the Seeta Canha hills. The shock was also felt at Calcutta. While the Chittagong coast was sinking, a correspond-

ing rise of the ground took place at the Island of Ramree, Reguain, and at Cheduba." —(*Johnston's Physical Atlas.*)

An earthquake of the 24th August 1858, was distinctly felt in Calcutta and Madras on that day. Prome in Burmah, barely fifty miles east of the active volcanoes at Ramree and Cheduba, suffered considerably, many pagodas were shaken down and houses destroyed, and a correspondent writing, 24th August 1858, from Kyouk Phyoo, gave the following description of it. We had, he says, rain all yesterday, and to-day in all the pluviometers showed 7-3 inches. There was a nasty Arracan atmosphere pervading the whole of the Island. The H. C. S. V. "Proserpine" had just undergone some repairs, and had started early in the morning for Akyab, but she had not made much way when certain indications in the barometer induced the Commander, Captain Eales, to return and anchor again opposite the wharf. Between 4 and 5 P. M., a slight shaking of the floor was first perceptible, suddenly followed by a rumbling noise and a vibratory motion of the ground, till the earthquake became so violent that the stoutest heart was obliged to fly out of his house. This state of the upheaving vibratory action of the earth from E. to W. lasted for about $2\frac{1}{2}$ minutes, and then suddenly ceased, but in that short time, though no lives were lost, the School House, the Circuit bungalow, the Cutcherry were seriously damaged. The is d lost its upper part of solid masonry, and m ral pagodas were said have been upset bad toppled down hill. The earth opened in various places, and a peculiar bluish soft sandy matter devoid of any smell exuded from them, and finally the horrible scene is ed by an eruption from the volcano. there a fearful convulsion of the earth had tion does witnessed in Arracan by the is not, thhabitant. The barometer was greatest r'he Proserpine" was lying in 11 fa- that the water at the time of the shock, and and its estion felt by those on board was figuration. that experienced when running on See Bore. l the vessel, it is said, trembled in

EAJAT of her.

EAPAY south-easternpoint of Java in south east long. 114° to Chittagong a Creator. of 3,000 miles, are twenty-seven

EAR active volcanoes and twenty-nine tree t ones. Volcanic fire has frequently b en out from the bosom of the ocean opposite Cheduba Island in lat. 19° N., and a few miles south of Pondicherry in 1757 A.D. a sub-marine eruption also took place. The volcanic fire near Cheduba, as was described by an eye-witness, in 1846, rose into the air as a brilliant column of fire illuminating the sea for miles. Across the Delta near the Rajmahal hills are several outpourings of lava which have taken place at different epochs, and numerous thermal springs close to these hills still proclaim the existence of lingering and smouldering, but deeply seated subterranean fires.

The Lake of Loonar, about two miles in circumference, is a body of water low down in the crater of an extinct volcano and further west the site of the Aden cantonment is also the crater of an extinct volcano. On the east, twenty miles north of Chittagong, is Seeta Koond, a hot spring, the gaseous exhalations on the surface of which may be inflamed by the application of fire.

Earthquakes are repeatedly felt at Kabul. Vigne tells us (*Pers. Narrat.* 212) there are usually a dozen in the course of a year. While the British were besieged at Jellalabad, in 1841, its walls were thrown down by an earthquake.

In July 18— ? smart shocks of an earthquake were felt at Lahore, Rawal Pindee, Attock, and Wuzeerabad. The shock of an earthquake was felt at Peshawar, on the 16th September, 18— ? about 7 A.M. The vibrations were barely sensible, but the concomitant rumbling noise was well defined. On the afternoon of the same day, the valley was visited by a dust storm, followed by drizzling rain, which continued throughout the night. On the 17th September the sky was densely overcast, and thunder was audible from the direction of the Sufaid Koh; no rain fell.

In January 18— ? there occurred a great earthquake, at Chittagong on the eastern coast of Bengal, and also at the Kangra Valley to the North of the Punjab, amid the N. W. Himalaya. The same earthquake occurred south at Sholapore, at Bombay at Mahableshwar and other places on the Western Ghats and in the Madras Presidency at Ramandroog, near Bellary. There was a great earthquake some four or five years back which was felt all over Bengal and right up into Assam. In this one also Dacca and Silchar in Cachar have been moved; as also Assam, on the 14th December, a day previous to the shocks at Chittagong. The earthquake thus appears, as was considered probable, to have begun at the very Himalaya. Dewangiri was also moved, an instance of one of the most extended volcanic actions of which we have a record.

An earthquake occurred at Bombay on the 8th December 1857. Mount Aboo is subject to frequent shocks of earthquakes.

In North Arcot, in 1859, there occurred some shocks in Tripati and Chendragari.

One shock was felt at 5 P. M., on the 2nd February 18— ? and lasted for the space of a minute, taking its course from east to west. The noise resembled that occasioned by a railway train going at full speed. The tahsildar of Chendragiri reported that the sound was audible for the space of one minute, during which time the ground trembled and the shock was distinctly felt. On making enquiries he learned that the shock took its course from the foot of the Tirumalay Konda, a hill seven miles north of the Chendragari kusbah, and travelling southward terminated at Thorno Kumbala, a village seven miles south of Chendragari. The shock was felt west as far as Pakala, some 16 miles off, and on the north-west as far as Bimavaram, 10 miles distant. The shock appears to have been very partial, as nothing of the kind was noticed in the Palar talooks.

A shock of an earthquake was felt at Trichinopoly on Friday morning of 18— about a quarter before four. The shock lasted nine or ten seconds, passed on from west to east, and the extraordinary jarring and rumbling sound caused by it died away in the distance like thunder, not a cloud was visible in the heavens, which were beautifully clear.

One was felt on the 26th July 1854, all over lower Bengal.

On the 10th January 1869, a severe earthquake occurred in Assam, Cachar, and Munipore: at Silchar, the ground rose about 20 feet in a long wave, and the river rushed backward for an hour. The earth opened in many places and volumes of blue sand and water were thrown up, and a similar splitting of the earth occurred at Munipore. It extended a long distance into upper Burmah. It was very severe in the hills to the N. E. of Munipore. Even in the hills, the ground opened extensively and water rushed out with mud, people fell into the fissures and were injured. In the district of Chittagong and Eastern Bengal, earthquakes, have been felt every few years, some shocks having been pretty severe. Seta Khoond is perhaps the centre of volcanic action in the Chittagong district.

The entire Eastern Archipelago rests on a volcanic base, circular in form, or nearly so commencing from the West Coast of Burmah and passing through the great islands of Sumatra, Java, Celebes and Luzon. In the last island belonging to the Philippine group, there are some notoriously active volcanoes. Celebes consists almost entirely of volcanic soil. Between this island and Java there is a volcano on an islet called, if we recollect rightly, Tumboro—the most powerful and

EARTHQUAKES.

active of all. At the early part of the 19th century its activity was so great that whole towns and villages were destroyed, an entire coast line was essentially altered in character; bays were raised up into dry land and dry land covered by the sea, the entire island was overspread with death and devastation, so that ships out at sea saw it covered with gloom through which lurid fires ever and anon burst forth; ashes and particles shot out were said to have been found at a distance of a thousand miles, and there was a severe earthquake which extended much further still.

The volcanic chain goes round the outer circle of the Eastern Archipelago and the volcanic action consequently affects the whole group—working along the western end of the Indo-Chinese Peninsula, *i. e.*, on the Arracan and Chittagong coast, up to the Himalaya a thousand miles away in the Kangra, Koolloo and Lahoul districts the Jwala Mookhi fires of Kangra, the Mani Karn boiling springs of Koolloo, are but so many indications of the pent fires which lie beneath. The Bara Lacha Pass and other parts near it in Lahoul have been referred entirely to volcanic action.

The island of Simo, one of the Batu group, on the West Coast of Sumatra, had an earthquake and sea-wave on the 9th March 18—? Before the occurrence the island had 120 houses and a population of 1,045; on this day 96 houses were destroyed, and 675 of the inhabitants, besides 103 temporary residents, lost their lives. An earthquake was felt at the fall of the evening, shortly before the inundation. All the inhabitants then assembled on the open space in the middle of the campong, but a moment afterwards they tried to make their escape from thence, as they dreaded the fall of the houses which were already tottering. They were driven back, however, by a rush of water which approached from the back of the campong. Running back from this they were overwhelmed by another terrific wave, which, out of 282 persons, swept off 206. Two waves met each other at this point and wrought a frightful destruction. Large masses of rock were carried from the sea for 100 to 200 paces inland. A colossal old jawijawi tree, which formerly stood on the bay, lay with its roots and branches broken and twisted about two hundred places from the shore. The water retired with so much force that much must have been swept into the sea. Soon after the earthquake very heavy reports were heard, like distant cannon shots, on which was observed approaching at a great distance from the sea a wave of the

height of a full grown cocoanut tree, and which dashed with furious force on the island; some saved themselves by an immediate flight, the rest were overtaken by the water and swept away, except such as were caught by the jungle, or possessed presence of mind and strength enough to hold on to trees. Three such waves succeeded each other.

Earthquakes have been of frequent occurrence in the Philippines. In 1645, for two months, there was a succession of fearful earthquakes. In Cagayan, a mountain was overturned and a whole town engulphed at its foot. Torrents of water and mud burst forth in many places. All the public buildings in the capital were destroyed, six hundred persons were buried in Manilla, beneath the ruins of their houses, and 3,000 altogether are said to have lost their lives.

An earthquake of 1796, in the Philippines was sadly calamitous.

Again on the 3rd June 1863, at half past seven in the evening, a circumambient flame was seen to rise from the earth and gird the city of Manilla (the "Beauteous Flower of the East," as she is finely and poetically designated by her possessors), and at the same time a most terrific quaking of the earth took place. It lasted scarcely a minute, but in that short space nearly the whole of fair Manilla was reduced to a heap of ruins, upwards of a thousand persons killed, and many thousands wounded. Scarcely an edifice escaped without dead or wounded. The priests, their choristers and sacristans and the christians who were hearing the vespers of Corpus Christi, were nearly all buried and suffocated, under the ruins of the cathedral and other churches. The only church that wholly escaped was San Augustin, the same that withstood the tremendous shock of 1645. The Palace and nearly all the public and private, as well as commercial edifices, have either been thrown down or shaken from their foundations. Before the earthquake took place, sulphurous odours were perceived, rumbling like the firing of ordnance, and then like the approach of an immense locomotive and train! The flame that surrounded the city was seen from the bay to ascend towards the sky; and another, a triple-snaked one, came from the land over the water to the shipping, and threw them up at least two or three feet; while on shore the earth everywhere sunk at least two feet.

A severe earthquake was experienced in Batavia, and over an extensive region in Java, on the 16th of November 1847. In the Courant of the 27th October 1847, it was mentioned that a shower of ashes had fallen at *Buitenzorg* on the night of the 17th, which came from the Guntur mountain, in the district of Limbangan, residency of Preangar. On Sunday the 17th October, at 11 o'clock P. M., earthquake shocks, following each other in quick succession, were felt at Tijundjur, the first of which was very strong, and lasted for fully ten seconds. The shower of ashes began to fall the same night, and on the following morning had already clothed the earth, grass, trees, and buildings with a brown covering. The fall of ashes and sand lasted the whole day, and made it very inconvenient to be in the open air. The eyes of travellers suffered. The earthquakes had not wholly stopped at Tijundjur on the 29th October. The mountain had, however, fortunately, begun to be at rest, and no damage had been caused by the eruption. The shower of ashes had reached as far as the frontiers of the residency of Bantam, a distance of more than 80 miles to the westward of the place of the eruption.

The island of Gunong Api, or Fire mountain, is wholly a volcano, and has caused repeated desolation around it.

Earthquakes are frequent in the Moluccas and indeed, in all the islands between Sumatra and 125 ° of E. Longitude.

On the 21st December 1846 three shocks of an earthquake were felt in Ternate, the first two of which were very heavy and accompanied by a thundering noise. The obscure light prevented any other phenomena of this eruption being noticed save the noise with which it was attended and the column of ashes which it ejected above the clouds. The lava stream flowed to the north of the mountain without causing any damage. Other two earthquake shocks were subsequently experienced at Ternate, and on the 8th of April 1847 about half past 3 o'clock a severe earthquake took place which was felt in a direction from north to south and lasted some seconds without, however, occasioning any injury to buildings.

In the month of March 1847, a sinking of the mountain Nimbenok (which is three days' distance from Kupang) took place, in consequence of which many houses with their contents were destroyed by the great stones that rolled down.

F. Lewis de Froes in a letter, dated at Simonofeki in the Province Nacatta, October 15th, 1856, relates that in 1586 Japan was shook by such dreadful earthquakes, that the like was never known before. From the province Sacaja as far as Miaco, the earth trembled for forty days successively. In the town of Sacaja sixty houses were thrown down. At Nagasama, a small town of about a thousand houses in the kingdom Oomi, the

earth gaped and swallowed up one half of that place, the other half was destroyed by a fire. Another place in the province Facata, much frequented by merchants, and likewise called Nagasama by the natives, after it had been violently shook for some days, was at last swallowed up by the sea, the water rising so high, that they overflowed the coasts, washed away the houses and whatever they met with, drowned the inhabitants, and left no footstep of that once rich and populous town, but the place on which the castle stood, and even that under water. A strong castle in the kingdom of Mino, built at the top of a high hill, after several violent shocks sunk down and disappeared of a sudden, the earth gaping, so that not the least footstep remained, a lake quickly filling the place, where the foundations of the castle had been. Another accident of this kind happened in the province Ikeja. Many more gaps and openings were observed up and down the empire, some of which were so wide and deep, the guns being fired into them, the balls could not be heard to reach the other end, and such a stench and smoke issued out of them, that people would not venture to travel that way. Quabacundono (who was afterwards called Taicofama) resided at Sacomat, in the castle Achec, when these earthquakes begun, but they growing too thick and violent he retired hastily to Ofacca. His palaces were strongly shook, but not thrown down.

On the 23rd of December 1854, at 9-45 A. M., the first shocks of an earthquake were felt on board the Russian frigate "Diana," as she lay at anchor in the harbour of Simoda, not far from Jeddo, in Japan. In fifteen minutes afterwards (10 o'clock,) a large wave was observed rolling into the harbour, and the water to be rapidly rising in the beach. The town as seen from the frigate, appeared to be sinking. This wave was followed by another, and when the two receded which was at 10 h. 15 m. there was not a house, save an unfinished temple, left standing in the village. These waves continued to come and go until 2-30 P. M., during which time the frigate was thrown on her beam ends five times. A piece of her keel 81 feet long was torn off, holes were knocked in her by striking on the bottom, and she was reduced to a wreck. In the course of five minutes the waters in the harbour fell, it is said, from 23 to 3 feet, and the anchors of the ship were laid bare. There was a great loss of life; many houses were washed into the sea, and many junks carried up—one two miles inland—and dashed to pieces on the shore. The day was beautifully fine, and no warning was given of the approaching convulsion; the barometer standing at 29·87 in. thermometer 58°; the sea perfectly smooth when its surface was broken by the first wave. It was calm in the morning, and the wind continued light all day.

In a few hours afterwards, at San Francisco and San Diego, the tide-gauges showed that several well marked and extraordinary waves had arrived off the coast of California. The origin of these waves, and those which destroyed the town of Simoda, in Japan, and wrecked "the Diana," was doubtless the same. But their birthplace is not known to be near the coast of Japan, we may, with the tide-guage observations in California and Mr. Airy's formulæ, calculate the average depth of the sea along the path of the wave from Simoda both to San Francisco and San Diego.—*Maury's Physical Geography, p. 5. History of Japan, Vol. I p.* 104. *Calcutta Review, Rangoon Times: Overland China Mail; Journal Indian Archipelago. Journ. of the Indi. Archipelago, December*, 1857, *page* 361. *The Journal of the Indian Archipelago, Supplement to No. 5, p.* 361. *Journal of the Indian Archipelago, No. III, p.* 168. *Bikmore's Travels; Wallace, Malay Archipelago.*

EAST. The East, the Morgen land of the Germans, has been the theme of innumerable writers, on its people and on their customs. Burder in his Oriental Customs, Ward in his Hindoos, Hardy in his Eastern Monarchism, and Roberts in his Oriental Illustrations of the Scriptures, Bunsen's Egypt, his God in History and the Holy Books of the Scriptures have given to the western nations a vast amount of information and it may, here, be briefly mentioned that the races occupying the South and East of Asia, are of Tartar and Mongol origin, Semitic, Arian and African, all various, in personal appearance, habits and customs.

The dimensions of an eastern city do not bear the same proportion to its population, as those of a European town. A place as extensive as London, or Paris, might not contain one-third of the number of inhabitants of either. The custom, prevalent from the earliest period in the East, of secluding women in apartments removed from those of the men, renders a separate house for each family almost indispensable.

The Shemite, says Layard, whether Hebrew, Arab, or Syrian, has a brilliant imagination, ready conception, a repugnance to any restraint that may affect the liberty of his person or of his intellect. He conceives naturally beautiful forms, whether they be embodied in his words or in his works; his poetry is distinguished by them, and they are shown

even in the shape of his domestic utensils. This race possesses, in the highest degree, what we call imagination. The best character of the Bedouin says Burton (*Pilgrimage, p.* 44) is a gentleness and generosity. The Shemite says Layard shows a ready eloquence; his words are glowing and apposite; his descriptions true, yet brilliant; his similes just, yet most fanciful. These high qualities seem to be innate in him.

The three great monotheistic systems which have divided the civilized world, came forth from nations of Shemite origin, among whom arose the priests or prophets of all those nations who hold the unity of God. In the South and East of Asia, are representatives of those three great religions, Jews, Christians, and Mahomedans, as, also, a people, the Parsi, following the fire-worship which seems to have been a corruption of the doctrines taught by Zoroaster. The Buddhists, likewise, in Ceylon, in the Trans-Gangetic countries and in those north of the great Himalaya, are very numerous, and follow several philosophies. The Arian race who pursue a worship of nature, of spirits, of demons, and have adopted physiological doctrines as revelations, are worshipping deified mortals and heroes, and are believing in many incarnations of Siva and of Vishnu. They are spread all over India, and have imparted to its prior occupants a considerable acquaintance with their religious books. These prior peoples constitute the bulk of the inhabitants of British India, and have merely added on to their own nature and spirit and devil worship some of the legends and philosophical views of the Arian hindoo, and amongst the professors of hindooism are a multitude of sects worshipping Siva, or Vishnu, or Brahma, or all of these, or their incarnations, or a mere Vikrahamu or idol of stone or wood or brass, with or without a form. A body of religionists, the Sikh, considerable from their activity and their late political power, converts from the Jit or Gete races in the Panjab, have adopted doctrines partly obtained from the monotheistic mahomedans, and partly from the Arian hindu, but, though their faith is only about 200 years in existence, they, too, have broken up into several sects. The great mass of the Indian people are of non-Arian origin, and follow religious rites and customs, the origin of which is quite unknown. The Mongolian, whether Scythian Turk, or Tartar, is without imagination or strong reasoning powers, but is intrepid in danger, steady in purpose, overcoming all opposition, despising his fellows, a great conqueror. Such has been his character as long as history has recorded his name: he appears to have been made to command and to oppress. We find him in the infancy of the human race, as well as at later periods, descending from his far distant mountains, emerging from the great deserts in Central Asia, and overrunning the most wealthy, the most mighty, and the most civilized of nations. He exercises power as his peculiar privilege and right. *Layard, Nineveh, Vol.* II. *p.* 239 *to* 244. *Burton's pilgrimage to Meccah, Vol.* III., *p.* 44. See Bedouin, Arab, China, Hindoo, India, Jat. Mahomedan, Parsee.

EASTERN ARCHIPELAGO extends over a space of more than 8000 miles, and consists of an immense labyrinth of islands, among which are at least twenty countries of considerable size, and one which nearly equals Europe in extent. The cluster of islands and islets, scattered in irregular profusion over the Southern Ocean, commencing at the southern extremity of the Bay of Bengal, forming this wonderful Archipelago, stretches eastward far into the Pacific, through 50 degrees of longitude, while in breadth it extends through 31 degrees of latitude. It comprises islands, and groups of islands, inhabited by races differing widely in character. It is not exposed to the extremes of heat. The air is cooled by constant currents; and the monsoons, regularly recur, blowing over the ocean and over forests and swamps which remain in a state of primitive nature. Abundant rains fertilize the soils, and produce a magnificence of vegetation which no country but Brazil can rival. The great importance of that vast tract, has drawn the attention to it of many European writers, but Mr. George Windsor Earl, and Mr. Logan, in the Journal of the Eastern Archipelago, were the most constant in their efforts to describe it. Mr. Logan proposed to designate it Asionesia but, the Indian Archipelago, Malay Archipelago, Malayanesia are other names at times applied to it. It has been, and still to some extent continues, the theatre of prodigious volcanic action, to which it owes much of its unequalled beauty and fertility; for ashes and scoria, if they blast and destroy for a time the luxuriant tropical flora, are afterwards the basis, and become the cause, of a most exuberant vegetation. In Java there are forty-six volcanic peaks, twenty of which still occasionally emit vapour and flame. A great part of the Archipelago, indeed, forms part of a vast volcanic area extending into the very centre of Asia. These eruptive forces must have operated in remote ages with inconceivable violence, and even in modern times, the great

eruption of Tomboro, in the Island of Sumbawa, about 200 miles from the eastern extremity of Java, is a notable example. This volcano had been for some time in a state of smouldering activity, but in April 1815, it burst forth with tremendous violence and did not cease to eject lava until July. The sound of the incessant explosions was heard in Sumatra, distant 970 geographical miles, in a direct line; and at Ternate, in the opposite direction, at a distance of 720 miles. Out of a population of 12,000 in the province of Tomboro, only twenty-six individuals survived. On the side of Java, the ashes were carried to a distance of 300 miles, and 217 towards Celebes; and the floating cinders to the westward of Sumatra formed a mass two feet thick, and several miles in extent, through which ships with difficulty forced their way. The finest particles were transported to the Islands of Amboyna and Banda, 800 miles east from the site of the volcano; and the area over which the volcanic effects extended was 1000 English miles in circumference, including the whole of the Molucca Islands, Java, and a considerable portion of Celebes, Sumatra and Borneo.

The limits of the volcanic band which crosses the Archipelago are distinctly defined by the active volcanoes with which it is studded. There is a great volcanic stream in the neighbourhood of Kamtschatka from which it can be traced in a south-west direction through the Kurile Islands, Japan, and Loo Choo, skirting the Coast of Asia, to Formosa, where it meets another coming from the south and southwest through the Philippines and Mindanao to the Moluccas, embracing the eastern extreme of Celebes and the western Peninsula of New Guinea, and then another curved from the westward along the Trans-Javan chain to the Straits of Sunda, where it meets one from a north-westerly direction through Sumatra and the Andamans to Cheduba island, in the northern part of the Bay of Bengal. From the western extreme of New Guinea, however, along the north coast of that island to New Britain, although its volcanic character has been decided by recent French navigators, there remains a tract including thirteen degrees of longitude in which no active volcano has been seen. Indeed it is by no means improbable that the band which takes a southerly direction from Japan through Fatzima, the Bonin and Mariana Islands, may prove to be continued to new Ireland; in which case the chain of active volcanoes which extends through the Solomon Islands and the New Hebrides to New Zealand, and perhaps further to the south, may indicate the course of an independent stream. One writer, indeed connects the Sumatran line of volcanic action with that running to New Zealand. He says, the lines of volcanic action to which these islands have been subjected can be traced with tolerable distinctness. That one of these extends along the W. coast of Sumatra and the S. coast of Java; whence it is continued by a chain of islands, separated by narrow but deep channels, to New Guinea, and can be traced through that island to the Louisade Archipelago, and is probably continued by New Caledonia and Norfolk Island to New Zealand, thus forming a curved line resembling the letter S. The other line, he says, commences in Kamtschatka and extends through the Kurile Islands, Japan and Loochoo, to the Philippines, where it separates into two branches, one traversing Palawan and the N. W. part of Borneo, where it terminates near the limits of the Great Asiatic Bank, and the other continuing in a southerly direction until it comes in contact with the Sumatran line. It is near this point of contact that the volcanic action has been strongest, throwing the islands into fantastic forms, of which Celebes and Gillolo furnish striking examples. These islands all rise abruptly from an unfathomable sea, a circumstance unfavourable to their productiveness, since a large portion of the rich soil created by the decomposition of the volcanic rock is washed away into the ocean. Java, however, is in a great measure exempt from this disadvantage, owing to the Great Asiatic Bank extending to its northern coast, which prevents the soil from being lost, and it is deposited in vast plains lying between the mountain range and the sea. These plains are so surpassingly rich that they not only yield a sufficiency of grain for the consumption of a large portion of the population of the Archipelago, but at the same time afford such abundance of sugar and other tropical produce as to furnish cargoes for many thousand tons of shipping. The east end of Java is dry and arid.

With such violent subterranean forces in operation, even at the present day, it is easy to apprehend how numerous must have been the uprisings and subsidings of the solid matter of the earth in this region during bye-gone ages. According to the views which have been adopted from Sir Charles Lyell's prolonged investigations, it is probable that these changes have resulted from a series of great uppourings from the interior during bye-gone ages, indentical with those still in operation, though perhaps all in the lines which we observe in the direction of the existing mountain ranges.

One of these, the Eastern Asiatic range of mountains, is prolonged through Arakan, halts at point Negrais, to reappear through the Andamans and Nicobars; and, after extending along the S. W. coast of Sumatra, terminates at its S. E. point. Another mountain range runs along the Malay Peninsula, is lost for a time, but appears again in the high peak of Lingin, and terminates in Banca and Billiton, and a branch from this separates at Pulo Timoan, on the east coast of the Malay Peninsula, and ends at Carimata, in the strait between Billiton and Borneo. Two ranges traverse Cambodia and Cochin-China in the same direction, and these will be found to extend to, and, perhaps, to traverse, Borneo. Between the Cambodian range and the mountains at Sarawak, on the north-west extremity of Borneo, the Natunas islands and Pulo Condor form the connecting link; and as the Sarawak hills run to the south east, the range is probably continued, either by a connected line, or by isolated mountains, until it terminates in the Gunung Ratos, near Cape Selatan. More recent data shew that this range, after traversing the western part of Borneo, terminates on the south coast, a little to the eastward of Kotaringin. The Gunung Ratos would therefore appear to have been formerly connected with the primary range which shows at Bintulu, on the northwest coast of Borneo, and which may be a continuation of one of the Indo-Chinese ranges. The Anam or Cochin-Chinese Range is that which can be traced most distinctly across the Archipelago to Australia at the present day. There seems no doubt that the multitude of islands which are now to be seen are merely plutonic masses upraised by subsequent volcanic action: or are the tops of great volcanic outbursts which have appeared above the ocean. But if the disruptive forces in these regions have been formerly predominant, the creative and constructive power is now the most active. The zoophyte is adding silently but unceasingly to the number of these island-groups; coral-reefs are constantly emerging from the waters; seeds, deposited by birds, or wafted by winds, quickly vegetate; verdure spreads over the waste; and palm trees rise in tufted groves, as if by enchantment, from the ocean. The hidden but ever active energy of the coral-insect makes the navigation of this Archipelago exceedingly difficult, for charts and soundings do not long form safe guides where an unseen power is always at work, reducing the depth of seas, and converting water into dry land—(*Quarterly Rivew, No.* 222 *p.* 486.)

The remark that has been made with regard to the ranges in the south-eastern part of Asia is equally applicable to Australia, since one of the most marked features in the geography of that continent is the uniformity that exists in the direction followed by all the continuous mountain ranges that have yet been discovered. The contrast which the volcanic islands of the Archipelago afford when compared with the continent of Australia is very strikingly presented to the view of a voyager from Port Essington, crossing for the first time the sea that separates the continents of Asia and Australia. Even before he has lost soundings on the great bank which extends from the northern shores of the latter continent, the lofty mountains of Timor rise up before him. As he nears the land the colour of the water suddenly changes from green to deep blue; he has now passed the steep edge of the bank, and is floating on the unfathomable seas which bounds the volcanic Islands of the Archipelago. On closer examination he finds that the land of Timor rises abruptly from the depths of the ocean, so much so, that from many of the precipices which overhang the sea, a line of great length will not reach the bottom, while the very few spots on which anchorage is to be found are so close to the shore as to be available only when the wind blows from the land. And to complete the contrast, if the weather is clear we perceive that one of the mountains near the east end of Timor is an active volcano. The chain of Islands which extends from Java to Timor is of the same character; lofty volcanic peaks, some in a state of activity; while the islands are separated from each other by narrow channels of unfathomable depth, through which the current from the Pacific, caused by the prevalence of easterly winds, rushes with great force; but on passing these the voyager again perceives a change in the colour of the sea from deep blue to green, and, on sounding, he finds a bottom of stiff clayey mud, resembling exactly that of the bank which fronts the northern coasts of Australia, he is now on the great bank which extends from the south-eastern extremity of Asia far into the seas of the Indian Archipelago. The Islands now lose their volcanic character, and on arriving at Singapore, near the extremity of the Malay Peninsula, the general resemblance of the country to that in the neighbourhood of Port Essington is sufficient to strike the most careless observer. The land low and undulating; the shore with red cliffs alternating with sandy beaches; even the rocks of the red iron-stone,

known to Indian geologists by the name of laterite, are perfectly in character with the country of the Coburg peninsula, and even on closer examination little difference can be discovered except in the vegetation.

Five-sixths of the whole Archipelago are claimed by the Dutch as their own possession. (*Moniteur des Indes*) Sumatra, Babi, Nias, Mintao, the Pora Isles, Poggi, and the Enganos, Java, Madura, Bawecan, the Kangeang, Banka, Biliton, Bintang, Linga, the Natunas, Anambas, and Tambetan, the kingdom of Sambas in Borneo, with the great Pontianak and Banjarmassim residencies, and the Karimata isles—Celebes, Sumbawa, Bouton, Saleyer, Amboyna, Ceram, Buru, Siam, Sangir, Talant, the Xulla and Bangaai groups, Halmahera, Obie, Batchian, Ternate, Tidor, Waigin, Battanta, Salawatte, Mysole, the Bandas, the Ki, Arru, and Tenimber, a part of Timor—Rotti, Savu, Sumba, Ende, Adenara, Salor, Lombate, Putare, Ombai, Bali, and Lombok—with the western part of New Guinea—all these are claimed by the Netherlands, and if her political supremacy were not in many of them a simple fiction, they would truly form a magnificent colonial empire. The political geography of the further East, however, is not yet accurately mapped out; nor, indeed is the region in any respect perfectly known. The recent magnetic survey has added much to science; but still more remains to be determined (*Elliot's Magnetic Survey, Phil Trans*, 1851 CXLI. 287.)

The Archipelago contains three islands, New Guinea, Borneo and Sumatra, of the first class, inferior in size only to Australia; Java takes a second place: three are of third size Celebes, Luzon, and Mindanao, each as large as the most considerable of the West India group; and of a fourth size at least sixteen, viz Bali, Lombok, Sumbawa, Chandana, Flores, or Mangarai, Timor, Ceram, Bouru, Gilolo Palawan, Negros, Samar, Mindoro, Panay, Leyte, and Zebu—most of them with spacious alluvial tracts, navigable rivers, and many natural riches. The groups and chains in which they are distributed are dispersed over narrow seas with the greater islands intervening. Innumerable channels and passages, therefore, open in every direction to the mariner,—tortuous, intricate, full of rocks, reefs, and shoals, which render them in some parts difficult of navigation. (*Groot, Moniteur*, i. 53.) They are made less dangerous, however, by the prevailing serenity of the waters, the regularity of the currents, and the steadiness of the winds, though tremendous storms, called typhoons, occasionally visit the Straits of Malacca. (*Berncastle, Voyage*, I. 274.). But over the China Sea, they are rare, and the islands of the interior region may be said to lie amid perpetual calms. The groups known as the islands of the Arafura sea, consist of the Tenimber, the Ki and the Arru archipelagos, with others of inferior significance. They are scattered over a considerable space of sea, and vary in size from seventy miles in length to mere tufts of verdure floating on the sea, like baskets of grass and flowers, crowned by tall clumps of palm, and dispersing through the atmosphere a fragrance like that of the cinnamon gardens in Ceylon. (*St. John's Ind. Archip. Vol.* II, *p.* 87.) Beyond the Archipelago, the islands of the Pacific Ocean are peopled by two races, differing widely in physical and mental qualities, one race called Papua or Melanesian has a very dark, almost black complexion, are of ungainly make with "low grade of mental faculties, savage, and for the most part incapable of civilization." They occupy the south-western islands, New Guinea, New Ireland, Louisade, Solomon Islands, Nitendy, the New Hebrides, New Caledonia with the Loyalty Islands, and the Fiji Islands. These tribes most nearly resemble the aborigines of Australia and Tasmania.

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The second race is usually designated the Malay Polynesian or Brown race. Their colour is of all the various shades of brown, they are well made, capable of a higher civilization and are fond of a sea faring life. They nearest resemble the Malay tribes of the Archipelago who dwell in Malacca, Sumatra, Java, Borneo, Celebes, the Sunda, Molucca and Philippine islands. They are distributed through the islands from the Pelew group on the west as far as Easter island in the east, the Sandwich islands and New Zealand on the south being the largest of their territories.

Over the whole vast field under examination there are but two wide-spread languages that can be said to have dialects—the Malay and the Polynesian, the latter being essentially the same tongue in New Zealand, the Friendly, the Society, the Navigators and the Sandwich Islands, but in no others. (*Journal of the Indian Archipelago*, *p.* 178.)

Ethnologists, however, have arranged this race into two subdivisions, the Mikronesian and Polynesian proper. The Mikronesian is of somewhat darker complexion and comprise the western portion of the above range of islands, from the Kingsmill group to the Pelew islands,—These more resemble the Malay race than the Polynesian. The Polynesians, comprise the eastern half from the Samoa and Tonga islands as far as Easter island, together with the Sandwich islands and New Zealand. They are so far apart as to be

regarded a separate family. Dana observes that a line drawn from the Pelew islands to the east of the Philippines, past Salomon and Samoa islands, to the north of Society Islands on to Pitcairn island, is a boundary line between the low islands or atolls of the north, and the high islands of the south. The area between that line and the Sandwich islands, is 2000 sea miles wide and 6000 miles long, is studded with 200 low coral islands, and is one vast area of depression.

In the immediate neighbourhood of this Archipelago is Australia, but its fauna differs in its types from those of all other parts of the world, in it, only, are marsupial kangaroos, opossums, wombats and the duck billed platypus. It has no woodpeckers nor pheasants, but it has the mound-making brush turkey, the honey sucker, the cockatoo, and the brush tongued lori, which are found nowhere else in the globe.

Bali, Borneo, Java, Timor, the Philippines, the Moluccas and New Guinea possess almost similar climates, but there are great differences in their animal productions. In Bali are the barbet, fruit-thrush and woodpecker. In Lombok, the cockatoo, honeysucker, and brush turkey. In Java and Borneo, are many kinds of monkeys, wild cats, deers, civets and many varieties of squirrels. In the Celebes and Moluccas the prehensile tailed cuscus is the only terrestrial animal seen except pigs and deer. In the western Archipelago are the wood-pecker, barbet, trogon, fruit-thrush and leaf-thrush, but to the eastward these are unknown and the lori and honey-sucker are the most common. But the natural productions of Borneo, Java and Sumatra, have a considerable resemblance. Sumatra has the Indian elephant, the tapir and rhinoceros; Borneo has the same elephant, and tapir; one of the Javan rhinoceros is different, but another occurs in Asia and the smaller mammals are generally the same in the three Islands. The fauna of Borneo and Celebes differ extremely, and this difference continues to the south, the line of separation passing between Bali and Lombok, though these two islands are only fifteen miles apart (*New Zealand, Dr. F. Von Hochstetter, Stuttgart* 1867.)

Sumatra was at one time known as lesser Java. In 1615, its raja or sultan of Achin was of sufficient power to collect a fleet of 500 vessels and an army of 60,000 men.

The elephant, tapir, ouran outang, argus pheasant, dragon's blood, are all wanting in Java. The Sunda ox, peafowl, rhinoceros and sloth and teak occur in Java. In Sumatra, Papilio memnon, a beautiful butterfly has two dissimilar females, one

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of them, like P. Coon, P. doubledayi and P. and rogeus occurs in India. Ornithoptera croesus occurs in the forest at Batchian. It is of great beauty and brilliancy, the male seven inches across.

Timor is dry and arid and has only seven species of land mammals, the common monkey, the parodoxurus fasciatus, a civet cat, the felis megalotis or tiger cat, said to be peculiar to the island and the Cervus timoriensis, the Sus timoriensis and the cuscus orientalis, opossum.

The Ox antelope of Celebes is the Anoa depressicornis.

There seem to be two distinct varieties of the Papuan race inhabiting the south-east portion of New Guinea. The first occupies the western shores of the great bight, and probably extends over the whole of the adjacent country, along the banks of Aird river, and the other great fresh-water channels. These people appear to agree with the Torres Strait Islander—an offshoot, there is reason to believe, of the same stock—in being a dark and savage race, the males of which go entirely naked. The second variety occupies the remainder of the south-east coast of New Guinea and the Louisiade Archipelago; they agree in being a lighter coloured people than the preceding, and more advanced in civilization:—mop-headed, practising betel chewing, and wearing the breech-cloth, in some of their physical, intellectual, and moral characters, and also partially in their language, they seemed to Mac Gillivray (voyage, vol. 1, p. 77) to shew indications of a Malayo-Polynesian influence, probably acquired before their arrival in New Guinea, along the shores of which they seem to have extended, colonising the Louisade during their progress, which at Cape Possession was finally arrested by their meeting with the other section of the race alluded to in the preceeding paragraph.

In the Island of Ansus, in the eastern Archipelago, inhabited by Papuans, their houses are built on posts, placed entirely in the water. At very low water only is the beach partially uncovered. This beach consists of mud, in which the mangroves grow luxuriantly and completely obstruct a landing. The gardens, from this cause, are situated on the surrounding islands, principally on an island with a high beach lying opposite to the kampong. The Ansus Papuans have their hair in tufts. Their appearance is good natured, faces regular, eyes beautifully black, the mouth broad with beautiful regular teeth, and the forehead high but narrow. Many have thin lips and finely curved noses, which

gives them a more European physiognomy. The men are generally handsome and well formed, stout, without being too thick, strong and muscular; the women very good looking; and some children with very regular soft faces, and long pendant curling hair.

Generally, the Papuan is impulsive and demonstrative in speech and action. His emotions and passions express themselves in shouts and laughter, in yells and frantic leapings.

Mahomedanism has made large progress in the Archipelago, but Bali is still hindu. Mahomedan Malays inter without coffin or shroud. *Elliots Magnetic Survey, Phil. Trans* 1851 cxli 287. *Journal Indian Archipelago. Macgillivray Voyage Vol. I, p. 77—8. Journal of the Ind. Arch. June* 1852 p. 330-1-2 and 3. *Wallace, MacGillivray's Voyage* vol. I p. 77. *Quarterly Review No.* 222 *p.* 486. *St. John's Indian Archipelago Vol.* ii *p.* 877. *Earl: Keppel's: Ind. Arch., Vol.* ii. *pp.* 143, 386, 389. *Bickmores Travels.* See India, Inscriptions. Siam. Sapi.

EAST ARIANS. This designation has been given to the brahminic Indians, to distinguish them from the West Arians or Persians, who migrated into the northern country of the Zend. See India p. 310.

EASTERN GHAUTS, run along the Coromandel Coast, for about 1,000 miles, from Balasore, S. W. to Ganjam; thence to Naggery, near Madras; where they join the range which crosses the country in a north-easterly direction, from the W. Ghauts, N. of the gap of Palghat. Average elevation, of the ghauts is about 1,500 ft., Cauvery hills 4,000 ft., Condapilly, 1,700 ft., W. of Madras, estimated, 3,000 ft., Hills seen from the Moghalbundi, between Pt. Palmyras and Chilka Lake, appearing in irregular scattered groups, 300 to 1,200 ft. Granite constitutes the basis of the range; and clay, hornblende, flinty and primitive slate, or crystalline limestone, forms the sides of the mountains; and the level country, as far N. as the Pennar appears to consist of the debris, when the laterite formation covers a large surface. From the Kistna, northward, the granite is often penetrated by trap and greenstone. To Vizagapatam and Ganjam sienite and gneiss predominate, occasionally covered by laterite.

EASTERN INDIA. This term is sometimes used to designate India east of the Ganges, Trans-Gangetic India.

EASTERN MEDES, and Parthians were the two races who occupied Aria proper N. W. from India about the Arian lake. Subsequently, Medes, Persians and the tribes between the Medes and Indus were to some extent brought under one dominion and Arians stretched loosely from the Indus to the Caspian Sea. *Cal. Rev. No.* 64. See Hindoo.

EASTERN MELANESIA, a name proposed by Mr. Earl for the part of the Eastern Archipelago, east of the Moluccas. See India p. 318.

EASTERN NUMISMATICS, a branch of science carefully examined by Mr. James Prinsep.

EASTERN SIBERIA, its capital is Irkutsk.

EASTERN VINDYAH hills are occupied by the Kol and Male Uraon races. They are physically ultra Indian more than Dravidian.

EAST INDIA COMPANY. Of these, in the South and East of Asia are two great names known in history, the one, the English East India Company, the other the Dutch East India Company. There was a French East India Company, but it never became prominent.

The English East India Company was formed in 1599 by Royal Charter, with a capital of £30,133. Their first adventure of goods was to the value of £37,000 in five vessels under Captain Lancaster, and in the first fifteen years, their profits were to the extent of two hundred per cent. In 1613, they were ordered by Jehangir to settle in Surat. In 1634, Shah Jehan gave a firman for two English factories to be formed in Bengal, and subsequently, in gratitude for the benefits derived by one of the ladies of the zenanah of prince Shujah, from the medical skill of Mr. Boughton, Shah Jehan granted the privilege to the English of free trade in Bengal. The first factory of the Company was at Masulipatam, but, in 1625, it was removed to Armegon, and subsequently (1639) Mr. Day removed it to a village in the territory of the Rajah of Chandragiri. He erected a factory here, which was first called Fort St. George, but afterwards known as Madras. In 1662, Charles II ceded Bombay to the Company. In the time of James II the Company in 1690 obtained the king's permission to send Admiral Nicholson with 12 ships of war, 200 pieces of cannon and 600 men, to seize and fortify Chittagong and establish a kingdom, but this proved a failure, and fresh troops were sent out under Captain Heath, who burned down Balasore and proceeded to Chittagong. But finding this too strong, he sailed to Madras, which, with Bombay, were the sole possessions remaining to the English. But at this time Aurungzebe accepted the terms of peace which the English offered and allowed them to return to trade. Accordingly Mr. Char-

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nock on the 24th August 1690, landed on the left bank of the Hooghly and laid the foundation of Calcutta. In 1698, the three villages of Calcutta, Chuttanutti and Govindpore were purchased for Rs. 16,000, and shortly after, during the reign of William III of England, the fortress of Fort William was erected. About this time, 1693, a rival English Company was started, from which much injury resulted to the English interest; but on the 22nd July 1702, these two companies were amalgamated under the title of the United Company of Merchants trading to the East. Little of interest occurred till 1715. In that year, an embassy was sent to the emperor Ferokhsir at Delhi. But, from the date of that small factory granted in 1613 at Surat the English East India Company grew in India up to 1858. In that time they decided the fate of kings, emperors, rajas, and maha-rajahs and had drawn under their rule upwards of a hundred millions of people. Clive and Warren Hastings, and Malcolm and Munro and Frere and Metcalf, and Lawrence and Napier had grown in their service to be great men, while Wellesley, Wellington, Hastings, Cornwallis, Harris, Bentinck, Dalhousie, Canning and Gough and Campbell and Rose, and Mansfield, servants mutually of the British nation and of the Company had risen to distinction in India. Their dominion and their great army of 300,000 soldiers was at length, in 1858, absorbed under the administration of the British Crown, consequent on a great revolt of the native sepoy army of Bengal, during which, the predatory races of the north and the dissatisfied amongst the nobles, took the opportunity to plunder and strive for independence, and during their efforts much innocent blood was shed and many horrors enacted. In the interval, however, amongst the servants of the Company, there had been Lord Clive, Lord Cornwallis, Sir Eyre Coote, Colonel Lawrence, Warren Hastings, Marquis Wellesley, Duke of Wellington, Sir David Baird, Sir John Malcolm, Sir Thomas Monro, Sir David Ouchterlony, Sir Lionel Smith, Lord Metcalf, Sir Henry Pottinger, Lord Hardinge, Lord Gough, Lord Keane, Lord Amherst, Lord Combermere, Lord Lake, Lord Harris, Sir Alexander Burnes, Sir Robert Sale, Sir Henry Lawrence, Sir Charles Napier, Colonel Neill, Mr. Thomason, General Sir James Outram, Colonel Havelock, Lord Dalhousie, Lord Canning, Hon'ble Mount Stewart Elphinstone, Sir Hector Munro, Lord Teignmouth, Sir Bartle Frere, Sir G. R. Clerk, Lord Combermere, Sir William Jones, Sir James Annesley, Sir Achibald Campbell, Dr. Royle Mr. James

Prinsep, Lord Bentinck, Marquis of Hastings, Dr. Roxburgh, Dr. Morrison and his son. Sir W. O'Shaughnessy, Dr. Griffiths, Sir Whitelaw Ainslie, Dr. Jerdon, Dr. Wight, Sir Henry Durand, Sir Robert Montgomery, Sir Donald MacLeod, Lord Macauly, Lord Lawrence, Lord Napier of Magdala, Dr. J. B. Gilchrist, Sir Herbert Edwards, Dr. Crawfurd, Dr. Wilson, Sir Stamford Raffles.

During their rule, of a century and a half, the British put down predatory warfare.

They established security of person and property from Governmental aggression.

They introduced civil and religious liberty, instituted colleges, schools, museums and polytechnic Institutions for the introduction of a pure and rational philosophy, and the dissemination of knowledge.

They instructed its youth in the knowledge of the medical sciences.

They gave the freedom of the press.

They formed and introduced the Hindustanee language as a lingua franca; the English language was made known to them: Molesworth's Mahratta dictionary, and the works translated and published, by Colonel Jervis and others: Morris' Telugu Dictionary, Campbell's Telugu Dictionary, Gilchrist's Hindustanee Dictionary and Grammar, Shakespear's Hindustani Dictionary, have been published, Richardson's Burmese Dictionary, Morrison's Chinese Dictionary, and works on botany, natural history, medicine and physical science.

They established printing.

They translated into many languages—the Bible, a book of pure morals.

They abolished mutilation and sanguinary punishments.

They abolished slavery in parts of India.

They abolished Suttee, human sacrifices and infanticide.

They put down Thuggee and its kindred iniquities.

They placed the remotest parts of India in communication with the whole civilized world.

They abolished transit duties.

They formed roads on a scale unknown to India under any previous Government.

They gave India the benefits of steam communication on its shores and rivers, and railroads.

They introduced agricultural and horticultural societies for the improvement of cultivation and produce.

They established Commercial Chambers and Banks, and displaced the innumerable coins of its former rulers by a new coinage.

They formed great dams over wide rivers and excavated great canals for irrigation and traffic.

They formed a great and cheap army, about 300,000 strong, from amongst the conquered races, and with them they made fresh conquests in India, in China, in Sind, in the Punjab, in Aden, in Burmah, in Assam, in Arrakan and Tenasserim.

They formed a powerful Navy, which gave to the Government a great influence over the lawless tribes that fringe the neighbouring coasts, their services mostly lay in the Red Sea and the Persian Gulf, and its cost was supposed to be greater than the British Navy could do their work, but the work of the Indian Navy was partly war, partly political and partly scientific, and they did thoroughly and well whatever fell to them to perform.

Their Courts of Sudr and Foujdari Adalat, their Supreme Courts of Judicature with Judges and Session Judges throughout the land administrating to each race their own laws and a great body of magistrates, and Courts of Small Causes furnished the people with the means of obtaining justice, and gave the Government the means of repressing crime, with the blessing of internal peace and progressive civilization.

The service of the State was open to every Indian race, it having been provided by Acts 3 and 4 W. IV. c 85 p. 87, "That no native of the said territories nor any natural born subject of His Majesty resident therein, shall by reason only of his religion, place of birth, descent, colour, or any of them be disabled from holding any place, office or employment under the said Company.

The English East India Company began as peaceable merchants, but, as is the custom of the east in all countries without police, they retained armed guards over their factories which led on the one hand to defensive and aggressive acts and on the other tempted needy soldiers of fortune to try to plunder them or to seek their aid; acts which led them by degrees to the acquisition of vast territorial possessions. Their first charter was obtained from Queen Elizabeth in 1599. Their 2nd Charter in 1661 from Charles II was extended in 1665. In 1702, Lord Godolphin united the old company with a new one that had been established in 1698, and renewed their charter in 1773, with a grant of a monopoly to China, again renewed in 1813 with permission for other merchants to trade, but a fresh charter in 1833, disconnected them, wholly from commerce, made them entirely a political body and permitted British subjects to settle in India. In the beginning of 1857, on a sudden moving of the soldier races, the Native Army of Bengal revolted and the soldier and predatory races in great portions of northern India rose in a rebellion, which was only suppressed with great loss of life and at great expense of money, and it was deemed advisable for Her British Majesty in 1858 to assume the direct government of the country, and to rule through a Viceroy, the first of whom was Lord Canning who was succeeded by Lord Elgin, by Sir John Lawrence and Lord Mayo.

EAST INDIES, this term is used to distinguish the tropical countries in the Eastern parts of the world from the West Indies, composed of the islands lying in the tropics between North and South America. The term East Indies is also used by the British, the Dutch and Spaniards to indicate their territorial possessions in the East. The West Indies belong principally to Great Britain, but to possess the East Indies has been an object of ambition to western races prior to historic times. The first great inroad of strangers was that of the Eastern Arians about 1,500 years before Christ who now form the brahminical tribes of British India, intellectual men, but without territorial possessions. Semiramis B. C. 1,200 moved with a great army, and entered India from the N. West, but was defeated and driven back with great slaughter. Alexander of Macedon approached India from a similar N. W. route but he stopped short in the Punjab, moved southwards along the right bank of the river Indus and then crossed the southern desert to Babylon where he died. Many Scythic races, of whom, however, little is known, appear to have entered India, in the neighbourhood of the modern Surat, in the early centuries of the Christian Era. After the time of Mahommed, the Arab khalifs who succeeded him, mahomedans from Ghazni, from the vicinity of the Oxus and from Persia obtained possession of great parts of the country now designated British India, the British being the present occupant of all the lands which previous conquerors obtained.

The Dutch East Indies or as that nation calls it, Netherland India are comprised in the great islands of the Eastern Archipelago, from Sumatra Eastwards. They lay claim to be the rulers or paramount power of $\frac{5}{6}$ of the whole Archipelago.

The Spanish East Indies are chiefly the Philippine Archipelago. The chief town of Manilla, was founded in A.D. 1581, and they have continued in undisturbed possession ever since. See Archipelago, Eastern Archipelago.

EAST INDIAN, this term has lately been adopted by all classes in India, to distinguish the descendants of Europeans and native mothers. The terms Eurasian and Indo-

Briton, were for a short time in use, but have ceased to be employed, other names such as Half-Caste are used by the British, Chatikar and Chi-Chi by the hindus and mahomedans of India, but these are derogatory designations. Chatikar, is from Chitta, trowsers, and Kar, a person who uses them. The mahomedans equally wear trowsers, but concealed by their long outer gowns. They are also known as Farangi, a person of Europe, similarly as Hyderabadi, Bengali, and Hindustani are employed for natives of Hyderabad, Bengal or Hindustan. The humbler East-Indians if asked their race reply that they are Wallandez, or Oollanday which is a modification of Hollandais the name having been brought down through the seventeenth and eighteenth centuries from the Dutch who were amongst the first who trafficked with the East.

They have in India all the rights and privileges of Europeans, and might advantageously be so styled. They are of French, Dutch, Danish, Portuguse and British descent, but many of those claiming a Portuguese origin, Xaviers, DeCastellas, &c., are merely descendants of converts to christianity or of household slaves of Portuguese officers. East Indians are chiefly employed as clerks in public offices in all the subordinate departments of the British Government.

EASTWICK, Captain Edward H. Bombay Army, Assistant Political Agent, Kattywar, Scinde, 1839-1842; was Professor of Hindi, Hindustani, and Mahratta, Haileybury. Author of Vocabulary of the Scindi language,—Dry leaves from Modern Egypt. Lond. 1847, 8vo.; 2nd Ed. 1852, translator of Bepp's "Comparative Grammar," and of various standard Hindustani and Persian works, editor of the entertaining and instructive "Autobiography of Lootfullah," which affords a remarkable picture of the inner life of a Mohammedan and of the manners, customs and modes of thought of the natives of India. Reported on the Revenues of Khyrpoor. On the pedigree of the Amirs of Sindh, published in Parliamentary paper. Translated the Kisso-i-Sanjan; also of the Zar-tushtnamah; Wrote on Alore and Rohri; Translated Schiller's Revolt of the Netherlands; Memoir of Pir Ibrahim Khan. Translated Bagh-o-Bahar, Anwar-i-Soheili, Gulistan. Author of Hand-book of India. *Dr. Buists' Catalogue.*

EASTWICK, J. B. A Bombay Military officer, author of a Vocabulary of the Scinde language.

EASTWICK, Capt. William Joseph, Deputy Chairman of the East India Company, is a son of R. W. Eastwick, Esq., of Thurloe-square, Brompton. He was born in 1808; was educated at Winchester College, and went out to Bombay as a Cadet in 1827. His first service was with the field force under General Welsh, at Kolapore, and in the Southern Mahratta Country. He was transferred to the political department as First Assistant to the Resident in Scinde. In that capacity, he was attached to the army of Lord Keane, and in 1838 accompanied it through the territories of Lower and Upper Scinde. Under the orders of Sir Henry Pottinger he was intrusted with the negotiation of the treaty of 1839 with the Ameers of Hyderabad, by which the Indus was thrown open to commercial enterprise, free of all imports and vexatious interference. During several months he held political charge of the disturbed districts at the foot of the Bolan Pass, constituting the base of British military operations in Affghanistan. Finally, he was appointed Acting Resident in Sind, and received the official approbation of the Governor-General for the manner in which he conducted the important duties intrusted to his charge at Hyderabad. In 1847, Captain Eastwick was elected to a seat in the East India Direction, and in 1858 was appointed to the office of Deputy Chairman.

EASTERN PENINSULA, a term frequently employed to designate the Malay peninsula, to distinguish it from the Western or Indian peninsula. Further west in the south of Asia, is the Arabian peninsula, and in Eastern Asia are the peninsula of Corea and peninsula of Kamtkatska.

EAST INDIA TACAMAHACA RESIN. See Calophyllum.

EATABLE HIBISCUS, Abelmoschus esculentus. W. and A.

EATCHAM PALLAM. Tam. Elate sylvesters.

ETTI MARAM or Vitti mabam. Tam. Dalbergia sissoides.

EAU DE COLOGNE, a refreshing perfume, largely imported into India from Europe, where it is manufactured. It has in a minor degree some of the qualities of chloroform. The most celebrated manufactory is that of Ferina in Cologne, but much that is spurious is sold.

EAU DE CREOLE, a spirit distilled from the Mammee apple or wild Apricot of South America. See Clusiaceæ.

EAU DE RAZE. Fr. Turpentine oil.

EAU DE VIE also BRANDEVIN. Fr. Brandy.

EAU REGALE. Fr. Nitro-Muriatic acid.

EBBENHOUT. Dut. Ebony.

EBENACEÆ. See Diospyros melanoxylon.

EBENE. Fr. Ebenholz. Ger. Ebeno. It. Rus. Ebenus. Lat. Ebony.

EBIL. Ar. also Hilbuia. Arab. Cardamom.

EBONY.

Kondu,	Beng.	Abnus,	Mahr.
Yendike,	Burm.	Kaya-arang,	Malay.
Tai,	„	Abnus,	Pers.
Ebben-hout,	Dut.	Ebenowoedcrewo,	Rus.
Ebene,	Fr.	Kalu vere,	Singh.
Ebenholz.	Ger.	Kaka tatee.	Tam.
Abnus,	Guz.	Atcha maram,	„
Ebenos,	Gr.	Atcha manu,	Tel.
Hobnem,	Heb.	Tookee,	„
Tendua,	Hind	Nalla toomi kara,	„
Abnus,	„	Toombi kara,	„
Ebeno,	It.	Toomi-chava kara,	„
Kaya-arang.	Jav.	Toombika,	„
Ebenus,	Lat.	Abnus,	Uria.
Tendua,	Mahr.	Tendua,	„

A black wood, exceedingly hard and heavy, of great durability and susceptible of a high polish. It is exported from Upper Egypt, Abyssinia, Zanzibar, Madagascar, Mauritius, Ceylon, India, and Jamaica. The ebonies of South-Eastern Asia, are obtained from several species of Diospyros, Dalbergia, and Bauhinia, from trees growing in the Mauritius, Ceylon, in several parts of the Peninsula of India, in Coimbatore, Malabar, Canara, the Dekhan, in the Circars, Ganjam, Cuttack and Gumsur, also in Assam, the Malay peninsula, in Penang, Siam, and eastwards through the Asiatic Archipelago to the Philippine Islands. The true ebony is so deep a black, as to be used to personify blackness. But, woods sold under this name have also reddish, greenish or yellowish hues, and are distinguished in commerce as red, green and yellow ebonies, though these are in much less esteem than the ebonies which are jet black, free from veins, and close-grained. The jet black kinds are solely employed for ornamental furniture, cabinet and turnery work, rulers, and for handles for doors, knives, piano-forte keys, philosophical, musical and surgical instruments, mosaic work and inlaying, though cheaper woods, dyed black, are frequently substituted: but it is much affected by the weather, on which account it is seldom used in the plank solid. It is first mentioned in Ezekiel xxvii, 15: but in the plural, when the men of Dedan are described as bringing horns of ivory and ebony. Herodotus (iii, 97) mentions ebony as part of the presents brought in considerable quantities to the king of Persia by the people of Ethiopia, and Dioscorides describes two kinds, one Ethiopian which was considered the best and the other Indian which was intermixed with whitish stripes and spotted. But there are ebonies in the Mauritius, Ceylon and the south and east of Asia, equal to those of any other part of the world. The ebony in the south of the peninsula of India, is chiefly obtained from Coorg and Canara, from various species of Diospyros and is of a superior description, being perfectly black in colour. Smaller pieces are procured from Cuddapah, Salem, Nuggur, &c., but there is no steady demand, though, for ornamental cabinet work, it is peculiarly fine veined. That of Ceylon, from the Diospyros ebenaster, is of great value. And another heart wood, that of the Kadoem beriye or Bastard ebony of Western Ceylon, also from species of Diospyros, is occasionally met with of extraordinary beauty. The ebonies of the Palghat and Coimbatore districts, are supposed to be from species of Diospyros (ebenaster) and Bauhinia. In none of the trees, is the entire bole black, only the heart wood, the outer and white wood being the Tendua of the Mahrattas. The ebony tree of the Malabar forests, Diospyros melanoxylon, is also found sparingly in those of N. Canara below the Woolwa Ghat and near Meerjan inland. It is procurable, of a very superior quality, in the hill zemindaries of the Northern Circars, particularly in the Ganjam district: also, inland from Ellore in the Masulipatam district, logs of Diospyros ebenaster yield an ebony richly variegated with bright brown stripes and mottled, similar in appearance to Calamander wood, which, also, is from species of Diospyros. The Karens have distinctive names for four different species of Tenasserim ebony trees —the salt water swamp ebony, the water ebony, the yellow ebony, and the true ebony. Dr. Mason never met with the trees in flower, so as to be able to distinguish the species of Diospyros to which they belong, but had seen specimens of the wood in the southern provinces, not inferior to the ebony of commerce. Also, under the Burmese name of "yendaik," the wood of two different trees is sometimes seen. One, a species of ebony, and the other a leguminous tree, which, according to the descriptions of the Karens, is a species of dalbergia, and the wood resembles the blackwood of Hindostan. There is an inferior kind of ebony often seen at Moulmein, which the natives do not call by the same name that they do the trees which produce the good ebony, though evidently a product of the same genus. It also is from a species of Diospyros, Moulmein ebony. A similar wood at Tavoy is often denominated "iron wood." The Burmese ebony, known as "Tai" is found in the direction of Shooay-

Geen, but is very scarce. Ebony sells in England at £5 to £10 a ton.—*Drs. Gibson, Wight, Mason, Tredgold, Holtzappfel, Faulkner, Crawfurd, Thwaites, Voigt, Captain Dance, Mr. Rohde, Eng-Cyc.*

ECAILLE DE TORTUE. Fr. Tortoise-shell.

ECAN-LEDA. Malay. Pleuronectes solea.

ECBATANA, lay near the Zagros mountains. It was also called Achmetha and was the chief city of Media. According to Herodotus, Ecbatana was built near the close of the eighth century, B. C., by Dejoces, the founder, or (as other authors say) the restorer of the Median monarchy. But the orientals, according to Diodorus Siculus, claimed a far more ancient origin for it. They not only described it as the capital of the first Median monarchy, founded by Arbaces, but as existing prior to the era of Semiramis. That queen in the course of her royal progress, arrived at Ecbatana, a city situated in a plain, and there built a magnificent palace. In it Alexander deposited the treasures taken from Persepolis and Pasargada, and one of the last acts of his life was a royal visit to Ecbatana. It was originally the capital of Media, and seems greatly to have surpassed the other cities, Williams' (*Essays p.* 9.) affirms that the ancient Ecbatana, the capital of Media, is the modern Ispahan, the capital of Irak Ajami. But Sir William Jones, and the great French orientalists, place Ecbatana at Tauris, and Galius, who has been followed by D'Anville, and later geographers, at Hamadan. Media for the most part, is high and cold; such are the mountains to the east of Ecbatana, the mountains near Rhagæ and the Caspian Gates, and thence to Matiana and Armenia." *William's Essays pp.* 2-67. *Strabo. lib.* xi. *Cap.* 13.

ECHALAT. Kassia. Nerium piscidium, Roxb. Syn. of Echaltium piscidium.—*Wight.*

ECHALTUM, Syn. piscidium.—*Wight.*

Nerium piscidium, Roxb.
Wrightia, piscidia, G. Don.

Bark yields a useful fibre: steeped in water the fishes die. *Voigt.*

ECHENEIS NAUCRATES. The Indian Remora or sucking fish.

ECHENEIS REMORA. Linn. The Remora or sucking fish, which is usually found attached to the shark. They are 6 to 12 inches long. Macgillivray says at one place (p. 237-8) that he had never before seen the sucking-fish (Echeneis remora) so plentiful; they caused much annoyance to the fishermen by carrying baits off hooks, and appeared always on the alert, darting out in a body of twenty or more from under the ship's bottom when any offal was thrown overboard. *Macgillivray, Voyage, Vol.* I *pp.* 237-8.

ECHINODERMATA. See Holothuriadæ.

ECHINOPS ECHINATUS,
Camel Thistle. *Hind.* Oont-katara.

Very common in Rajwarra: camels consume it readily. This plant is said to be a native of Mysore. Dr. Hoffmeister has enlisted this plant among the flora of the villages from the Errengkhal pass to Shipkie in Chinese Tartary. *Roxb. Fl. Ind. Gen. Med. Top, p.* 206.

ECHITES, a genus of shrubs and trailing plants of the natural order Apocynaceæ, of which Voigt mentions E. apoxys and E paniculata, Roxb. of Silhet, E. caryophyllata, of the peninsula and Bengal, and E. cymosa of the Khassya hills. There are above 60 species of this genus. They are dangerous lactescent plants, of no known use. Dr. Wight, in Icones, gives acuminata, antidysenterica, caryophyllata, cymosa, dichotoma, frutescens, hircosa, macrophylla, marginata, paniculata, parviflora, scholaris, venenata.—*Eng. Cyc. p.*487. See Caoutchouc.

ECHITES ACUMINATA, a climbing shrub with white flowers and habit as the next.—*Riddell.*

ECHITES ANTIDYSENTERICA. Roxb. Syn. of Holarrhena antidysenterica.—*Wall.*

ECHITES FRUTESCENS. Roxb. Syn. of Ichnocarpus frutescens.—*R. Brown.*

ECHITES MALABARICA. Lam. Syn. of Chonemorpha malabarica. Don.

ECHITES SCHOLARIS. Linn. Syn. of Alstonia scholaria.

ECHITES SPINOSA. Burm. Syn. of Carissa carandas.—*Linn.*

ECHIUM GRANDIFLORUM, one of the Boraginaceæ.

ECITON, a genus of ants, several species of which are found in India.

Eciton ? rufonigrum, Worker, length about 11-24th of an inch; is very common in the Carnatic, makes its nests in holes of trees, old palings, bamboo rafters and such like; it does not care for sweets, is never seen on flowers, but devours dead animal matter. It stings very severely.

Eciton nigrum, Worker, length 9-24th of an inch, rare in Malabar, but tolerably common in parts of the Carnatic; same habits as the last. Females winged.

Eciton rufipes, Worker, length 11-48th of an inch.

Eciton minutum, Worker, about 1-6th of an inch long, found in the Carnatic and in Malabar, on trees. *Jerdon.*

ECLIPSE

of the sun—nay-kyat-hgying. Burm.
of the moon—la-kyat-hgying. „
Girhan, HIND.

Amongst hindus, of ordinary education, an eclipse is still considered to be caused by a snake's endeavouring to eat up the luminary. The hindu myths on this point vary ; but usually the "Iraku" or black and "Keathu" or red snakes, two giants with snake heads, who seized the Ambrosia, are mentioned. On the morning of the eclipse of the sun in 1868 the Lucknow train conveyed into Cawnpore no less than 27,000 passengers to bathe in the Ganges.

EDAGAI, also called the Eda-gai kulu and Idangai, form the great left-hand division amongst the Dravidian people of the south of India. See Caste.

EDAKULA ARITI. TEL. Alstonia scholaris.

EDAKULA MANDULA MARI. TEL. Vitis pedata.

EDAKULA PALA. TEL. Also Edakulu Ponna. TEL. Alstonia scholaris.

EDANAH. The Tamil name of a Malabar tree that grows to about forty feet in height, and two feet and a half in diameter. Its wood is very soft, and not durable: it produces a sort of gum, or resin, like the Payani. The wood is used for catamarans, rafts for heavy timber, canoes, spars for sheds, and other purposes.—*Edye, Forests of Malabar and Canara.*

EDAVADA. TEL. Alstonia scholaris.

EDDELLAH, the Malayala name of a tree which grows to about thirty feet high, and twelve inches in diameter. It is used in boats and country vessels; and is designated jungle wood. In consequence of its scarcity it is not much known or used.—*Edye Malabar and Canara.*

EDDI. TEL. Andropogon contortus.—*Beauv.*

EDDO, the name by which the esculent Caladium is known by the natives of the Gold Coast. See Colocasia.

EDDU MATTA CHETTU. TEL. Nelsonia tomentosa. *Dietr.* Syn. of Justicia tomentosa.—*Roxb.* The name signifies "bullock-trampled plant."

EDDU MUKKU DUMPA, TEL. also Eddu mutte dumpa. Pouzolzia tuberosa. The meaning of the Telugu words is bullock-muzzle plant.

EDDU NALIKE CHETTU. TEL. Elephantopus scaber.—*Linn.*

EDDU TOKA DUMPA. TEL. Dioscorea glabra.—*Roxb.*

EDEN, a Hebrew word, signifying "pleasure" or "delight," was made the name of several places, remarkably fruitful in their soil. The first is that province which the prophet Amos seems to notice, ch. i. 5, when he divides Syria into three parts, viz:—Damascus, the Plain of Aven, and the House of Eden, called Cœlo-Syria, or the Hollow Syria, because the mountains of Libanus and Anti-Libanus enclose it on both sides, and make it to resemble a valley. The second place wherein several learned men have sought for the country of Eden is Armenia, between the sources of the Tigris, the Euphrates, the Araxes, and the Phasis, which they suppose to be the four rivers specified by Moses, (Gen. ii. 10 &c.—See Paxton's Illustrations of the Scriptures.) The third place, which some have fixed on as the country of Eden, is Chaldea, not far from the banks of the Euphrates,—a country remarkable for its extreme fertility. Babylon has also been so named Aden ; also Ceylon with its Peak and Bridge. The Eden mentioned by Ezekiel as a great commercial place is supposed by some to be the modern Aden ; but it presents no signs of ancient grandeur. Eden is also supposed to have been in High Asia, between the common sources of the Jihun and other grand rivers where there is abundance of the *Ficus Indicus* or bur-tree, sacred to the first lord, Adinath or Mahadeva. Milton uses this tree to describe when (*Paradise Lost Book IX*). Adam and Eve

" both together went
" Into the thickest wood ; there soon they chose
" The fig tree ; not that kind for fruit renowned,
" But such as at this day, to Indians known.
" In Malabar or Deccan, spreads her arms,
" Branching so broad and long, that in the ground
" The bended twigs take root, and daughters grow
" About the mother tree, a pillar'd shade
" High overarched, and echoing walks between.
" There oft the Indian herdsman, shunning heat,"
" Shelters in cool and tends his pasturing herds.
——" Those leaves
" They gathered, broad as Amazonian large."

Tod's Rajasthan. Vol. I p. 23. *Robinson's Travels. Vol. II p.* 337. See Adam.

EDESA, now called Orfa, was the Ur of the Chaldees whence Abraham removed to Haran. It is a city on the Euphrates where Christian, Jewish and Buddhist tenets were discussed. Here Ephraem Syrus taught and Syriac translations were made of the Greek and Christian works which have preserved to us the original. *Max Müller.* See Semitic races. Sarug.

EDGWORTH, M. P. A Bengal Civil Servant, author of several articles on Botany and kindred scientific subjects, in the Bengal Asiatic Society's Journal.

EDGEWORTHIA BUXIFOLIA. FALC. of the tribe Theophrastæ, yields an edible fruit of Kabul, unknown in England.

EDGWORTHIA CHRYSANTHA grows in great abundance in China.

EDGEWORTHIA GARDNERI, is a beautiful shrub, with globes of waxy cowslip-coloured, deliciously scented flowers. This plant is allied to *Daphne*, from bark of which the Nepal paper is manufactured.—*Hooker Him. Jour. Vol.* I. *page* 205.

EDIBLE HIBISCUS. Eng. Abelmoschus esculentus—W. & A.

EDIBLE bird nests are made by the Collocalia brevirostris, McLelland: C. nidifica, Gray. These are found in the caverns of the limestone cliffs, throughout the areas of simple upheaval but not elsewhere; so that this singular production, which from its value is well known to those engaged in the commerce of the Archipelago, furnishes one of the best tests for deciding the character of the regions in which it is found. In Java they are sold at from £500 to £583 per pecul. of 183⅓ lbs. avoird. See Birds' nests.

EDIBLE SEA-WEED. Plocaria candida. Fucus amylaceus.

Kyouk-pwen. Bur | Agar Agar. Malay.

A sea weed, abundant on the Tennasserim coast, and exceedingly valuable for its nutritious and medicinal properties for invalids. It was first brought to public notice by Dr. O'Shaughnessy as the edible moss of the Eastern Archipelago, and referred by him to the genus fucus. The fructifications however being in small tubercles, the Rev. Mr. Mason considers it as a species of Agardhs genus, Sphœrococcus, which now constitutes a member of the genus Plocaria. It is an allied genus with the Ceylon moss (Gigartina lichenoides) first described as Fucus amylaceus by Dr. O'Shaughnessy, the Plocaria lichenoides of Mr. Mason; also with a species found on the coast of Devonshire in England, Pl. compressa: with the Corsican moss of the Mediterranean, P. helminthochorton: also with the Agar-Agar Pl: tenax: but differs from the Irish moss or Chondrus crispus: and is not of the same natural family as the Iceland moss which, indeed, is a lichen, the Cetraria Islandica. The Tenasserim moss is said to be superior to all others, as it is wholly free from the bitter principle which renders other fuci so objectionable; but Mr. Mason seems to consider it almost identical with the Ceylon moss, for he gives the same account of it as Dr. O'Shaughnessy gives of that from Ceylon. It contains he says a considerable proportion of starch, and was hence named by Dr. O'Shaughnessy, the starch fucus, F. amylaceus, but his specific name has been since changed to *candida*, white, probably from a mistaken idea that the substance is naturally white, whereas it becomes so only by bleaching in the sun; its natural tint is a shade between olive and purple, such as the natives designate red. According to Dr. O'Shaughnessy's analysis 100 parts contain—

Gum	54·0	Iron, a trace	1·4 ?
Sulphate and muriate of soda ...	6·5	Vegetable jelly ...	54·5
Sulphate and phosphate of lime ...	1·0	True starch.....	15·0
		Wax, a trace	0·5 ?
		Ligneous fibre ..	18·0

The best mode of preparing it for use is to steep it for a few hours in *cold rain water*, next to be dried by the sun's rays, and *ground to a fine powder*, boil for 25 minutes or half an hour, while hot pass through muslin or calico, strain and boil down till a drop placed on a cold surface gelatinizes sufficiently. With milk and sugar, and flavour with lemon juice or sherry.—See Agar-Agar, Euchemia; Fucus, Gigartina, Plocaria.

EDIBLE ZALACCA. Zalacca edulis.

EDICTS of Asoka, these were engraved on rocks. B. C. 255. See Asoka.

EDOM, the patriarch of the Edomites was Esau, and they dwelt on the Dead Sea from which they were driven by an earthquake. They were a warlike unsettled race of Arabs whose property was in their cattle, their waggons, and what their waggons could carry. They did not cultivate the soil, nor had they any respect for a landmark. The Nabataeans were at an earlier time the tribe called Edomites. But they lost that name when they carried it to the southern portion of Judea, when called Idumæa; for when the Jews regained Idumæa they called these Edomites of the desert Nebaoth or Nabataeans. The Nabataeans professed neutrality between Antigonus and Ptolemy, the two contending powers, but the mild temper of Ptolemy, had so far gained their friendship that the haughty Antigonus, though he did not refuse their pledges of peace, secretly made up his mind to conquer them. Petra, the city of the Nabataeans, is in a narrow valley between steep overhanging rocks, so difficult of approach that a handful of men could guard it against the largest army. Not more than two horsemen can ride abreast through the chasm in the rock by which it is entered from the east, while the other entrance from the west is down a hill-side too steep for a loaded camel. Their temples and tombs were cut out of the live rock, and hence the city was by the Jews named Selah, the rock, and by the Greeks named Petra, from which last the country was sometimes called Arabia Petræa. *Bunsen, Egypt* iii. 314-431. *Sharpe's History of Egypt, Vol. I., p.* 250-51.

EDRISI the Nubian geographer visited the court of Sid Rai Jyi Singh, the ruler of Analwara Puttun, A. D. 1094 to 1145. Edrisi states that Jyi Singh was then a buddhist. Marsden says that Edrisi is improperly called the Nubian geographer, that he dedicated his work to Roger, king of Sicily, in the middle of the twelfth century, and that he describes the island of Al-Rami; but the particulars so nearly correspond with those given by the Arabian traveller, as to shew that the one account was borrowed from the other. *Marsden's Hist. of Sumatra, p.* 4.

EDUCATION in the village schools of India is usually conducted in the verandah of a house or in the open air. Schools for children are frequently held under trees in Bengal, and the children who are beginning to learn, write the letters of the alphabet in the dust. This saves pens, ink, and paper. This is the old oriental custom, and is alluded to in *John* viii. 6, when Jesus stooped down, and with his finger wrote on the ground. A general mode of teaching writing, is to write with a pencil of soap stone, on a wooden board,or on a thick paste-board stained black. The writing board in Sindh is called a Furahi; a thin board made of some hard and fine grained wood stained red, black, green, or yellow. The ink contains no mineral substance, and is therefore easily washed off, the board being smeared with a thin layer of clay and water: metal plates are sometimes used. When the pupil has become somewhat skilful in the management of his pen, he lays aside the board and uses a material called daftari. It is made of several sheets of writing paper pasted together, smeared with a composition of verdigris, and glossed with a Mohro (polishing instrument made of steel,) so that it may be washed when dirty.—(*Richard F. Burton's Sindh p.* 396.)

The education of the brahmans of India in the vernacular of their district has usually been conducted along with a knowledge of Sanscrit, and many of them have acquired a knowledge of English. The lower caste hindus have restricted their acquirements to the vernacular languages of their district and a few of them to English, a very few know Sanscrit. The mahomedans throughout India learn Arabic, Persian and a small number know English. The Mopla or Lubbi mahomedan, has the koran in the Tamul tongue. Some of the Tamul women have been learned, one was an authoress, and many of their girls are now being, sent to school. On the 29th July 1859, the Bethune School for native girls was founded at Calcutta, the most important feature in the East India Company's memorable despatch of 1854 was the measure of grants-in-aid. It offered to all schools, already existing, or that might hereafter be established, provided they were found efficient, pecuniary aid to an amount in each case not exceeding the sums arising from local sources, subject to conditions that in no way interfered with the perfectly free action of the managers of such schools, and only requiring that they should be submitted to Government inspection, with a view to ensure the secular instruction therein furnished being of a satisfactory character. It in fact threw open the field of Indian education to any one who chose to cultivate it, offering on the part of the Government to bear half the expense. The whole body of Missionaries (we speak especially of Southern India) hailed the boon with enthusiasm. They all, or with few exceptions, held out both hands to receive the proffered aid, submitting without a dissentient voice to the conditions imposed.

Education in India, up to 1867 was costing about half a million a year:

EDUR, a town in Guzerat.

EDURU BENGU. Tel. Bamboo.

EDWARDSIAA. E. hydaspica,E maderaspatana, E. mallis are shrubs of the natural order Fabaceæ. It is doubtful whether these be different species, the flowers of E. mallis are pretty and is supposed to be the second kind of Arghawan (see Bauhinia variegata) mentioned by Baber or his translator as growing at Baber's tomb at Kábul. It grows in the Punjab and on the Suleiman range, up to 8,000 feet. *Dr. J. L. Stewart.*

EDWARDES, Sir Herbert, K.C.B., K.C.S.I. born 1819, died 1868, aged 50, an officer of theBengal Army. He served under Sir Hugh Gough at Sobraon and Moodki; served under Sir Henry Lawrence in the Punjab in 1848 and 1849, aided in the settlement of Cashmir, and establishing the authority of Gholab Sing, and aided in the rescue of the British prisoners at Multan. In the revolt and rebellion of 1857-58 and 59 he served in the Punjab alongwith the SirJohn Lawrence, Generals Nicholson, Cotton and Chamberlain. His views extended to ruling India as a Christian country, and his purse and pen were ever ready to aid in extending Christianity. The Indian Council decreed a monument to his memory. He commenced a life of Sir Henry Lawrence.

EDYE, J. J. Wrote on the Native vessels of India, Ceylon, Malabar and Coromandel Coasts, Lond. Also on the Timber Trees of Ceylon and Malabar. As. Trans. vol. i. 1—

15; and a description of sea ports on the Malabar Coast, Ibid, vol. ii. 324.

By a residence of five years in India, as His Majesty's Master-ship-wright in Ceylon, he had singular opportunities of becoming perfectly informed on the subject of which he treats in his memoirs. He describes in a clear and concise manner the various vessels of the coasts of Coromandel,—*Dr. Buist's Catalogue.* Malabar and Ceylon. See Boats. Timber.

EEB, a river of the W. Ghauts, lat. 20° 50, lon. 73° 42′. W., disembogues into the Indian Ocean.—Length 70 m.

EED. Arab. There are five Eeds or festivals, held annually by mahomedans. The two principal ones are the Rumzan feast or Eed-ool-fitr and the Buqr-eed; which are Farz and Soonnut, *i.e.*, commanded to be observed both by God and Mahomed. The other three are, Mohurrum, Akhri-char shumbah and Shab-i-burat, & are only soonnut, or commanded by Mahomed. The Eed-ool-Fitr, or Ramzan-kee-Eed, is held on the first day of the tenth month Shawal.

Eed-us-Zoha, Arab. lit. Feast of day light, Eed-ul-Kurban, Eed-i Kabir. The Buqr-eed is also called the Eed-us-Zoha, Arab. lit. Feast of day light. It falls on the 10th of the month Zi-ul-Haj. It is also termed the Eed-ul-Koorban,or "the feast of sacrifice," and was instituted in commemoration of Abraham offering up his son Isaac, or as most mahomedans say Ishmael. It is also called the Eed-i-Kabir or great festival. *Herkl.*

EEDEE. Hind. School Holiday.

EEDGAH or NUMAZ-GAH, *lit.* a place of festival or of prayer; a building raised by mahomedans of India, generally without the walls of a town (often amidst gardens), erected on a platform or a pediment three or four feet above the level of the ground, and on an eminence, consisting of a straight wall with two or more minarets, and having in the centre, on a level with the ground, three steps, which forms the *mimbur* (or pulpit), from which the *khootba* (or sermon) is read on particular occasions or on particular feast days, such as those of *buqr-eed* and *rumzan-kee-eed*, which occupies from an hour and a half to two hours. It is said that the Arabian Prophet, in addressing the congregation, stood on the uppermost step; *Abu Bukur* 'his successor' on the second; *Oomur* on the third or lowest; but *Oosman*, observing that at this rate we might descend to the bowels of the earth, fixed upon the middle as the one from which to deliver the sermon; since then it has continued so. This building is merely intended as a signal post for people to assemble at to hear the *Khootba* read. A bamboo or any other post might answer the same purpose, but a brick building is usually preferred, as being more durable and affording individuals an opportunity of handing down their names to posterity, by being at the expense of erecting them. It is by no means a sacred edifice. *Herkl.*

EEG. Dan. Oak. Quercus.

ELE-GYWOT-SHA, a beast of Arracan, strips five to six feet in length, composed of several layers, of which one side is smooth and compact, and the layers on the other side thin but cancellar: all having a considerable degree of toughness.

EEK. Hind. aiso Eekh. Hind. Saccharum violaceum. Sugar-cane, a sugarcane-field. Eek hraj Hind, also Ookhraj is the day on which sugarcane is planted,and which, in Northern India, is performed with some rural ceremonies. Elliot.

EEITA. Tel. Aku. Tel. the leaf. Elate sylvestris. Eeita khallu. Tel. the Toddy Eeita pandu. Tel., the fruit.

EEL. Anguilla of Linnæus, Allaree. Tam. Eels are found in considerable quantities in the tanks, lakes, rivers and seas of the S. E. of Asia.

EERPILAKAI. Tam. Artocarpus pubescens. Wild. Its fruit somewhat resembles the Datura, and is the produce of the tree, called by Rheede Ansjeli (See Hort. Mat. Part 3rd table 32rd), who tells us that when much is eaten it is apt to produce diarrhœa, which, however, is cured by the root and bark of the same tree.—*Ainslie, p.* 240.

EESA-KHAIL,an Afghan clan,their country extends to within 30 miles of the province of Dera Ismael Khan. It is a strong and mountainous strip of land. The mountains of Eesakhail and Khussoor rise so abruptly from the Indus, that but for the access to this country on other sides it might make successful resistance. *Papers, East India Cabul and Affghanistan.* 1859, p. 22.

EESHEEGAYDUNTI. Tel. Caboose.

EESWARA MAMIDI. Sing. Xanthochymus pictorius.

EESHWA, Sans. the glorious, from Eesh, to be grand, hence Eeshwara, Sans. the glorious: Eshwari, feminine of eeshwara.

EESUN, a river in the Futtehghur district of the N. W. Provinces runs past Oomerghur in Muttra is at Talgawn, in Futtehghur, and is the river of Mynpoorie.

EETCHA MARAM. Tam. Elate sylvestris. Eetcham-elle, the leaf, Eetcham-khallu, the toddy.

EETWA, a river of Sylhet.

EEYOOHAIYER or Eeyoover, see Kummaler.

EEYUM. Tam. Lead.

EEGAN, a town of Borneo, see Kyans.

EGBATANA is the Hagmatana of the Cuneiform, inscriptions. See Ekbatana.

EGGS. Eng.

Baiza, or Baida,	Arab.	Betzim,	Hebrew.
Matte,	Can.	Unda,	Hind.
Tetti,	„	Ova,	Lat.
Gadda,	„	Matta,	Tam
Œufs,	Fr.	Gadda,	Tel.

In Chusan every spring thousands of ducks' eggs are hatched by artificial heat. The establishment is situated in the valley on the north side of the city of Tinghae. The hatching house is a kind of long shed, with mud walls, and thickly-thatched with straw. Along the ends and down one side of the building are a number of round straw baskets well plastered with mud, to prevent them from taking fire. In the bottom of each basket there is a tile placed, or rather the tile forms the bottom of the basket; upon this the fire acts,—a small fire-place being below each basket. Upon the top of the basket there is a straw cover, which fits closely, and which is kept shut whilst the process is going on. In the centre of the shed are a number of large shelves placed one above another, upon which the eggs are laid at a certain stage of the process. When the eggs are brought, they are put into the baskets, the fire is lighted below them, and an uniform heat kept up, ranging, as nearly as I could ascertain by some observations which I made with a thermometer, from 95° to 102°, but the Chinamen regulate the heat by their own feelings, and therefore it will of course vary considerably. In four or five days after the eggs have been subject to this temperature, they are taken carefully out, one by one, to a door, in which a number of holes have been bored, nearly the size of the eggs; they are then held against these holes, and the Chinamen look through them and are able to tell whether they are good or not. If good, they are taken back, and replaced in their former quarters; if bad, they are of course excluded. In nine or ten days after this, that is, about fourteen days from the commencement, the eggs are taken from the baskets, and spread out on the shelves. Here no fire heat is applied, but they are covered over with cotton, and a kind of blanket under which they remain about fourteen days more, when the young ducks burst their shells, and the shed teems with life. These shelves are large, and capable of holding many thousands of eggs; and when the hatching takes place, the sight is not a little curious. The natives who rear the young ducks in the surrounding country know exactly the day when they will be ready for removal, and in two days after the shell is burst the whole of the little creatures are sold, and conveyed to their new quarters.—*Fortune's Wanderings, pages* 76 to 81.

EGG TREE. See Dalbergia.

EGG-BEARING GOURD. Cucurbita ovifera.

EGG PLANT. Solanum melongena,—*Linn.* See Brinjal, Bayngun.

EGG SHELL CHINA, a manufacture in Japan, in the provinces of Fozen and Setsuma.

EGILBIR, Hind. Root of Datisca cannabina.

EGIN, See Mesopotamia.

EGISA. Tel. Pterocarpus marsupium. —*Roxb.*

EGMONT ISLANDS, about six in number, part of the Chagos Archipelago.

EGRET, the common name of several species of heron. In Australia, what in India we call 'White Paddy-birds' and in Britain are the much prized Egrets, have come to be denominated 'Cranes;' and the real crane of that country is known as the 'Native Companion.'

EGERTON, a Bengal civil servant, who wrote an account of his journey through Spiti, Lond, 1864.

EGYPT, in the highway from Europe to the East, is now ruled by a mahomedan, a hereditary pacha or viceroy under the king of Turkey. Egypt is one of the most ancient of the kingdoms of the world. It is probable that it has always been of the same dimensions as now, viz., about 11,000 square miles in the small strip of the Nile valley running in a limestone plain elevated 150 to 500 feet above the sea, with the great sandy tract on the east, and the African deserts on the west. Every year from unknown times, the Nile rises in June to about 30 feet, overflows its banks, from the cataracts at Syene to its seven mouths, and subsides in September. Rain falls at places, at Alexandria, in great downpours, and occasionally at Cairo and in the desert, but its fall is uncertain and reliance is not placed on it. Upper Egypt was once been called Meroe, which name was afterwards applied to Abyssinia, subsequently it was named Ethiopia, till that name also was applied to the country beyond the cataracts, and then to Abyssinia. In the language of the country Egypt was named Chemi, a word the same as Ham and Cham; in Hebrew it was named the land of Mizraim, one of the tribes of the children of Ham; and from the

Greeks it received the name of Ægyptus, Egypt, or the land of Copts; and these last two names, having once meant the Delta, were afterwards stretched southward to include the whole of the country.

The annals of Egypt begin to be credible with the accession of Psammetichus, B.C. 670. He was the first to open his country to the Greeks, and in his reign we have the first coincidence of Egyptian, Greek, Median and Jewish chronology.

We learn from the Book of Genesis that the Egyptians were a tribe from Asia, called the children of Ham; and their physical character, and habits of life, both show that they were more nearly allied to Asiatics than to the less civilized tribes of the Arabian and Libyan deserts. The single lock of hair on the young nobles reminds us also of the Tartars; while the religious dread of the sea, the sacred bull, and the refusal to eat flesh, are what we meet with among the hindoos. Their worship of the bull reminds us also of the hindu reverence for the sacred cow and for the bull Nandi the vahan of Siva. They resembled the Chinese in their syllabic writing, and like Chinese and hindus in dutifully setting out food at the graves of their fore-fathers. They resembled the hindu, or the hindu them, in their respect for the sacred animals. Whoever killed one of these intentionally was put to death; and indeed whoever killed a hawk or an ibis even by accident was condemned to die. Whenever a house was on fire the chief care of the neighbours was to save the cats, the men and women might be burnt in the ruins, but the cats were to be saved at all risk. When a cat died a natural death every inmate of the house shaved his eyebrows, and when a dog died they shaved all over. The dead cats were carried to the sacred tombs at Bubastis, where they were embalmed and then buried. In the same way the hawks were made into mummies and sent to be buried at Butos, the serpents at Thebes, the crocodiles in the Labyrinth near crocodilopolis, the ibis, that useful enemy of vermin, at Hermopolis, bulls and cows at Alarbechis, and the other animals in the other cities.

(*Sharp's History of Egypt, Vol.* I *p.* 2. *Cal. Rev. May* 1808. *Sharpe's History of Egypt, Vol. I p.* 94-95.)

Their custom of embalming the dead seems to have originated with them, the mineral pitch for it was brought by foreign traders from the Dead Sea. The skulls of the mummies agree with history in proving that Egypt was peopled with a variety of tribes; and physiologists, when speaking more exactly, have divided them into three classes. The first is the Egyptian proper, whose skull is shaped like the heads of the ancient Theban statues and the modern Nubians. The second is a race of men more like the Europeans, and these mummies become more common as we approach the Delta. These are perhaps the same as the modern Copts. The third is of an Arab race, and like the heads of the labourers in the pictures.

Its ancient history is divided into two empires, the older empire of Menes, and the middle or the Hyksos and the newer from Amos to Sheshouk. The pyramids are the principal monuments of the older, and they were built in the reign of the fourth dynasty. The old empire lasted 1076 years. The new empire began with a struggle with Asia which soon extended to Phœnicia and Mesopotamia, Damascus, Nineveh and Babylon.

The Hyksos or shepherd kings were neighbouring Semitic tribes, from the N. E. of Egypt, that is Canaanites associated with Bedouin tribes of Northern Arabia and the peninsula of Sinai. They held Memphis, but their residence was a fortified camp on the border of the Syrian desert. The ultimate fall of the newer empire was mainly caused by an invasion of the country from Palestine, in which the utmost cruelties were practised and at its close Moses withdrew into Arabia. Up to the time of Amos, the Egyptians performed human sacrifices, Plutarch quotes Manetho as saying that in Eilethya (the city of the mother of Isis,) the sacrifice of the so called Typhoneans was performed during the dog-days—viz., human sacrifices, when the ashes of the victims were scattered to the winds. Porphyry also quotes the same work of Manetho on Archiology and Devotion, to the effect that Amos abolished the practice of human sacrifices in Heliopolis. They were formerly performed to Hera, the mother of Isis. The victims were examined and a seal was affixed to them, as were the calves without blemish. Three were sacrificed daily, Amos ordered the same number of wax figures to be offered in their stead. (*Bunsen*, 165—6 *p.* iv. *passim*).

The worship of Osiris was the oldest religion, and he was worshipped as the Lord, the God and father of each individual soul, the Judge of men who passes sentence strictly according to right and wrong, rewarding goodness and punishing crime. The worship of animals was not introduced into the established religion earlier than the second dynasty, 200 years after Menes, therefore not much more than 5,000 years ago. (*Bunsen's God in History, Vol.* 1 *p.* 226.)

The sun, or Amun-Ra or Kuaph-Ra the god of Thebes, or Jupiter-Ammon as he was

called by the Greeks, was the god under whose spreading wings Egypt had seen its proudest days. Every Egyptian king had called himself the son of the sun; those who had reigned at Thebes boasted that they were beloved by Amun-Ra; (*Sharpe's Egypt.*) The Egyptian priests were the first to teach that a man does not wholly die when life leaves the body. They said that after death the soul dwelt in the bodies of other animals, and was there imprisoned for its sins during a number of their short lives, and that after thus passing for three thousand years, through the bodies of birds, beasts, and fishes, it was again allowed to take upon itself a human covering. Hence they carefully saved the dead body from decay, by embalming it as a mummy, that it might be ready for the soul to re-enter when the years of punishment had elapsed (*Sharpe's Egypt, Vol.* I p. 196.)

While Solon and Hecatæus were studying the Egyptian customs, Pythagoras, if we may trust to the slightest and most uncertain of traditions, was studying in Egypt under Œnuphis of Heliopolis. He is said to have lived twenty years in Egypt, and on the conquest of the country by the Persians to have been taken prisoner and carried off to Babylon. (*Sharpe's History of Egypt, Vol.* I p. 151.)

Their language was recorded in hyeroglyphics. The words hitherto deciphered are about 503 in number and principally independent roots which can all be traced into the modern Egyptian to about 900 words (*Bun.* I, 270.)

In their manners and customs Herodotus found the *Egyptians* unlike every thing he had been used to in Greece. They wrote from right to left. They ate their meals in the streets. The priests were shaven, while other men wore beards. Every thing was remarkable and new to him.

It was in the time of the elder Pliny that the route through Egypt to India first became really known to the Greeks and Romans. *Sharpe's History of Egypt, Vol.* I p. 3. *Pliny lib.* vi. 26.

See Java; Jews; Kali; Kama; Kartakeya; Ken; Khiraj; Kiang; Krishna, Kalusa; Mahadeva, Purana, Takya, Surya, Serpent, Siva, Varaha, Vishnu, Yavana.

EGYPTIAN BEAN, a name sometimes given to the bean-fruits of Nelumbium speciosum, Willd, from the notion that they were the beans which the disciples of Pythagoras were forbidden to eat.

EGYPTIAN HARE. Lepus Ægypticus.

EGYPTIAN LOTUS. Nelumbium speciosum. Willd.

EGYPTIAN PRIVET. Lawsonia inermis.

EHDAKL MIRZIC. Arab. Camomile.

EHRA BADRA, a name of Vira badra.

EHREE or EHROO, a river of Boondee.

EHRETIA, a genus of plants, trees or shrubs of the natural order Boraginaceæ. Voigt names E. aspera and buxifolia small trees of the south of India. E. internodia a tree of the Mauritius, E. lævis and E. serrata trees all over India, E. arenaria, *Griff* is one of the sand binding plants of the Indian coasts. The root of E. buxifolia (kuruvingi vayr. Tam. Pale ke jar, Hind.) is given in decoction as an alterative in syphilitic cachexia and its fruit is eaten. Wight gives Ehretia aspera, cuneata, lævis, ovalifolia, umbellata, viminea, Wightiana.

EHRETIA ASPERA, Roxb. A small tree of the Panjab plains, Sivalik hills and Salt Range: in times of dearth, its bark is ground mixed with flour and eaten. Its wood is valued for its hardness.

EHRETIA LÆVIS. *Roxb. Cor. W. Ic.*
Beurreria lævis, *G. Don.*

Pal-dantam, Godavery, Tel. | Seregada. Tel.
Peda pulimera, Circar |

A pretty large tree, common in the drier parts of Ceylon, in the peninsula of India, is a native of the Circar mountains, grows in Hindostan, in the Dhera Dhoon, the Kheree pass and in Bengal. It furnishes a hard valuable wood, though not of great size. which in the Circars is used by the hill people for many purposes.—*Dr. Ainslie, Voigt Thwaites, Dr. Cleghorn, Captain Beddome, Rohde M. S.*

EHRETIA SERRATA, *Roxb.*
Ehretia pyrifolia, *D. Don.*

Kala aja. Beng. | Nulshima. Nep.

A tree growing in Bengal, Chittagong the Khassia mountains, Nepal, Bhootan, and the Dehra Dhoon. It furnishes a tough light wood easily worked and durable, made into sword handles.—*Voigt.*

EHYNCHO-CINETES. See Palemonidæ.

EICHE. Ger. Oak, Quercus.

EICHELN; ECKERN. Ger. Acorns.

EICHIA MARAM. Tam. Also Eichi Wood. Anglo-Tam. Ficus t'siela.

EIDIJ, a ruined town on the Karan river in Luristan. It was also called Mal Amir.

EIGHT-FOLD OBLATION. See Hindoo.

EIK. Dut. Oak. Quercus.

EILAK. Turki. The term given by the pastoral Durani, to their summer residence. Kishlak, also Turki, being that of their winter station. See Afghan.

EILAN. Hind. Also Elaur, also Ellal, Andromeda ovalifolia.

EIMAK. An Afghan tribe, known as Firoz Kohi, after the city of that name, about sixty-three miles from Teheran, whence they were removed by Timur. The Tartar conqueror, exasperated by the depredations of the people inhabiting Mazanderan, south of the Caspian, attacked Firoz Koh, and defeated them, and they are now located in the country between Herat and Maimana. According to other authority, the Eimak is a nomade branch of the Tajik of Afghanistan; the Tajik being the descendants of the ancient inhabitants of the country. General Ferrier however observes that the races known by these names who occupied Paropamisus, are so intermingled and their origin so uncertain that to investigate them is a hopeless task. He adds that under this name are comprehended all the tribes descended from the ancient conquerors of the Paropamisus speaking the Persian language. In manners and language, and physical appearance there is a great conformity amongst all the tribes who readily combine to oppose the Uzbeks and Afghans. They are probably a great nation subdivided into small governments or republics. They lead a comparatively savage life, in great repose or in the activity of a soldier life. The Usbeks and the Afghans are civilized people compared with them. The Persian they speak appears to be exceedingly ancient, and there is but little Arabic mixed with it; they only recur to the latter on rare occasions, when their own language does not afford a word by which they can express any particular idea, the Koran is very imperfectly known amongst them. They wish for nothing beyond a tent, a horse, a wife, and plunder. They are very hospitable, and to each other faithful and devoted. Well organised, they would make excellent soldiers, especially cavalry; their arms are the lance and bow, and they have very few fire-arms. The forms of the women are large, robust, and well developed, but their beauty is mediocre, and at forty they are frequently decrepid. Though the winters in the Paropamisus are very severe, the inhabitants prefer a tent to a house, because they can more easily gratify their love of frequent change, or even comply with the necessity for it, without being obliged to leave anything behind them. The tents, made of felt woven of camels wool, are thick and impervious, and when carefully closed the cold rarely penetrates them. Their country is fertile: there are few populations in Asia more favoured in this respect. They are shepherds rather than cultivators of the soil, nevertheless they have some crops of corn, barley, maize, and a kind of millet which they consider a great delicacy. The Eimaks encamp in the plains during the winter, and in the table-lands of the mountains in the summer and autumn. They are intrepid sportsmen, and frequently neglect the small game to pursue the wild beasts which abound in their country. Ruins are frequently met with, but no inscriptions are found that can lead to any explanation of their origin. They rear camels. *Ferrier Journ.* p. 255 See Aimak; Hazara; India p. 336; Jews; Kalmuck; Kabul; Koh p. 440.

EIMLEE, a sub-division of the Tuga tribe dwelling in Husunpur, Dhubaree, Dhaka and Oojharee in the zillah of Muradabad, many of these are mahomedans. *Elliot.*

EIN. HIND. Urtica heterophylla.

EING-GYIN. BURM. Shorea robusta.

EIN-SHE-MEN. BURM. Lord of the Eastern House; the peculiar appellation of the declared heir to the Burmese throne.

EIN WIN. BURM. A tree of Moulmein. Used for all ordinary purposes of building.—*Cal. Cat. Ex.* 1862.

EISEN. GER. Iron.

EISENHOLZ. GER. Iron Wood.

EISEN-VITRIOL. GER. Sulphate of Iron.

EIZ UD DIN HUSSAIN. See Iz-ud Din Hussan.

E-JIN or EE-GIN of Malacca, peculiar grain from an undetermined plant but seemingly one of the Leguminosæ.

EJMAN. Name of an Arab tribe.

EJOO also EJU, Gomuto. A strong black horse-hair looking fibre obtained from the *Arenga Saccharifera.*

EK. Sw. Oak: Quercus.

EK. HIND. PERS. One. It enters into many compound words, as,

EK-ATASHI, HIND. also Ek-bara, in distillation, the spirit that first passes over. When redistilled, it is called do-atashi or do-bara; double distilled. Sih-atashi or thrice distilled.

EKAMRA-KANANA, SANS. from eka, one, amra, a mango tree, and kanana, a forest.

EKA DASHI, HIND. Literally one and ten, the 11th day of the moon's increase or decrease. It is one of the hindu fast days, or "Bart" *Powell.*

EK-FARDI, also EK-FASLI land yielding one crop annually. *Elliot.*

EKA-DANTA, SANS. from eka, one, and danta, a tooth a name of the hindu god Ganesh.

EKA. SANS. Chief.

EKA, a one horse shay.

EKTA. HIND. unequalled.

EKHARTHA, HIND. A one-wheel well: a domala or dohartha well has two wheels. *Elliot Powell.*

EKALBIR. HIND. Datiscus cannabinus, its root is a dye stuff: also Verbascum thapsus.

EKBEER. BENG. Helminthostachya laciniata.

EKKUDU TIGE. TEL. Cardiospermum halicacabum.—*Linn.*

EKLINGA, a celebrated Saiva temple in the defiles of the Vindhya.

EKOJI, the first of the Mahratta rulers of Tanjore. He was the son of Shah-ji (A. D. 1644), a subhadar of the Carnatic under Aurungzib, who gave Tanjore to Ekoji as a jaghire. The last of the Tanjore rulers died in 1855, and the country was annexed to British territory.

EKSHA MALL, a Nepaul ruler who in A. D. 1,600 divided Patan, Khatmandu, Banepa and Bhatgaon between his daughter and his three sons. His full name was Jaya Eksha Mall, also Jye-Kush Mull.

EKTEER, BENG. Opihioglossum reticulatum. *Linn.*

EKU DANTA, a name of Ganesa, literally one-toothed.

EL, also named Kronos, of the Egyptians according to the doctrine of Byblus, was the son of heaven and earth, he conspired against his father Ouranos. El is the root of Elohim. Bethel of Gen. xxviii, 11—19, is a compound word, Beith-El, the house of El, meaning God's house. El of the Greeks (Yl in Hebrew and Phœnician), *i.e.*, God, the strong, whence comes Elohim, literally, the gods, and the Greco-Phenician Bætylia, or sacred stones supposed to have fallen down from heaven, (Διο πετεις) perhaps aerolites which were honoured and held sacred on account of the divine power supposed to be inherent in them: whether it was a common stone or an aerolite that Jacob had for a pillow cannot be known, as he rose from his dream exclaiming (v. 17). "How holy is this place;—this is none other but the house of God, (Bait-El.)** And Jacob** took the stone that he had made his pillow and set it up for a pillar and poured oil upon the top of it and called the name of the place Bethel." *Bunsen*, IV 242-3. See Bætyli. Bait.

ELACHI, BENG. HIND. Cardamom, Elettaria cardamomum.

ELA CHEDDI. TAM. Elettaria cardamomum, Maton.

ELÆAGNUS, a genus of plants of the order Elæagnaceæ or oleaster tribe of which nine species are known to occur in the S. E. of Asia. The ripe berries of E. angustifolius are eaten in Cashmere as also are those of E. dulcis, E. conferta, E. hirtensis, E. orientalis, E. Moorcroftii has ornamental flowers. The wood of E. conferta is the winter fuel of the people of Iskardo: and the honey gathered by bees from the sweet flowers of E. orientalis is much esteemed. *Voigt, Riddell, Honigberger p.* 273. *Hooker, Him. Journ. p.* 205. *Dr. J. L. Stewart.*

ELÆOCARPUS, a genus of plants of the natural order Elæocarpaceæ of Lindley, about 40 species of which are known. E. serratus, L. is a small tree of Travancore. E. cuneatus, Wight. A tree of Ceylon and the Western coast of the Indian peninsula. In Burmah, are several species, undetermined, which the Burmese name "tau-man-gyee," "than-lwen" and "wa-hso-ben."

ELÆOCARPUS, *Species.*

Poeechandia. URIA.

A tree of Ganjam and Gumsur, of extreme height 48 feet, circumference 5 feet and height from the ground to the intersection of the first branch, 9 feet. Ploughshares are occasionally made of this wood, but it is chiefly used for firewood. The rosaries worn by the byragi and Vaishnava are made of the seeds of this tree.—*Captain Macdonald.*

ELÆOCARPUS, *Species.*

Mhaghai, BURM. ?

A moderate sized tree of Akyab, plentiful in Ramree and Cheduba; wood used for knife handles, rules, &c., and the fruit and leaves are used by the natives for food.—*Cal. Cat. Ex.* 1862.

ELÆOCARPUS. *Species.* A very large timber tree of Martaban, used for masts and house posts.

ELÆOCARPUS. *Species.* A hard valuable timber tree, very abundant in the neighbourhood of Rangoon, and not uncommon in some parts of the Tenasserim Provinces. Carts are sometimes constructed of it, and it is used in house and boat building.—*Dr. Mason's Tenasserim.*

ELÆOCARPUS. *Species.* Salwen, *Burm.* The river Salwen derives its name from a tree of that name that grows on its banks. From the character of the genus, it would probably yield useful wood.—*Dr. Mason's Tenasserim.*

ELÆOCARPUS AMŒNUS, *Thw.*

A middle sized tree of the central province of Ceylon, grows up to an elevation of 4,000 feet—*Thw. En. Pl. Zeyl. p.* 32.

ELÆOCARPUS COPALLIFERUS RETZ. Syn of Vateria Indica.—*Linn.*

ELÆOCARPUS CYANEUS. See Elæocarpaceæ.

ELÆOCARPUS GANITRUS, *Roxb.*

ELÆOCARPUS PRINOIDES.

Ganitrus sphæricus, *Gaertn.*

Rudrakaya, Beng. Duk.?	Rudrakaya, Tam.
Utrasum Bead tree, Ang-Tel.	Rudra-kai, Tam.
Rudraksha, Sans.	Rudra-challu, Tel.

A tree of Java. The seeds about the size of common marbles, are worn as necklaces by brahmins and faqueers, they are commonly called *Utrasum* beads. *Riddell. Ward's View of the Hindus, Vol.* IV. p. 371.

ELÆOCARPUS HINAU, the Hinau of New Zealand, is a large timber tree. Its berry is edible though taste harsh.

ELÆOCARPUS INDICUS. *Roxb.* A tree of Chittagong.

ELÆOCARPUS LANCEÆFOLIUS, *Roxb.*

Ootradi ke munke, Duk. | Utrasum ? Tam.

A tree of the Khassya hills, Assam, Moulmein and Java. The seeds are used similarly to those of the Ganitrus sphæricus *Royle.—Drs. Royle, Ainslie, Mason and Voigt.*

ELÆOCARPUS LANCEOLATUS. Rottl.

Utrasum, Tam. | Ootrade ke munke, Duk.

The seeds are very rough, and about the size of small nutmegs. They are brought to India from Java, of which country the tree is a native. The Saiva brahmins and pundarums, religious devotees of the Saiva sect of hindoos, and who live by alms, wear strings of them round their heads and necks and form them into rosaries. This small tree is covered over with a profusion of white flowers. *Mason, Ain.'s Mat. Med. page* 142.

ELÆOCARPUS LONGIFOLIUS. *Bl.* A tree growing on the banks of the Salwen and in Java.—*Voigt.*

ELÆOCARPUS LUCIDUS. *Roxb.* A tree of Chittagong.—*Voigt.*

ELÆOCARPUS MONTANUS, *Thw.* A middle sized tree of Ceylon.

ELÆOCARPUS OBLONGUS.

Kassow, Duk.

This is a handsome tree of the Dekhan, flowers in May, petals beautifully fringed, the foliage is frequently tinged with red, giving an autumnal appearance to the tree. —*Riddell.*

ELÆOCARPUS OBOVATUS, *Ain.*

E. coriaceus, *Hook.*

This tree grows at Newera Ellia and other elevated parts of the island of Ceylon, at an elevation of from 6,000 to 8,000 feet.—*Thwaites.*

ELÆOCARPUS PRINOIDES, W. and A. A tree of Assam, Khassya Hills and Kamaon. It is E. serratus of Roxb. not of Linn. Its fruit is pickled and curried.

EL AJEM.

ELÆOCARPUS ROBUSTUS, *Roxb.* A tree of the Khassya hills.

ELÆOCARPUS SERRATUS, *Linn.* Grows in the warmer parts of Ceylon, up to an elevation of 2,000 feet.—*Thwaites.*

ELÆOCARPUS TUBERCULATUS, *Roxb.*

Rudrachai, Tam.	Rudracha, Tel.
Badrachai, „	Badracha, „

A tree of the Travancore forests. The seeds are used by Vaishnava brahmins as rosaries.—*Mr. Rohde's M.SS.*

ELÆOCOCCA VERNICA. Dryandra vernicia, *Corr.* The varnish tree of China. The oil obtained from the nuts is used by painters. *Hogg.* 465.

ELÆOCOCCA VERRUCOSA, a native of Japan, the nuts yield a somewhat acrid oil, which is used there in food: and in the Mauritius, for lamps. *Hogg.* 461.

ELÆODENDRON GLAUCUM, Pers.

Schrebera albens, Retz.	Senacia glauca, Lam.
Mangifera glauca, Rottl.	Ceylon tea tree. Eng.

ELÆODENDRON ROXBURGHII, W. and A. This tree is a native of Ceylon and Coromandel, with small green flowers.—*Voigt.*

ELÆODENDRON INTEGRIFOLIA.

Hsoak, Burm. | Jouk-bin, Burm.

This is a very plentiful, strong, fine timber, found throughout the forests of the Tounghoo and Pegu districts, as well as about Rangoon. It is adapted for fancy work and cabinet making.—*Dr. McClelland.*

ELÆODENDRON ROXBURGHII, W. & A.

Elæodendron glaucum, *Wall.*
Nerija dichotoma, *Roxb.*
Rhamnus nerija, *Spreng.*

Boot-kus, Mahr.	Nerasi, Tel.
Selupa maram, Tam.	Nirija, „
Bira, Tel.	

This tree is a native of the mountainous parts of India. In Coimbatore, it is more remarkable for its fine form than for the length and thickness of its bole, but the wood, if good, can only be fit for cabinet making and small sized objects. Dr. Gibson says this tree is more common in the inland than in the coast forests of Bombay, but he had never seen it of a size fit for timber. The wood is however strong and compact. —*Drs. Wight and Gibson.*

ELÆODENDRON RUBER. See Celastraceæ.

ELACH. Beng. Cardamum Elettaria cardamum.

EL AJEM, Ajem, in Arabic, literally means foreign, but in the southern parts of Arabia, El Ajem is applied to the opposite parts of the coast of Africa.

ELAKA CHEVI CHETTU. TEL. Either Salvinia cucullata of Roxb. or Hutchinia indica. Elaka Chevi kura. TEL. Hydrocotyle rotundifolia.—*Roxb.*

ELAKI CHETTU. TEL. Elettaria cardamomum. WH. and MATER. Syn. of Alpinia cardamomum.—*Roxb.*

ELA KULLI. TAM. Euphorbia neriifolia.

ELAM. HIND. MAL. TAM. TEL. Auction.

ELAM, or Susiana was the country on the east of the southern portion of the Tigris, south of the Luristan mountains and was the cradle of ancient sovereignty. Berosus mentions a legend to the effect that the first dawn of civilization was there and that the teachers of mankind came from the shores of the Persian Gulf. Susiana was known as Elam, and all the Babylonian and Assyrian dynastic arrow-headed inscriptions hitherto deciphered refer to Susiana as the cradle of sovereignty where the ruins of great cities were discovered by Sir H. Rawlinson. The Elamites were a powerful nation in the early days of Abraham before either the Assyrian or Babylonian governments rose into power. Kedarlaomer, King of Elam, held Canaan and Arabia petræa in subjection.—*Bunsen* iii. 352. See Iran. Lud.

ELAMAVI also *Tiyya mamidi. Tel.* Mangifera, indicate L. Its Sans. name is *Sahakara* W. 913 "a fragrant kind of Mango,"—hence the name from *Ela*, "cardamom."

ELAMITES. See Iran. Elam.

ELANDEI PALLAM. TAM. Rhamnus jujuba.

ELANET, a hawk, the Falco melanopterus, Daudin, inhabiting Africa, India and America.—*Jerd.* i. 112.

ELANJI MARA. CAN. Rhamnus jujuba.

ELAPHRIUM EXCELSUM. See Calophyllum.

ELAPHRIUM TOMENTOSUM. See Calophyllum.

ELAPUR, the fortress of Krishna rajah. At the date of Charlemagne, Hindustan and the Dekhan were divided into four kingdoms viz., Gujara (Gujarat) on the west; Malwa, in the centre, the Gourha raj on the east including Bengal and Behar, and the Lateswara kingdom to the south, but the Soweajya or Sattarah sovereignty was also spoken of. Indra rajah who ruled the Lateswara kingdom conquered Gujarat, and aided the king of Malwa against the Gourea sovereignty. See Inscriptions, p. 390.

ELARAMU. TEL. A root employed in dropsical affections, supposed to be that of Ophioxylon serpentinum.

EL ARAM is mentioned in the koran as the Sail-ul-Arem, or flood of ul-Aram. It is the dam of Mareb, built by Queen Balkis above the city of Saba. It burst A. D. 120. See Mareb.

ELASTIC FIG TREE. ENG. Syn. of Ficus elastica.—*Roxb.* See Indian Rubber. Caoutchouc.

EL-ASWAD-IBN-KAAB. See Aswad, Masailma.

ELATERIDÆ. See Coleoptera.

ELATE SYLVESTRIS, *Linn.*

Phœnix sylvestris, *Roxb.*

Eajata,	CAN.	Itcham maram.	TAM.
Sendi ka jhar.	DUK.	Ita chettu.	TEL.
Wild date,	ENG.		

The Leaf.

Itcham elle, TAM.	Ita-aku, TEL.

Its fruit.

Sandulay ka phal,	DUK.	Itcham pallam,	TAM.
Parushaka,	SANS.	Ita pandu,	TEL.

Its timber has the general characteristics of the family, but is inferior to the palmyrah, cocoanut, &c. In India, the fruit, when ripe, is small, oval shaped, dark coloured, and sweetish; about the size of a ripe wild plum, but, though it is now believed that this tree is identical with the date palm of Arabia, the fruit is not esteemed, being unimproved by cultivation. The leaves and stalks are made into baskets, boxes and hats, twisted into rope, used for thatching and in the manufacture of light mats for building huts. The inner wood furnishes, by boiling, a kind of catechu, which contains much tannin. It is obtained by boiling the heart wood for a few hours, when it assumes the appearance and consistency of tar. It hardens by cooling, and when formed into small squares and dried in the sun is fit for the market. The produce of Bombay is of uniform texture and of a dark red color. That of Concan and other parts of India, is of a chocolate color, and marked inside with red streaks. The analysis of Sir H. Davy gave the following result in 100 parts.

	Bombay.	Concan.		Bombay.	Concan.
Tannin.	54·5	48·5	Insoluble matters, sand, lime, &c. ...	5·0	7·0
Extractive	34·0	36·5			
Mucilage .	6·5	8·0			

The fibres of the leaf stalk are used for cables in the Red Sea. The natives of the East chew the fruit in the same manner as the areca nut, with the leaf of the betel, pepper and quick lime. *Simmond's Commercial Products, page* 579. *Ainslie, Madras Ex. Jur. Report.* See Date.

ELAVUM. The Tamil name of the wild cotton tree of Malabar, which grows to sixty or eighty feet high, and from four to six feet in diameter. It is a very soft, light wood, and used by the natives for catama-

rans and canoes; and also for rafting the heavy timber from the forests; it is not durable, or of much value,—*Edye. Forest of Malabar and Canara. (Note.*—This seems the Eriodendron anfractuosum.)

ELAVAM MARAM. TAM. Eriodendron anfractuosum.

ELAVAM PUNJI. TAM. Cotton of Bombax pentandrum.

EL-AYNEN a town of Nejd in Arabia the birth place of Mahomed-ibn-Abdul-Wahab. He founded the puritan Wahabi sect. He was born A. D. 1691. See Wahabi.

EL-BAKIA. The companions of Mahomed, the Astuwanat-el-Ashab, the Column of Companions. Their graves are at the El-Bakia.—*Burton's Pilgrimage*, iii *p.* 396.

EL-BEIT, a town founded by Tobba ul-Akram (A. D. 90-140) grandson of Shammir Yerash. Shammir, in an invasion of China perished with his army in the deserts of Thibet. Tobba to revenge his grandfather's death, marched from Yemen, rebuilt Samarcand, according to Thalaba, carried war into China, where he built El Beit, in which he left a colony of 30,000 Arabs, who continued a distinct people when Hamadun wrote in A. D. 553. See Samarcand, Shammir, Yemen.

ELBURZ. The mountains of Elburz, at the foot of the southern slopes of which the town of Teheran is situated, extend from the plains of Cazvin on the west to the town of Demavend on the east, forming the division between the low belt of country on the southern shores of the Caspian and the high lands of the central province of Irak. They are a portion of the lofty chain which branches off from the Caucasus, and after passing through Azerbijan the north of Persia and Affghanistan, terminate in the range of the Himalaya. The line of these mountains, though occasionally broken in Persia, especially in Khorassan, where it is intersected by several extensive plains, may easily be traced throughout the whole of this vast tract of Asia. The Elburz, although of the enormous height of 18,526 feet above the sea, has not a very imposing appearance from the plain of Tehran. Kazbek is 16,546 feet, but with the exception of the huge cone of Demavend, no peak towers above its fellows, and from a distance the summit of the range seems to be nearly level. In summer the snow disappears almost entirely from the southern face, but on the northern side it remains in large quantities throughout the year. Like the generality of mountains in Persia, those of Elburz are but scantily clothed with vegetation, the plants growing on the slopes having a dry blighted appearance, and as usual there is a total want of trees of natural growth. They are, like many other parts of this extensive range, rich in mineral productions, copper, iron, lead, and orpiment being found in large quantities. So many as five rivers, besides smaller streams, take their rise in the Elburz, within 25 miles north of Teheran.—*Col. Chesney's Euphrates*, p. 4. See Iran.

EL-KAJA. ARAB. Trichelia emetica. Försk. a tree 30 to 40 feet high. Its fruit is fragrant and is an ingredient of the Abir or Besan with which the Arab women wash their hair. *Hogg.*

ELCHI, or according to the maps Ilitsi, is the city known to older travellers as Khoten. See Khoten.

EL-DOZ, after the death in A.D. 1205 of Mahmud of Gour, his kingdom was divided amongst his generals, and Kabul and Kandahar in Afghanistan fell to his slave El-Doz. He was, however, soon dispossessed by a prince of Kharism, whose successor Jelal-ud-Din was compelled to yield to Chingiz Khan. See Gour.

ELDER TREE. See Sambucus.

ELECAMPANE ROOT.

Ussul ur-rasun, ARAB.	Alant-wurzel, GER.
Inuleaulnee, FR.	Bekh-i-zanjabil-i-shami, PERS.

Elecampane-root has an aromatic and slightly fetid odour. Formerly prescribed in dyspepsia, pulmonary complaints, and palsy; *Faulkner. O'Shaughnessy.* See Confection of Black Pepper.

ELECTUARIUM CASSIÆ. See Cathartocarpus fistula.

ELECTRICITY is evolved abundantly, in tropical Asia, at the beginning and close of the rains. The elephanta of Bombay, a stormy period at the close of the S. W. monsoon, is often attended with much electric disturbance. The N. W. storms at Calcutta, are always attended with a great evolution of electricity.

ELECTRIC TELEGRAPHY, the art of sending information by means of electric currents passed along wires. The system was early perfected in India by Sir William O'Shaughnessy, and all British India is now in inter-communication and in connection with Europe and America.

ELECTRIC LIGHTS are often seen in the swamps of India, and in storms on the masts and spars of ships at sea.

ELEMI is met with in yellow transparent masses; which readily soften, by the heat of the hand, and have a strong aromatic odour, and a hot spicy taste. It is a gum

resin and is said to be the concrete resinous exudation from one or more genera of plants, Amyris, Balsamadendron, Canarium, Elaphrium, and Icica. The Elaphrium elemiferum of *Royle*, yields Mexican elemi. The Cannarium commune Lam. (Syn. of C. Zephyrinum of *Rumph*) of the Spice islands and Ceylon, also the C. balsamiferum of Ceylon, is said to yield a resin which in odour and general appearance strongly resembles elemi. The resin called Arbol-a-brea at Manilla which somewhat resembles elemi is considered by M. Baup to be the product of Canarium album, a Philippine tree. Brazilian or American elemi is from the Icica Icicariba *Marcq.* and the Resin of Courina from I. ambrosica. It is abundantly produced in the forests of the Philippines, where it often assists in giving a cheerful blaze to the fire of the traveller. It is also exported from Manilla as a drug. The Philippine tree that affords it is probably a Canarium. There are other resins, of whose origin little is known, which have been imported as *Elemi.* Dr. Pereira says he had taken much pains to ascertain its commercial route, and found that all the importations of it were through Amsterdam or Hamburgh. It would appear that elemi formerly came from Ethiopia by way of the Levant; it is therefore probable that Britain receives it through Holland from some Dutch settlement in the East, and also from Africa, some small quantity probably being received from the Brazils. This gum resin forms an essential ingredient in many of the finest varnishes. *Waterstone. Faulkner. Cleghorn's Forests and Gardens of South India, p.* 378 to 380.

ELENDI. TAM. Zizyphus jujuba. Lam.

ELENJI. MALEAL. Mimusops elengi.—*Linn.*

ELENTHA. MALEAL. Zizyphus jujuba. Lam.

ELEOTRIS, a genus of fishes of the family Gobioidæ.

ELEPHANT, ENG. FR. GER.

Hsen,	BURM.	Pil,	PUSHTU.
Olyphant,	DUT.	Gaja,	SANSC.
Elephas,	GR.	Hasthi,	„
Hathi,	HIND.	Fiel,	SCAND.
Elephantes,	IT.	Elephante,	SP.
Elephas,	LAT.	Gallah,	SINGH.
Elephantus,	„	Ani,	TAM.
Gajah,	MALAY	Yeni,	TEL.
Beram	„	Yenuga,	„
Fel, .	PERS.		

The source of the word Elephant, is doubtful. Sir J. E. Tennant supposes it to be the Hebrew "eleph" an ox, and "Hindi," Indian, like Tamar-i-hindi or tamarind. Pictet derives it from, airávata or airavana the elephant vahan of Indra from airavanta son of the ocean. Burton more correctly, says (*Pilgrim*, i. 275) it is from "Pilu" in Sanscrit, or as we now have it in Pushtu Pil, in Persian Fel, which in old Persian, becomes "fil," and, with the arabic article, "El-fil;" turned to elephas in Greek.

The Elephants of Ceylon, India, Burmah and Siam, frequent hilly and mountainous countries: they are met with in Ceylon at heights of seven and eight thousand feet, and in the South of India, at about 4,000 and 5,000 feet.

The elephant is the largest of terrestrial mammals. Though the Sumatran has been considered to differ, there is, according to most authors, only one Asiatic species, E. Indicus, which is found in Ceylon, in the southern and western parts of the peninsula of India in the forests at the foot of the Eastern Himalaya, in Nepaul, in the Saul forests, Tipperah, Chittagong, Burmah, the Malay Peninsula, and the larger islands of the Eastern Archipelago. There are differences, the elephants of the same locality even vary in form and character. They attain their full height when 18 or 24 years of age, and range from 7 feet to 10 feet in height up to the top of the shoulder. Twice round the forefoot gives nearly the exact height of an elephant. Elephants of Ceylon do not average above eight feet in height and never exceed nine feet yet Wolf says, he saw one taken near Jaffna, which measured twelve feet one inch, of course to the arch of the back. The Ceylon elephants are not so large as those of other parts of India. The East India Company's standard was seven feet and upwards, measured at the shoulder. Mr. Corse says the greatest height ever measured by him was ten feet six inches. As an example of the deceptiveness of a mere conjecture even by experienced persons, he mentions the case of an elephant belonging to the Nabob of Dacca which was said to be fourteen feet high, Mr. Corse wished to measure it particularly, as he himself judged it to be twelve feet. The driver assured him that the beast was from fifteen to eighteen feet;—yet when carefully measured, it did not exceed ten feet. (*Gosse's Natural History, p.* 118.)

The elephants of the farther peninsula much excel those of India and Ceylon, perhaps because they are less disturbed. The skeleton of an elephant in the museum at St. Petersburg, which was sent to Peter the Great by the shah of Persia, measures sixteen feet and a half in height, and probably this is the highest authentic instance on record. The African elephant is perhaps

not inferior to that of Pegu. Mr. Pringle, in a very graphic picture, has described an unexpected rencontre with an enormous elephant in an African valley. "We halted and surveyed him for a few minutes in silent admiration and astonishment. He was, indeed, a mighty and magnificent creature. The two engineer officers, who were familiar with the appearance of the elephant in his wild state, agreed that the animal before us was at least fourteen feet in height." Major Denham in his expedition into central Africa, met with some which he guessed to be sixteen feet high, but one which he saw killed, and which he characterised as "an immense fellow," measured twelve feet six to the back. Fossil remains of an elephant have been discovered at Jubbalpore, which measured fifteen feet to the shoulder.

The young are about three feet high when born, and the female begins to bear when about 16 years old. They are classed according to their outer forms, viz., the Kumariah or princely, a strong bodied animal: the Merghi or deer bodied; the Sankariah or mixed breed between the Kumariah and Merghi, and the Mirghabali, approaching the Mirghi. The Dantela, is the tusked elephant. The Mukna has a head like that of the female with comparatively small straight tusks. The elephant with nicely curved tusks is called the Palang (or bed) dant, and a one-tusked elephant is ek-danti or Ganesh after the hindu god of wisdom, who is represented with the head of an elephant and one tooth. Elephants of India are tamed to work but the supplies are all from the wild state. They are becoming scarce, and in 1868, the Madras Government began to preserve female elephants.

In the Syrian armies, anciently, the elephant seems to have been much employed. According to the Apocrypha (1st Maccabees, vi. 33, 37.) Antiochus, when warring against Judas Maccabæus, had in his army elephants guided by Indian drivers; each stated to have had on his back a strong wooden tower, containing thirty-two fighting men !But this is very great, such weight would amount to about $2\frac{1}{2}$ tons.

In the Ceylon forests they come forth to feed about 4 P. M., and they invariably retire to the thickest and most thorny jungle in the neighbourhood of their feeding place by 7 A. M. In these impenetrable haunts says Baker, (Rifle pp. 10-11) they consider themselves secure from aggression. The period of gestation with an elephant is supposed to be two years, and the time occupied in attaining full growth is about sixteen years. The whole period of life is supposed to be a hundred years, but Baker would increase that period by fifty. The height of these Ceylon elephants varies to a great degree, and in all classes is very deceiving. In Ceylon an elephant is measured at the shoulder, and nine feet at this point is a very large animal. Not more than one in three hundred has tusks, they are merely provided with short grubbers. Those with tusks are usually males. Elephants are gregarious and the average number in a herd is about eight, although they frequently form bodies of fifty and even eighty in one troop. Each herd consists of a very large proportion of females, and they are constantly met without a single bull in their number. He has seen some small herds formed exclusively of bulls, but this is very rare. The bull is much larger than the female, and is generally more savage. On each side of the elephant's temples is an aperture about the size of a pin's head, whence in the season of rut a secretion exudes, which is called mada or dana. Whilst it flows, the elephant is called matta, and at other times nirmada. The odour of this fluid is frequently alluded to in Hindu poetry, (See Wilson's Meghaduta, I. 132) is compared to the odour of the sweetest flowers, and is supposed to deceive and attract the bees. (See Ritu Sanhara, *William's Story of Nala, p.* 195-196.)

There has been an inclination to separate the Sumatran elephant from the Indian one, as possessing peculiarities. The *Elephas Sumatrensis* differs from that of India and Ceylon in the number of its vertebræ and the natives call it gajah, Temminck has named it Elephas Sumatranus.

This species is perfectly intermediate between the Indian and African, especially in the shape of the skull, and will certainly put an end to the distinction between Elephas and Loxodon, with those who admit that anatomical genus: since, although the crowns of the teeth of E. Sumatranus are more like the Asiatic animal, still the less numerous undulated ribbons of enamel are nearly quite as wide as those forming the lozenges of the Asiatic. The number of pairs of false ribs (which alone vary, the true ones being always six) is fourteen, one less than in the Africanus, one more than in the Indicus; and so it is with the dorsal vertebræ, which are twenty in the Sumatranus (twenty-one and nineteen, in the others), whilst the new species agrees with Africanus in the number of sacral vertebræ (four), and with the Indicus in that of the caudal ones, which are thirty-four.

White elephants, either lepers or albinos,

possibly in both of these conditions, are occasionally found, and the kings of Burmah and Siam take, as one of their titles, the appellation of Lord of the white elephant. Indeed the presence of a white elephant in Siam is considered as a palladium for the king's life and for the prosperity of the kingdom. The late Lord White Elephant in possession of the king of Burmah, was supposed to have been caught in 1806. He was close upon ten feet high which is a very large elephant, and had a noble head and pair of tusks. In Enarea, in Eastern Central Africa, a white elephant is reverenced, white elephants were kept by the rajahs of Kanouj. When Jaya Chaudra of Benares and Kanouj was defeated and slain by Shahab-ud-din, Mahmud Ghori, in A.D. 1194, on the banks of the Jumna, between Chandwar and Etawah, a white elephant was captured which is related to have refused to make obeisance to the sultan and had almost killed its rider who endeavoured to force the animal to comply. In the time of Mahomed's grandfather, when Abrahah the christian king of Hamyar advanced against Kenanah in Hijaz to revenge the pollution of the christian church at Sennaa, he was seated on an elephant named Mahmood, distinguished by its bulk and skin of pure white.

Captain Yule, (p. 121,) mentions having seen at Amarapura two elephants which had been taught to dance. In ancient Rome, as is related in All the Year Round, twelve elephants were taught to march into a theatre to a harmonious measure, sometimes in a circle, and sometimes divided into parties, scattering flowers around them all the while. Preserving their proper order, they would beat time to the music during the intervals of the dance. Being provided with splendid couches, adorned with paintings and tapestry, and a banquet spread before them upon tables of cedar and ivory, the elephants in the costumes of male and female personages of distinction, would dine decorously—not one of them voraciously taking an undue share of the delicacies, and all drinking moderately out of cups of silver and gold. Germanicus, according to Pliny, exhibited elephants hurling and catching javelins, fighting with each other, and executing the Pyrrhic dance. And it was through their love of music that elephants were trained to dance upon ropes. Four of them walked along a rope or ropes, carrying a litter, containing a fifth, which was feigning sickness. Many writers, confirm the testimony of Pliny to the fact that the elephants walked backwards and forwards upon the ropes with equal precision. Seneca, in his Epistles, describes an elephant who, at the command of his keeper, would not merely walk, but would kneel down upon a rope. Suetonius describes an elephant who, in the presence of the Emperor Galba, climbed up an inclined rope to the roof of a theatre, and descended in the same way, bearing a sitter upon his back. Arrian mentions an elephant who performed as a musician to its dancing comrades. With a cymbal fastened to each of its knees, and a third to its trunk, he would beat a measure with astonishing precision and accuracy; while the other elephants danced a circle round him. "The Elephant is, at present, most usually employed for the transport of large tents and other articles of equipment, beyond the power, or of size inconvenient to be carried by camels or bullocks. Its load for steady work varies from about 15 to 20 cwt. exclusive of the pad or pack saddle. With this it travels at the rate of three miles an hour from 16 or 20 miles per diem; but it can perform and bear longer marches for some time without injury. On an emergency, a riding elephant can travel at the rate of five miles an hour, and will go about 40 miles in a day—but for a continuance its performance will not much exceed that of the baggage elephant. In India, there are elephant batteries of heavy artillery needed for sieges, and the nobles of Hyderabad use them largely for riding. *Burton's Pilgrimage to Meccah Vol.* 1. *p.* 275. *Gosse's Natural History*, p.118. *Tennent's Sketches of Elephas Sumatranus L.*

The Agagir swordsmen of the Hamram Arabs ham-string the Abyssinian elephants with swords. The Abyssinians, still eat the flesh and that of hippopotami as described by Strabo (lib. xvi. p. 772 and Diod. Sic lib. p. 161.) The inscription of Adule mentions that Ptolemy invaded Asia with his land and sea forces and elephants from the country of the Troglodytes and Ethiopia.

The Ceylon elephants are driven into a Kraal and tied and tamed there. Within the forests and in the jungles of Ceylon are found a great variety of wild animals—the elephant the hyena, tiger-cat, the bear, the deer and the monkey, are among the most abundant. The number of elephants is incredibly great, and, issuing in troops from their lairs, they come crushing down the cultivated fields and plantations and devouring the crops, with great loss to the proprietors. They are found in all the uncultivated parts of the island but their favorite haunts are near to the farms, to which they prove so destructive that the colonial government

pays a reward of 7s. 6d. (about 1 Dollar, 85 cents) for every tail of the animal which is brought to the authorities. Mr. Talbot the Government agent at Galle, stated, that he had paid during a preceding year two hundred pounds sterling for tails, which would give six hundred as the number of elephants destroyed. An officer, actually killed during his residence on the island, no less than six hundred of these gigantic animals. Within a few months of the arrival of the Mississippi, two officers of the garrison destroyed no less than forty elephants in the course of a sporting visit of six weeks to the jungle. They are ordinarily shot with a rifle, the sportsman approaches his game in front, or that he may aim at either of the only two vital parts upon which a rifle ball will have any effect, one being directly in the forehead through which the brain is penetrated and the other behind the ear. The catching and taming of wild elephants furnish a large source of revenue to the Nepaul government. In taking them, the taroo or elephant catchers, having marked down a wild herd of three hundred or four hundred elephants, about two hundred taroo collect together, mounted upon elephants, and accompanied by two large "taking elephants," highly fed, and thereby kept always must (sensual.) The herd of wild elephants having been started, they get away trumpeting and whistling into the thickest part of the forest, hotly pursued by the mounted taroo, each of whom is provided with three or more nooses, called the moosack, which is made of very strong ran hide, well soaked in oil, and so ingeniously contrived, that when once attached to the elephant, the hind legs are gradually drawn together at every step he takes until he is brought to a complete stand-still. The chase continues frequently for twenty miles at full speed, until in fact, the wiguet herd becomes blown and is brought to bay stand. The danger then commences, from the wild ones dashing at their pursuers, in their turn causing the most intense excitement during half an hour, until the arrival of the two must elephants, whose bulk prevents their keeping up with the more active ones, ridden by the taroos. These two elephants, each having three keepers upon their backs, dash into the herd. Their appearance, accompanied by the powerful nauseous odour emitted by most elephants, creates an immediate panic among the wild ones and soon of ge-es their efforts of resistance. The to be tu-le taroo now slide down from attaining i- and under cover of one of the The whole Rts, who pushes himself forcibly against the wild one selected from the herd, they, in a most dexterous and daring manner, slip the moosack on to each of the hind legs, which performance occupies about three minutes. The noosed elephant is then allowed to depart, and he goes off evidently delighted; but as the noose becomes contracted at every stride, he finds his intended flight brought to a close, at a distance of sixty or seventy yards. After operating upon about fifty wild elephants in a similar manner, the Taroos permit the remainder of the herd to abscond, and employ themselves in fastening the noosed elephants to separate trees, where they are detained from two to three weeks under the careful charge of the takers. If any of the captured show symptoms of violence, they are immediately punished most severely by two of the large tame elephants, who belabour them unmercifully with their trunks. Two such thrashings effectually cure the most insubordinate, and at the expiration of six weeks, the once free and independent denizen of the forest has a keeper on his back, and becomes as quiet as if he had been in a state of subjection all his life.

At Chittagong, says Captain Smith, (*Nepaul*) is renowned for the beauty and size of its elephants, so is Nepaul celebrated for the hardiness and ugliness of her produce: a fatal peculiarity extending to the Nepaulese themselves. The full-grown female elephants seldom exceed seven feet and on-f in height, but the males of forty years wh- ve ich age they are considered to be into a -are fine fellows, averaging from some- -e nam-. One elephant was eleven divided ata named Ivo-re.—(*Smith's Nepaul.*) around pro- capt-s is perfe-ured in Siam by music elephan-an and At-s in the forests Being -ns, where skull, and the wild males them and distinction are captured. phant -, with thor is guided by the hoos. Pers. Hea. (Ankasa, Sansc. Ape. Greek: Cuspis, Latin. Hendoo, Singh) a goad and guiding rod in shape resembling a small boat-hook. It is figured in the medals of Caracolla of the identical form in use at the present day in India.

The elephant has been discovered fossil in the strata of the Nerbudda and in Burma. Amongst the remarkable remains brought from the Sewalik Hills, in Northern India by Captain Cautley and Dr. Falconer, were the remains of several species of the genus *Elephas* and other proboscidean animals. Dr. Falconer, speaking of the group of animals thus revealed by his researches, says;—"this fossil fauna is composed of representative types of *Mammalia* of all geological ages, from the

oldest of the tertiary periods down to the most modern; and of all the geographical divisions of the old continent, grouped together into one comprehensive assemblage. Among the forms contained in it there are—of the *Pachydermata*, several species of *Mastodon*, elephant, hippopotamus, rhinoceros, *Anoplotherium*, and three species of *Equus;* of the *Ruminantia*, the colossal genus *Sivatherium*, which is peculiar to India, with species of *Camelus*, *Bos*, *Cervus*, and *Antilope;* of the *Carnivora*, species of most of the great types, together with several undescribed genera; of the *Rodentia* and *Quadrumana* several species; of the *Reptilia*, a gigantic tortoise (*Colossochelys*), with species of *Emys* and *Trionyx*, and several forms of Gavials and Crocodiles. To these may be added the remains of Struthiones and other birds, and Fishes, *Crustacea*, and *Mollusca.*"

The genus *Elephas* in the collection which has been deposited in the British Museum includes six species.

E. planifrons, distinguished by the flatness of the forehead and the intermediate character of its molar teeth.

E. Namadicus, with a great developement of the cranium, and teeth closely allied to those of the Indian species.

E. Hysudricus, with a turban-like vortex of the skull and teeth, whose structure approaches that of the African elephant.

E. Ganesa is the most remarkable of the Sewalik species. A skull exists with remains of the other species in the British Museum. The total length of the cranium and tusks is 14 feet; length of the skull 4 feet 2 inches: width of the muzzle 2 feet; length of the tusks 10 feet; circumference of the tusk at the base 26 inches. The other two species are named *E. insignis* and *E. bombifrons.* Along with elephant remains, from the Sewalik hills, in the Calcutta museum are those of Elephas insignis E. bombifrons. E. planifrons; Mastodon Sivalensis, Elephas Hysudricus; E. Cliftii: Hippopotamus Sivalensis. Merycopotamus dissimilis. Rhinoceros Sivalensis. Equus Sivalensis. Hippotherium antelopium. Sivatherium giganteum. Hexapr. Sivalensis; Camelopardus sivalensis. Camelopardalis sivalensis. Antelope palœindicus. Antelope, *species.* Camelus sivalensis; Cervus, *species:* crocodilus, *species.* Leptorhynchus gangeticus; Colossochelys Atlas. *Tesudo, species.* Hippopotamus (Hexaprotod.) Sivalensis Hyena, Canis; Sus, Bos; and similar remains have been discovered also in Burmah, and in Perim island. The species of *Mastodon*, in the collection from the Sewalik Hills, are *M. Perimensis, M. Sivalensis* and *M. latidens.* Professor Owen states that a species of *Mastodon*, nearly allied to *M. angustidens*, has left its remains in the ossiferous caves and post-tertiary or newer tertiary deposits of Australia. From the conformity of the molar teeth, Cuvier regarded a *Mastodon* whose remains have been discovered in Pern as identical in species with the *M. angustidens* of Europe. Professor Owen regards the *M. longirostris* of Kaup, found in Germany, and the *M. Arvernensis of* Croizet and Jobert, dug up in Auvergne, as identical with his *M. angustidens.* In the collection of the British Museum, in addition to the species which we have mentioned above, will be found remains of *Elephas priscus* and *E. meridionalis*, found in Europe. There are also the remains of a species of *Mastodon, M. Andium*, from Buenos Ayres. *Owen, British Fossil Mammals and Birds; Falconer and Cautley, Fauna Antiqua Sivalensis; Mantell. Petrefactions and their Teachings;*—quoted in *Eng. Cyc. pages* 504 *to* 519. *Bengal As. Soc Catalogue of Fossil remains.*

Smith's Nepaul. Yule's Embass. All the Year Round. Aide Memoire to The Military Sciences; Gosse's Natural History. Tennant's sketches. Bikmore's Travels, Wallace's Archipelago, p. 409 *and Aide memorie to Military Science Dublin* 1*st August* 1846.

ELEPHAS PRIMOGENUS, the mammoth: one was discovered in 1799, by a Tungus near lake Oncoul in Sibera. It is surmised that in the North, the mammoth was covered by long hair.—*Mangin.*

ELEPHANTA.—Of this somewhat turbulent and noisy visitor of Bombay, the following are the times of its coming during the seventeen years 1840—1857, and the most notable of the circumstances attending it. The designation which these October storms bear, all over the western side of India is conferred on them as occurring about the time when the sun is in the constellation. "Hust," the Sanscrit for elephant. As they reach Bombay from nearly due east, their name is there not unnaturally imagined to have been conferred on them from the celebrated island from the direction of which they reach that city. The elephanta commonly makes its appearance a fortnight or so after the weather has fairly cleared up, when showers have almost ceased to fall, the barometer has become high, the sky bright and clear, and the alternating sea and land breezes have set in. For three or four evenings before its appearance superb piles of thunder-clouds are seen to accumulate about 3 o'clock every afternoon over the Ghauts: they soon ascend some way in the air advancing apparently against the sea breeze,—that

is, the upper and lower strata of air move opposite ways to each other. Magnificent displays of lightning with low growling thunder, prevail as twilight sets in: an hour or two after sunset the sky resumes its serenity. At length the clouds grow darker and more watery—the thunder becomes louder, the lightning more brilliant—they tumble up the sky, rolling in vast masses over each other, till a sudden squall bursts in and a deluge of rain follows. This scarcely ever occurs earlier in the day than 3 P. M., and it very seldom continues till dawn, though after three or four hours interruption it sometimes resumes before noon next day. When once the gale is over, the sky in general clears up at once, the clouds vanish, the alternate winds resume sway—hot days and dewy nights succeed, and the settled season commences. During the squalls which are occasionally experienced in March and April the barometer usually falls, or becomes very irregular, and pending the July storm it sinks very low indeed, and its range becomes singularly small. The bursts in the beginning of June and October, which herald in and close the S. W. Monsoon, seem purely electrical,—neither the pressure nor humidity of the air being materially affected by them. The Madras monsoon is stated, according to the old observatory reports, to set in about the 19th October; it has sometimes been known to set in as early as the 20th September, sometimes as late as the middle of November. September is for the most part a cloudy showery month, with occasional thunder and squalls. The monsoon in Lower Bengal sets in and closes about a fortnight later than our own: a considerable fall of rain and severe squalls of wind appear to be in general experienced about the third quarter of the October moon. Neither at Madras nor Calcutta is the separation between the rainy and fair seasons anything like so distinct. In 1840, the Elephanta set in on the 10th October with a violent dust and thunderstorm and quantities of rain, which continued from about an hour before till two hours after sunset: the wind blew in sudden and uncertain gusts from nearly due east,—bringing with it perfect sheets of rain. The thunder ceased in a few hour's time, but the rain continued for nearly forty hours with little interruption. On the evening of the 11th it drew off, when all became tranquil and quiet, and there was no storm that year. Fall for the monsoon, 63·15 inches.

1841.—After nearly six weeks of bright, tranquil, and cloudless weather, a violent thunderstorm occurred on the evening of the 16th October. The sky continued thick and louring, with lightning in the evening, till midnight on the 17th, when a violent burst of thunder and rain occurred: the thunder soon ceased, but the rain continued for a couple of days, water standing every where in pools, and the ground apparently as wet as in June. Monsoon fall, 71·49.

1842.—The monsoon of 1842 was one of unusual severity, 95·26 inches of rain having fallen. It broke up stormily and irregularly. The latter half of September was tolerably clear, but on the 29th sharp squalls, with lightning and showers, made their appearance, and so continued till the 1st October. On the 8th, and again on the 13th and 14th, there were squalls, with thunder and rain, the latter date probably affording the true Elephanta. There was in 1842 one of those supplemetary storms on the 12th and 13th of November which are of singularly regular occurrence.

1843.—The monsoon of 1843 was light, and the rain cemmenced early: there were scarcely any showers in September, and the result was an early and severe Elephanta. It commenced on the 27th September, when a smart thunderstorm crossed the island. The rain now began to fall in torrents, and in the course of three days no less than five inches were measured—in five hours' time two and a half inches fell. The weather then cleared up and there was no more storm that year—*Fall*, 59·27.

1844.—A furious dust storm which occurred on the 30th September seems to have taken the place of the Elephanta in 1844. There was a good deal of thunder, a very severe gale of wind, and a few drops of rain—scarcely amounting to a shower—the whole was over in a couple of hours' time. There was a very severe squall, with a thunderstorm, on the 10th October, the violence of which was more felt down the coast than at Bombay—*Fall*, 65·40.

1845.—A sharp squall and thunderstorm occurred on the 15th October supposed to have been the Elephanta—*Fall*, 54·73.

1846.—The Elephanta made its appearance on the evening of the 8th October 1846 and continued for a couple of days. The weather cleared up on the 10th, when on the 15th and 16th there was threatened a renewal of the storm: the threat was not realized, and after some thunder and lightning, the sky cleared up, and the slight showers of February were the next experienced that year.—*Fall*, 87·48.

1847.—There was a threatening of an Elephanta on the 2nd, and again on the 22nd October 1847.—with a good deal of thunder and lightning on both occasions. On the

2nd and 3rd November there was a smart thunderstorm, and heavy and protracted fall of rain, which continued from the 1st to the 5th. During this time three and a half inches were measured. As a considerable portion of the community reside in light half thatched dwellings, or in tents, from the Elephanta till the end of May, an unreasonable fall of this sort in November, occasions the greatest discomfort. The weather cleared up immediately after a fall was over, and not so much as a shower occurred from this time till the commencement of next monsoon—remarkable as this was both for the earliness and violence with which it set in.—*Fall* 67·31.

1848.—The Elephanta of this season was of unusual turbulence and duration. After threatening for near a week, it set in with the utmost fury on the 6th October. The thunder was about and near; the lightning flashed incessantly: the wind, which set in with violence in the N. W., in six hours' time had swept the compass round, blowing with peculiar fury from the east about two hours after sunset. It blew a severe gale from S. E., for twenty-four hours on end. Betwixt the 5th and 8th five and a half inches of rain fell, 2·88 having been measured on the 7th. On the 19th there was a sort of supplementary Elephanta—a sharpish squall and thunderstorm, but nothing com- to the first; of course the storm came as usual from the east.—*Fall*, 64·42.

1849.—The monsoon was this season of almost unprecedented violence and duration: about one hundred and twenty inches fell at Bombay, or nearly double the average. After an almost total cessation in August, it resumed in September, with almost July-like violence, and so continued till past the middle of the month; and under these circumstances there was scarcely time to brew an Elephanta, and short squalls, with some thunder and smartish showers of rain on the 3rd and 8th October, were all that occurred deserving of the name. There were some very brilliant electrical discharges in the beginning of November, but no further storm. On the 10th November occurred a thunderstorm and squall of short duration, but of very peculiar magnificence, with a second of lesser magnitude on the 15th. This terminated the rains for the seasons:—with the exception of a very slight shower in February, no more fell till the beginning of June.

1850.—Oct. 7.—The Elephanta burst at sunset with a heavy squall from N. E., lightning blazing all around the horizon. There was heavy rain across from Mazagon Hill to Byculla and so to Mahaluxumee; in the course of the evening there fell close on a quarter of an inch all over the Island. This, however, was only the prelude. The following evening the 8th, about 6 o'clock, a thunderstorm was observed over Panwell, and though the sea breeze was blowing somewhat briskly from north-westward, great piles of massy clouds kept rolling up from the east, thundering, terribly, as they advanced. At ½ past 5 the whole landscape suddenly became of a lurid yellow hue; at ½ past 6 a furious squall burst from the east, accompanied by such a torrent of rain, that it seemed as if a sluice had been opened. The sun had barely set when a pitchy darkness came on. This state of matters lasted for an hour, when the squall drew off, and it faired, the thunder and lightning continuing. At 9, a stiff and steady breeze set in from the east, and it continued to blow in puffs from the same quarter till 7 next day—three-quarters of an inch of rain having fallen during the previous 1¼ hour. A few very light showers fell in the last week of October, but from the date of the Elephanta the fair season had set in.

ELEPHANTA.

1851.—Sept. 25—Oct. 10—There is some doubt about the date of the Elephanta for 1851. There was, in fact, no storm precisely corresponding in character with what usually goes by that name. On the 25th, 26th, and 27th, occurred a series of thunderstorms and slight squalls, but they were too early, and they were not violent enough. On the 24th a thunderstorm occurred at Mahabuleshwur, exactly corresponding in all but date with the Bombay Elephanta. On the 10th and again on the 20th October the Elephanta threatened, but, did not come down, when the weather cleared up.

1852—8th to 11th Oct.—Like the year preceding, 1852 was without any very well-defined Elephanta. Betwixt the 8th and 11th there was frequent thunder with squalls from the east, clouds and showers, but none of those violent disturbances which characterise the gale. At this date there were violent hurricanes in the China seas and near the mouth of the Bay of Bengal.

1853—For this season from the Observatory reports we gather that the last rain for the season fell on the 24th September. We can observe no trace of any thing like an Elephanta, and we presume, therefore, that no such storm was experienced at Bombay. We fail to discover any unusual phenomona described amongst papers from the interior.

1854 Oct. 6-7—On the 6th and 7th October they had violent falls of rain, nearly 6 inches having been measured, and as this followed a track of open weather, and was the last rain of the season, it must, we assume, be accepted as the Elephanta. Yet all the cha-

racteristics of the gale save the rain were wanting. The wind was steady, and from the S. W., they had no squalls and very little thunder; the want was made up for by the Gunpowder Plot storm and subsequent hurricane of November.

1855—Sept. 29th and 30th; Oct. 11th and 12th—We are not sure which of these two storms is to be considered the Elephanta; the latter of the two corresponds most nearly with it in point of time, the former in point of character. On the morning of the 28th, half an inch of rain fell, and the sky exhibited that extraordinary transparancy which indicates almost complete saturation, and gives such singular beauty to the landscape. There was lightning in the evening, and a heavy thunderstorm crossed the zenith from nearly east to west. The morning of the 29th gave unmistakeable indications of an approaching storm, and there followed accordingly heavy thunder and lightning in the evening, and a severe thunderstorm again crossed the zenith from nearly east to west. On the evening of the 30th occurred a thunderstorm of still greater severity, accompanied with a violent squall of wind and drizzling rain from E and afterwards S. E. The wind veered round to N. N. E. in the course of the evening, and the sky became pure and serene, and so continued ill the 11th October. This we consder the true Elephanta. The disturbance of the 11th and 12th October is described as follows in the *Bombay Times*:—

"We had a very curious instance of a local squall on Sunday evening, the 7th instant. As we mentioned on Monday, we had distant thunder all the afternoon. From five o'clock the upper clouds began to ascend from Eastward right in the teeth of the sea-breeze. On reaching the zenith, about half past six, the squall struck Sewree and crossed the island. It was felt severely at Khandalla and Panwell and was so violent at Oolwa as to have stripped the roofs off the houses. It seems to have been a purely local burst, and was not so much as felt even at Mazagon, Byculla, or the Fort; it was not accompanied at Bombay with any rain, though heavy showers seem to have fallen in other quarters."—*Bombay Times October* 12.

"Just as we thought the weather had become thoroughly settled, a most unexpected change in the aspect of the air has made its appearance. On Wednesday the barometer fell at once by about a tenth, or from 29·854 to 29·807, and at this it stood for a couple of days. Yesterday it tumbled down by half a tenth, or from the number already set down to 29·777, and continued falling up to two o'clock when it stood at 29·636, having tumbled down by 00·141, on deducting 00·058 the natural descent by 00·033. About noon on Thursday it began to rain heavily at Panwell, and a thin film of cloud with slight showers spread over the sky, and prevailed all over the afternoon and evening. Yesterday it was looking cloudy and rainy all day, the wind blowing from the eastward; in the afternoon there was a smart shower of rain with much lightning in the South at sunset, and indications of stormy weather at no great distance from Bombay. The storm flag was hoisted from the Dockyard as a warning to the shipping in the harbour."—*Bombay Times, October* 13.

"The atmosphere continues to possess that extraordinary transparency which generally precedes or follows a heavy fall of rain, and for the greater part of the day the wind is from the S. E. quarter of the compass, the sea breezes having scarcely as yet resumed their sway. The clouds are mostly high but thick and watery,—the drift from easterly. On Saturday afternoon there were heavy showers, and apparently a severe thunderstorm betwixt Panwell and Khandalla. We noticed the extraordinary fall of the Barometer betwixt ten A. M. and two P. M. on Friday. We had no means of observing it later, but the Observatory reports of tomorrow will give us its entire descents. It rose on Saturday almost as rapidly as it had fallen the day before, and continued gradually rising till yesterday afternoon."—*Bombay Times, October* 15.

1855—Sept. 29th, October 7th.—There were slight thunderstorms betwixt the end of September and 8th October, but we observe no account of anything like an Elephanta.

1856.—Seems to have been without any thing deserving the name of an Elephanta. We find the following notices of slight disturbances on the 6th and 7th Oct. and as these occurred some weeks after the rain had ceased, we presume it is all to lay claim to. "Though we still continue to have vivid lightnings every evening over the mainland, appearances of storm have almost wholly passed away. Yesterday morning (6th Oct.) we had a thick mantle of clouds over nearly the whole sky; from long before dawn till about eight o'clock on the evening of Wednesday (8th October) we had every appearance of a squall; during the night a heavy thunderstorm passed over Bombay, and it looked like a renewal of the Elephanta, if we are in reality to suppose this gale already passed. Yesterday the sky was bright and

open, although it looked somewhat squally in the afternoon; and we should not feel surprised if we had yet showers of rain to usher in the cold season."

1857.—This year seems to have been still worse off than that preceding it, in the characteristic partition which separates our monsoons. After three weeks of fair weather, electric clouds are noted as visible in the east with lightning about the 6th, and this is all we can make out of it.

Out of the seventeen years here given Bombay had been five times without a regular Elephanta—that is a squall from the east, with rain and thunder—occurring, with the three exceptions of 1843, when it fell on the end of September, and betwixt the 1st September and 10th October. Unless during the two years 1843 and 1844, indeed, during the latter of which there occurred two squalls which divided betwixt them the honors of the Elephanta, it has always happened betwixt the 7th and 10th October, with a degree of punctuality which might well surprise the uninitiated. For the years 1845, 1856 and 1857 we have nothing but the Observatory report to guide us and cannot exactly make out when the Elephanta occurred.

It thus appears that for five years on end they had experienced at Bombay no such storms as that usually known as the Elephanta, and of the occurrence of which for the previous eleven years almost uninterruptedly we have minute accounts. Elephantas in all likelihood prevailed as regularly before 1840 into the depths of time as betwixt that date and 1857, but wanted a historian. The violence of the electric storm which ushers in the rains will be found, when we come to analyse the records, to have become as much mitigated in violence as that with which they close. It gives a melancholy view of our ignorance of the simplest and most interesting facts in Natural History, to think that we know nothing of the characteristics of this storm beyond the boundaries of Bombay harbour. Where it begins, where it ends, over what area it extends, or what form it assumes elsewhere are things utterly unknown to us. The Governments of England and of the East India Company have, within the past fifteen years, spent about £100,000 in making and publishing meteorological observations; these reports are all so learned that they are utterly useless. No meteorologist could, from one of the fifty magnificent quartos, one of which is now before us—form any idea whatever of the climate meant to be indicated. The printing alone of ten volumes of Bombay reports cost a lakh of rupees, yet no one could work out from them when the first burst of the monsoon, or when the Elephanta occurs, or what are the characteristics of each.—*The Bombay Standard and Chronicle of Western India, page 5.*

ELEPHANTE. Sp. ELEPHANTES, It. Elephant.

ELEPHANTA. An island across Bombay harbour a mile from Butcher island and known to natives as the island of Gharipuri. A cave in it in itself may be called a complete Pantheon: for among the hundreds of figures, there sculptured, every principal hindu deity is found. Buddha is evidently from his size and situation a principal personage there; yet not the image or deity to whom the temple seems peculiarly dedicated, which Major Moor apprehended to be the One Supreme Being. But as no representations are ever made of that Being, to his three principal powers, or attributes, (viz. according as they be contemplated—mythologically, ethically, metaphysically, or philosophically)

Brahma	Power	Creation	Matter	The Past	Earth
Vishnu	Wisdom	Preservation	Spirit	,, Present	Water
Siva	Justice	Destruction	Time	,, Future	Fire

In the Elephanta cave, Garuda is often seen with an appendage; and on several very old gold coins he has snakes or elephants in his talons and beaks—for he is sometimes spread, and double-headed, like the Prussian eagle, and one is round his neck: but he is not so represented either in pictures or casts. Destroyer of serpents, Nag-anteka, is one of his names. Some legends make Garuda the offspring of Kasyapa and Diti. Diti laid an egg, which it was predicted would produce her a deliverer from some great affliction: after a lapse of five hundred years, Garuda sprung from the egg, flew to the abode of Indra, extinguished the fire that surrounded it, conquered its guards, the devata, and bore off the amrita (ambrosia), which enabled him to liberate his captive mother. A few drops of this immortal beverage falling on the species of grass called Kusa, (the poa cynosuroides,) it became eternally consecrated; and the serpents greedily licking it up, so lacerated their tongues with the sharp grass, that they have ever since remained forked; but the boon of eternity was ensured to them by their thus partaking of the immortal fluid. This cause of snakes having forked tongues is still, popularly, in the tales of India, attributed to the above greediness; and their supposed immortality may have originated in some such stories as these, though, it is probable that the periodical renewal of their skin and assumed re-juveniscence is the true explana-

tion of this belief. The Elephanta caves are cut in a harder rock than those of Ellora. —*Moore's Pantheon, page* 342. See Gharipuri.

ELEPHANT APPLE. ENG. Feronia elephantum, *Cor.*

ELEPHANT CREEPER. ENG. Argyreia speciosa.

ELEPHANT-FOOT YAM. See Dioscoria.

ELEPHANT GOURD. ENG. Hasti Kosataka. SANS. Ennuga bira. TEL. Some large cucurbitaceous plant not yet defined. Perhaps Elephantopus scaber.

ELEPHANT GRASS. ENG. Typha elephantina.—*Roxb.*

ELEPHANTOPUS SCABER. Linn.

Anashovadi, MAL. TAM.	Husti kasaka, TEL.
Shamdulun, BENG.	Ennga bira, „
Samdulun, HIND.	Eddu nalike chettu, „

This plant grows in the peninsula of India, and its leaves are used in medicine.

ELEPHANT ROCK. A rock in Ceylon. Allagalla, Ætagalla and Goomeragalla, all signify the Elephant rock. The former—the grand mountain up whose precipitous side runs the railway incline of 1 in 45 for 13½ miles—is simply the Allia (untusked elephant) rock. The rock which, like an elephant couchant, guards Kornegalle, Ætagalla, is the tusked elephant rock; and the strange, massive block which towers over and gives its name to one of the finest estates in the Knuckles is the speckled elephant rock. The rock, at a distance gives the outline of an elephant, and the patches of cryptogams which spot its precipitous sides has led to the specific name—the Goomera elephant being that semi-leprous one which, in an advanced stage of the cutaneous affection, results in the "white elephant" so adored in Burmah. See Elephant.

ELEPHANT'S TAIL, Hair of

Hathi-ke-dum-ka-bal, DUK	Yeanuga toka Ventru-
Beram Rambut, MALAY.	calu, TEL.
Anay val myre, TAM.	

Of this article, rings, bracelets and other female ornaments, are made in India.—*Ains. Mat. Med. page* 154.

ELEPHANT'S TEETH. These are obtained in South Africa, Ceylon, Burmah, &c. much of that which comes to China is brought from Siam in junks; the northern parts of Siam, Cambodia, and the confines of Burmah supply the Chinese market. A good deal finds its way into China direct from Burmah. They should be chosen without flaws, solid, straight, and white; for if cracked or broken at the point, or decayed inside, they are less valuable; every specimen, however, is useful to a greater or less degree, and can be entirely used. The largest and best weigh from 5 to 8 to a pecul, and decrease in size to 25 in a pecul. The cuttings and fragments are also of value sufficient to make them an article of trade. The number of articles which the Chinese make of it, and the demand for them on account of their exquisite workmanship, render the consumption very great. The circular balls which the Chinese make of ivory, as well as their miniature boats, fans, chessmen, boxes and fancy articles of all descriptions, are specimens of carved work unequalled in any other part of the world. From a quantity of ivory not weighing over three pounds, they will make a toy worth a hundred dollars. The largest teeth are sometimes valued at $120 a pecul, but the article usually ranges from $50 to $80 per pecul. This trade is likely to increase at the north. A large proportion of the ivory brought to China is re-exported in fancy carved ware. —*Morrison.*

ELEPHAS AND ELEPHANTUS. LAT. GREEK. Elephant.

ELEPHAS BOMBIFRONS. See Elephant.

ELEPHAS (Stegodon) Cliftii has been found fossil in Ava, the Sewalic Hills.

ELEPHAS GANESA. See Elephant.

ELEPHAS HYSUDRICUS. See Elephant.

ELEPHAS INDICUS. See Elephant.

ELEPHAS INSIGNIS. See Elephant.

ELEPHAS MERIDIONALIS. See Elephant.

ELEPHAS NAMADICUS. See Elephant.

ELEPHAS PLANIFRONS. See Elephant.

ELEPHAS PRISCUS. See Elephant.

ELEPHAS SUMATRENSIS. See Elephant.

ELETTARIA CARDAMOMUM. WH. and MAT.

Alpinia cardamomum. ROXB.	Cardamomum minus.
Amomum repens. WOODV	Elletaria, L. &E. PHARM.
Amomum cardamomum WOODV.	Var. α E. Cardamomum, minor. RHEEDE.
Amomum repens, ROSCOE.	„ β. E Cardamomum major, Smith. Long Cardamom.
Amomum racemosum LAM.	

Kakula; Ebil. AR.	Choti Ilachi HIND.
Ilachi. BENG. HIND.	Guzerate „ „
Pa-lah. BURM.	Barra „ „
Ba-la. „	Kapulaga, Puwar. MALAY.
Cardamom plant. ENG.	Yalum. MALEAL.
True Cardamom „	Kakuleseghar. PERS.
Lesser „ „	Dokeswa SYLHET.
Long „ „	Ela cheddi. TAM.
Wild Cardamom of Calcutta. ENG.	Elaki chettu. TEL.
	Yela kulu. „
	Sanna elaki. „

The various vernacular names and the synonyms, will show that both the scientific and the unscientific world have believed that the round and conical-seeded cardamoms are the products of two species, but Mr. Thwaites, after a careful comparison of growing specimens, is satisfied that the plants producing respectively the round and the long cardamoms of commerce are not distinct species, but merely two varieties of the present species. In every essential particular the structure is similar in the two plants, the only difference being that var. *α* which produces the round cardamom, is a little taller, with rather narrower and less firm leaves, and that its fruit is more aromatic as well as different in form from that of var. *β*. The seeds of both varieties are used by the Singhalese to chew with their betel, and as medicines.

The long cardamom called Ensal in Ceylon grows wild in the Ceylon forests up to 3,000 feet, but the round cardamom is there only a cultivated plant, and is called by the Singalese, "Rata-ensal." The wild or Ceylon cardamoms are of less value in the market than those of Malabar. See Cardamom. *Thw. En. pl. Zeyl. p.* 318.

ELETTARIA FLORIBUNDA. *Thw.* A tree of the forests in the Ambagamowa district. *Thw. En. pl. Zeyl. p.* 219.

ELETTARIA INVOLUCRATA. *Thw.* A tree of the Central Province, in damp forests, at an elevation of 4000 to 6000 feet. *Thw. En. pl. Zeyl. p.* 319.

ELETTARIA NEMORALIS. *Thw.* A tree of the forests in the Reigam and Pasdoon Corles. *Thw. En. pl. Zeyl. p.* 319.

ELETTARIA MAJOR. See Cardamom.

ELEUSIS. The mysteries of Osiris and those of Eleusis were of the same character, commemorative of the first germ of civilization, the culture of the earth, under a variety of names, Ertha, Isis, Diana, Ceres, Ella. In the terra cotta images of Isis, frequently excavated about her temple at Pæstum, she holds in her right hand an exact representation of the hindu lingam and yoni combined; and on the Indian expedition to Egypt, the hindu soldiers deemed themselves amongst the altars of their own god Iswara (*Osiris*), from the abundance of his emblematic representatives. *Tod.*

ELEUSINE, a genus of plants of the natural order Panicaceæ, of which E. calycinia, E. coracana, E. Indica and E. stricta are known in India. *Voigt.*

ELEUSINE CORACANA. *Gært.* Roxb.
Cynosurus coracanus, Lin.

Murua,	Beng. Hind.	Raggi,	Can. Duk.
Murha,	„ „	Nagla,	Duk.
Thick spiked Eleusine,	Eng.	Rojika,	Sans.
Mandal,	Hind.	Natchenny,	„
Munrivi,	„	Nauguli,	Sind.
Mund,	„	Korakan,	Singh.
Koda,	„	Kayveru; kelwa-ragu,	Tam
Chalodra,	„	Tamidelu,	Tel.
Mundul,	Kangra.	Chiviki velama; Cholla Velamasandhi Ragulu,	Tel.
Mutami tsjetti pullu,	Malbal.	Kapa	of Tinnevelly,
Mandwah.	Pers.		

This is cultivated throughout India, and is the most productive of all Indian cereals. It is much eaten by the labouring people. Is extensively grown by the ryots in the Bangalore and Ashtagram divisions, and is the staple food of the inhabitants of Mysore; and though coarse in appearance, is a wholesome and nutritious grain. It is very indestructible; and may be preserved for about sixty years if carefully deposited in grain caves or pits. These pits are generally placed in hard dry ground. The pit is formed by digging a small hole of the size to admit a man, and as the hole descends, it is enlarged into a moderate sized circular room. After the pit is dug out, a large fire is lit in it to harden the sides. These stores are of inestimable value in moderating dearths, as the grain remains sound for very many years. The straw is a very good fodder for cattle, and it too keeps well. Owing to failure of rain, it may be high priced in Mysore; but there is no scarcity of that grain, large stocks of it being kept in the granaries of wealthy farmers. It is exported in large quantities, to Neilgherries, Salem, Bellary, Chittore, Madras, Trichinopoly, &c. When cheap, it sells in Bangalore at seven marcals or eighty-four seers for a Rupee; or if dear, $2\frac{1}{2}$ marcals or thirty seers. Ragi is usually sown in fields mixed with Buller, Togari, Hutchellu, Lave, Kari, Jola, Sasava, and Haralu. The drill consists of many reeds with holes, so that the whole of the seeds are sown through their respective holes in parallel lines. A fermented liquor is prepared from it called Bojali or Murwa, chiefly drunk in the Mahrattah countries as a drink in the Sikkim Himalaya, it seems more to excite than to debauch the mind. The millet seed is moistened and allowed to ferment for two days. Sufficient for a day's allowance is then put into a vessel of wicker work, lined with India rubber to make it water tight, and boiling water is poured on it with a ladle of gourd, from a large iron cauldron that stands all day over the fire. This fluid when quite fresh tastes like negus of Cape sherry, rather sour.—*Hooker, Him. Jour. Vol.* I *pages* 133—291.—*Madras Ex. Jur. Report. Dr. Cleghorn's Punjab Report. Dr. J. L. Stewart. Ainslie page*, 219.

ELEUSINE INDICA, Hsen-gno-myeet. BURM. Tufts of it are conspicuous everywhere among other grasses of Tenasserim. —*Mason.*

ELEUSINE STRICTA. *Roxb.*

Ragi,	HIND.	Maddi rubba chettu,	TEL.
Pedda sodi,	TEL.	Pedda chollu,	,,

This species is larger in size than E. coracana. It is cultivated in Southern India to a large extent, and like Dolichos uniflorus yields in favorable seasons more than a hundred-fold.

ELEUTH, a tribe of the Kalmuk, dwelling in Dzungaria. See Kalkas.

EL-FATTAHA, a town at the southern opening of the Hamrin Hills, at which the Tigris makes its exit from the hills.

ELFENBEIN. GER. Ivory.

ELGHAR OR YELGHAR. PERS. The forced march of an army or sudden incursion.

ELGIN. The Right Hon'ble James Earl of Elgin and Kincardine, K.T., G.C.B. and G.M.S.I., succeeded Lord Canning as Viceroy of India. He was born in London in 1811 and died and was buried at Dhurmsala in the Kangra valley of the N. W. Himalya, on the 20th November 186—? While Viceroy of India he was greatly aided by Mr. Maine and Sir Henry Durand.

EL HADHR, a town of Mesopotamia.

ELIJAH, also called Elias, a prophet of Tishbeh beyond the Jordan, in Gilead. The Ali Ilahi sect of Karund, revere him as an incarnation of the deity. A makan or resting place of Elias, exists on the borders of the Kassan and Sulmania governments of Kurdistan. The mahomedans believe that Elias never died, but is still on earth, awaiting the second coming of Christ. These views they derive from the Jews, who even took Christ for Elias. The mahomedans identify Elias with Khajah Khizr. A well and a chapel met with in the ascent to Mount Sinai are named after the prophet Elias, whom the Scriptures state to have sought refuge from the persecutions of Jezebel in the solitudes of Horeb. (See 2 Kings, xix.) Its presence in this situation, mentioned also by Edrisi, seems to be an argument of the identity of Gebel Musa with the Sinai of the Scriptures.—*Hamilton's Sinai Hedjaz and Soudan, pp.* 28-30. See Karund, Khizr. Kidder.

ELIKA BORA GADDI, TEL. Fuirena ciliaris. *R.* i. 180, *W. Contr.* 93.

ELIKA TUNGA GADDI. TAM. Sporobolus Coromandelianus. KUNTH.

ELI KULLI. TAM. Euphorbia netilfolia. —*Linn.*

ELIM, in Phœnicia, a general name of God.

ELIM, in Numb. xxxiii. 10, it is mentioned "they removed from Elim, and encamped by the Red Sea." Wellsted (*Travels II p.* 44) supposes Girandel, where there is still water and palm trees, to be Elim.

ELIMITCHAM MARAM. TAM. Citrus bergamia.—*Risso.*

ELIMITCHAM PALLAM. TAM. Citrus aurantium. Limes.

ELIOTT, Daniel, a Madras Civil Servant, who served many years as secretary and subsequently as member of the Madras Board of Revenue, was a member of the Law Commission, to frame Laws for India; a member of the Council of Madras; and member of the Legislative Council of India for the Madras Presidency.

ELIUN, also Helyun, the Most High God of the Egyptians: higuthan kabiri.

EL-KASR. A lofty, extensive, but disturbed mound in Babylon, known by the name of El-Kasr, or the palace; supposed by some to have been the site of the royal palace of Nebuchadnezzar, and the hanging gardens of his queen Amytis. p. 13.

ELK-UL-BUTM. HIND. Pistacia terebinthus.

EL KUSH, an ancient town of Babylonia, its ruins are 11 miles E. S. E. of Felujah. The ancient kingdom of Babylonia comprehended a narrow tract along the river Euphrates, extending from the neighbourhood of Erech, or from about the modern town of sheikh-el-Shuyukh, to Babel, a distance of about 154 miles in a direction westward of North, and continuing from thence 287 miles further, in the same direction to Kalneh, on the Khabur. The kingdom extended eastward till it joined Assyria, including Akad, and two other cities no less remarkable. One of them bears the name of El Kush, extensive ruins about 11 miles E. S. E. of Felujah, and the other is the supposed site of antediluvian Sippara, Siferah of the Arabs, (Lieut. Lynch,) which is within the Medina wall, near the southern extremity.

ELL. ENG.

Aleine,	GOTHIC.	Ulna,	LAT.
Olene,	GR.	Ratni,	SANS.
Elina,	OLD GERM.	Saratni,	,,
Elu,	ANGLO-SAXON.	Aratni,	,,
Hat'h,	HIND.		

The ell measure is taken from the length of the fore-arm. Aratni, Sansc. is the short ell measure.

ELLA, in hindu mythology is the mother of the Lunar race,—Ella is the earth personified.

Eartha of the Saxons; the Greeks; Ard in Hebrew. She is sometimes described as the daughter, sometimes as the sister of Icshwacu and married to Buddha. In the hindu mythology, according to Colonel Tod, the serpent (Budha) ravished Ella, daughter of Icshwacu, the son of Manu, whence the distinctive epithet of his descendants in the east, *Manus*, or men, the very tradition on an ancient sculptured column in the south of India, which evidently points to the primeval mystery. He says that in Portici there is lingam entwined with a brazen serpent, brought from the temple of Isis at Pompeii, and many of the same kind, in mosaic, decorate the floors of the dwelling-houses and that there are wreaths of lingams and of the yoni over the door of the minor temple of Isis at Pompeii while on another front is painted the rape of Venus by Mercury. The lunar race, according to the Purans, are the issue of the rape of Ella by Budha.

ELLAHNEEL. Tam. In Travancore, a small tree, with a light red coloured wood, specific gravity 0·779, used for temples, pagodas, and furniture.

ELLAKERRI. Singh. Milk.

ELLAKULLI. Tam. Maleal. Euphorbia nivulia.—*Buch.*

ELLA KURA. Tel. Also Ilakura. Tel. A pot herb, perhaps a species of Salsola.

ELLANDE. The Malayala name of a Malabar tree which the natives use for general purposes. It produces a fruit from which they extract a sweet scented oil, which is used medicinally; and also for the hair of the women in days of ceremony.—*Edye Forests of Malabar and Canara.*

ELLEE WANDERU. Singh. Presbytes thersites, a Ceylon monkey.

ELLENBOROUGH, Earl of, Governor General of British India in 1841. He arrived in India at the time that the Indian Army was holding Cabool. He was recalled by the Court of Directors, but the reasons for his dismissal of their service, were never divulged.

ELLICHPORE, a town in East Berar still of considerable size, though greatly decayed. A military cantonment is near of the same name.

ELLIOT, Charles Morgan, Captain, Madras Engineers, *Obit.* 1853? brother of Sir Henry Elliot, employed from 1846 to 1849 in the Magnetic Survey of the Indian Archipelago. In this duty he visited Moulmein, Madras, Nicobar, Sambuanga, Penang, Pulo Dinding, Borneo, Celebes, Pulo Penang, Singapore, Carimon, Pulo Buaya, Sumatra, Batavia and the Kokos or Keeling islands. *Elliot's Magnetic Survey.*

ELLIOT, Sir Henry Miers, K.C.B., one of fifteen children, of Mr. John Elliot, of Pimlico Lodge Westminster. He was born in 1808, was educated at Winchester School, and Oxford from which he passed into the Civil Service of the E. I. Company in Bengal and twice filled the post of Foreign Secretary. He died at the Cape in 1853, aged 45. He published in 1846 a Supplementary Glossary of Indian terms, an Index to the Mahomedan historians of India, 4 vols., and collected M.S.S. materials for a history of India which Professor Dawson and Mr. E. Thomas commenced to edit. (Calcutta Review on No. xxiv.) He was possessed of a vast store of information which his early death prevented him giving to the public. The posthumous work is entitled History of India as told by its own historians, edited by Professor John Dawson, M. R. A. S., Staff College, Sandhurst, and the volumes that have already appeared are of great value.

ELLIOT, Sir Walter, K.C.S.I., a member of the Madras Civil Service, 2nd member of Council at Madras and President of the Revenue and Marine Boards. Employed as a Revenue Officer, first in the Southern Mahratta country; subsequently as member of the Board of Revenue of Madras from which he was deputed as Revenue Commissioner, North Sircars, returning to Madras in 1855, to the Council. He contributed the following papers to the scientific Journals. On Hindu Inscriptions, Lond. As. Trans. vol. iv. 1;—Catalogue of Mammalia in the Southern Mahratta Country; Mad. Lit. Trans. 1839, vol. x. 92, 207.—On the language of the Ghonds, with a Vocabulary, Bl. As. Trans. 1848, vol. xvii. 1140.—Illustrations of the History of Southern India, Lond. As. Trans. vol. iv. 1; Mad. Lit. Trans. vol. vii. 193.—Notice of expedition into S. Africa, with descriptions of new species of rhinoceros. Ibid. vol. xiv. 181.—Notice of the late Dr. Turnbull Christie. Ibid. vol. xv. 150.—Description of a new species of terrestrial planaria. Ibid. 182. Flora Andhrica, Madras, 1859.—*Dr. Buist's Catalogue.*

ELLORA in L. 20° 2′ N., L 75°, 11′ E. in the Dekhan, N. W. of Aurangabad. The entrance to the caves is 2,064 feet above the sea. It is called by the people Yerula and is near Roza in the Dowlatabad province of the Dekhan. The plateau of Roza, in the face that looks into the valley of the Godavery is scarped and the porphyritic greenstone amygdaloid rock has been excavated into great caves, and dwellings about 13 in number. Those of Dhumnar and Ellora, contain a strong admixture of brahmanism, and those of Elephanta are entirely brah-

manical though perhaps of the same age as those of Ellora. The plan of their excavation is the same as those of Adjunta, Salsette and Junir, and the Dherwarah at Ellora, is very fine. The pillars of Adjunta, Elephanta and Ellora have similar cushion capitals, the Indra Subha group at Ellora is either of brahminical or Jaina origin.

ELLORE, in Lat. 16° 44′; 81° 7′; E. is to the west of the Kolar lake in the Northern Circars. It is but little elevated above the sea, and is a Civil and Military Station of the Madras Presidency. It is called by the natives Upu, or salt, Ellore, to distinguish it from Rai (or stony) Ellore, the Vellore of the maps.

ELLU. CAN. Gingelly seed.

ELLUPA. TAM. ELLUPI. MALE. Bassia longifolia.

ELM. ENG. Alah. HEB. See Alnus.

ELMYUS. See Carex arenaria.

ELOHIM, God is sometimes so called, in the Bible, the meaning being Godhead, or Gods; also called, Jahvah (pronounced Jehovah.) But the word, was not spoken. Adonai, the Lord being used instead. Gen. II, 3 alone uses Jehova. Elohim, is the Eternal Lord.—*Bunsen*, IV 379.

ELOOPAY. TAM. In Tinnevelly, a wood of a red colour, used for building in general.

ELOOPEI POO. TAM.

Mohe ka phul,	DUK.	Iluppam pu,	TAM.
Maduka,	SANS.	Ippa puvvu,	TEL.

The dried flowers of Bassia longifolia, resemble grapes, are largely used in distilling arrack.

ELOOPU or Elupe Maram. TAM. The Malayala name of a tree which grows to fifty feet in height, and two and a half feet in diameter. It is said to be a useful timber, and is found to be durable in native vessels for planks, beams, &c. It produces a fruit from which an oil is extracted, which is used for lamps and other purposes.—*Edye*, M. *and C.* (This seems the Bassia longifolia.)

ELPHINSTONE, the Hon'ble Mount Stuart, a civil servant of the East India Company, who went as Ambassador to shah Shuja-ul-Mulk, king of Afghanistan. In 1802, shah Mahmood was driven out by Sujah-ool-Mulk, the younger brother of Zeman Shah, and Shah Shuja was still in possession of the undivided empire of Ahmed Shah at the time of Mr. Elphinstone's mission in 1808. This mission was sent for the purpose of concerting with Shah Sujah the means of mutual defence against the threatened invasion of Affghanistan and India by the Persians in confederacy with the French. Mr. Elphinstone had scarcely left Cabool ere Shah Shuja was driven out by Shah Mahmood with the aid of Futteh Khan. He was afterwards Resident at Poonah, while the last Peshwa, Baji Rao, was ruling the Mahratta states, and subsequently was Governor of Bombay. Author of report on the territories conquered from the Peshwa, Calcutta, 1821. Cabool. Lond. 1815; 2nd edn. 1825; 2 vols.—History of India, Lond. 1841, 2 vols. 8vo. Ob. 1860. He is the most judicious and impartial of all Indian Historians.—(*Dr. Buist's Catalogue.*)

ELPHINSTONE, Lord, Governor of Madras, 1836 to 1840. Governor of Bombay during the period of the revolt of the soldiery of Bengal during which some of those of Bombay also were implicated, died 19th July 1860.

EL-SHAM-I-SHARIF, also Sham, the eastern names of Damascus.

EL-SHARK, "the East," the popular name in the Hejaz for the western region as far as Baghdad and Bussora, especially Nijd. The latter province supplies the Holy Land with its choicest horses and camels. The great heats of the parts near the Red Sea appear prejudicial to animal generation; *Burton's Pilgrimage to Meccah, Vol. II. p. 4.*

ELTA-ZYE, a branch of the Kambarari tribe who occupy Bagban in Baluchistan.

ELTHARIAH, descendants, more or less pure, of Rajpoots and other Kshatriyas of the plains, who sought refuge in the Nepal mountains from the mahomedans, or merely military service, as adventurers. The Elthariah speak only the Khas language.

ELUKA JIDI CHETTU. TEL. A plant resembling mint eaten in times of dearth; perhaps Hydrocotyle rotundifolia or Marsilea dentata.—*Roxb.*

ELUTH, also called Sangariam, a Mongol tribe whose mode of life in habitations, food and drink, resemble those of the Kirghis. Along with the Torgat, Kalkas and Khoit, they occupy the country about Lake Koko Nor. See Kalkas, Kirghis.

EL UZZ a town of Mesopotamia.

ELWA. HIND. Aloes, also the plants Aloe indica and A. perfoliata.

ELYAN. HIND. also Ayar. HIND. Andromeda ovalifolia.

ELYMAIS, according to De Bode, is the modern Tengi-Saulek in the province of Pars or Fars. The name according to Professor Max Muller has been derived from Ailama, a supposed corruption of Airyama. The Persians, Medians, Bactrians, and Sogdians all spoke, so late as the time of Strabo, nearly the same language, and we may well understand, therefore, that they should have claimed for themselves one common name, in opposition to the hostile tribes of Turan.

And when, after years of foreign invasion and occupation, Persia rose again under the sceptre of the Sassanians to be a national kingdom, we find the new national kings the worshippers of Masdanes, calling themselves, in the inscriptions deciphered by De Lacy, "Kings of the Aryan and Anarian races;" in Pehlevi, *Irân va Anirân* in Greek, Αριάνων χαι Αναριάνων. Colonel Chesney says that Elymais or Sosirate was the capital of the province from which the hardy Cossæi spread their conquests over Susiana and the districts eastward. The Elymæans inhabited Mount Zagros, which is on the southern confines of Media and overhangs Babylon and Susiana. *Muller's Lectures, pp.* 226—229. *De Bode.* See Luristan.

ELYSIUM. See Yavana.

ELYTRA or wing sheaths of several of the beetles of India are highly lustrous and are articles of trade. See Beetle.

EM. HIND. Chenopodium album.

EMBELIA, a genus of plants of the natural order Myrsinaceæ, of which M. basæal M. nutans, M. ribes; M. robusta and M. villosa are known. The leaves and berries of M. basæal of the western coast of India are used in medicine. The berries of M. ribes are used to adulterate black pepper.

EMBLICA OFFICINALIS, *Gœrtn.*
Phyllanthus emblica, *Linn. Roxb. W. Ic.*
Myrobalanus emblica, *Bauhin.*

Aonla,	BENG.	Kadondong,	MALAY.
Anola,	„	Nelli,	MALEAL.
Nelli mara,	CAN.	Ambla,	PANJ.
Nilika-mara,	„	Amla,	„
Emblic myrobalan,	ENG.	Amlaki,	SANS.
Μυραβαλανος εμβλικα	GR.	Umriti,	„
Amliki,	HIND	Amalaca,	„
Amlika,	„	Amusada nelli,	SINGH.
Aruli,	„	Nellikai,	TAM.
Aungra,	„	Nelli maram,	„
Aonla, or Anola,	„	Usirika manu,	TEL.
Malaca,	MALAY.	Amla kamu,	„

A crooked tree, almost the thickness of a man's body. It grows in the south of the Peninsula, in Canara, the southern Mahratta country, the Konkan, the Dekhan, in the forests of the Godavery and Circars, in Bengal, on the banks of the Jumna, the Panjab and eastwards in the Moluccas. The wood is hard and durable, is used for boxes, and for veneering: is good for well rings, does not decay under water, is well adapted for turning. The strongly astringent bark is used as a tanning material, and in dysentery and diarrhœa. The myrobalan fruit, can be pickled or preserved in sugar: native women consider the powder of the seeds to possess cooling properties and to be good for the hair, and use it mixed with either water or milk. The fruit is also used for making ink and to obtain a black dye.—*Voigt, Captain Beddome, Mr. Rohde, Dr. Cleghorn. Ib. Rept. on Kullu and Kangra. O'Shaughnessey. Voigt. Edye, Dr. J. L. Stewart, Honigberger,* 273.

EMBELIA PENTANDRA.
Ambut, DUK.

A scandent shrub with alternate, polished leaves; flowers in the cold season: fruit red, size of a currant.—*Riddell.*

EMBELIA RIBES. BURM. Roxb. Syn.
E. glandulifera, Roxb. W. Ic.
E. ribesoides Linn.

Babi rung,	BENG.	Vishal,	TAM.
Bai-barung,	„	Vellal,	„
Kar-kunni,	of BOMBAY.	Vayu velangam chettu,	TEL.
Wai-warung,	HIND.		
Visha-al,	MALEAL.		

A scandent shrub growing in the Peninsula of India and at Sylhet. Its berries are pungent and used to adulterate black pepper. They are stated to be anthelmintic and cathartic. *Riddell. Voigt. Birdwood. Cat. Ex.* 1862.

EMBELIA RIBESOIDES. LINN. Syn. of Embelia ribes.—*Burm.*

EMBROIDERY. The art of embroidery is one consonant with the habits of the people of India; their patience and delicate handling render success certain, and there is, says Dr. Royle (*Arts of India p.* 506—507), scarcely a town or city where creditable embroidery cannot be found. Delhi is a great place for embroidered fabrics both in silk and gold threads. In Lahore and Amritsar the manufacture of "kalabatun," or gold thread, is extensively carried on. And Benares has long been famed, for gold and silver threads and also for its beautiful brocades. The art of embroidery was known and practised with great skill, in ancient times, in Egypt, Assyria, and Persia. The Israelites learnt the art before their exodus, the Babylonians were famed for their rich tapestries, and the Assyrian monuments display richly embroidered robes and trappings. Many parts of India are famous for this art "*Zardozi.*" "From Dacca" says the Abbe de Guyon, writing in 1744, as quoted by Dr. Taylor, "come the finest and best Indian embroideries in gold, silver or silk; and those embroidered neckcloths and fine muslins which are seen in France." There has always been a demand for such scarfs for the markets of Bussora and Java. In the present day they have silks and woollens, muslins and nets, Cashmere shawls, European velvets embroidered with silk or tussur, that is, wild silk of either floss or common twisted silk thread: or with gold and silver thread and wire in great variety. The cloth

manical though perhaps stretched out on a hori- those of Ellora. The, raised about a couple tion is the same ground, and the figures in- and Junir, an worked or embroidered are very fine. Tit by designers who are general- ta and Ell painters. On woollen cloths, how- the Indi outlines are traced with chalk and of br muslin with pencil, and the body of the design copied from coloured drawings. The embroiderers, seated upon the floor around the frame, ply the needle by pushing it from, instead of towards them. In place of scis- sors they commonly use a piece of glass or China ware to cut the thread. Among the embroidered articles at the Exhibition of 1851, those from Dacca and from Delhi were probably the best known. In Delhi, small shawls and scarfs are chiefly embroi- dered both with floss and twisted silk; in Dacca both nets and muslins, with floss silk of various colours. But Dacca is also famous for its embroidery of muslins with cotton, which is called chikankari or chikandozee One kind is "formed by breaking down the texture of the cloth with the needle, and converting it into open meshes." Dr. Taylor states that "Kashida" is the name given in Dacca, to cloths embroidered with muga silk or coloured cotton thread; and though generally of a coarse description, gives occu- pation to a number of the mahomedan wo- men of Dacca. Though the scarfs of both Delhi and of Dacca, are much admired, it has been suggested by a lady, that muslins or nets, worked so as to be suitable for making ball-dresses, would probably be in great demand, as those which are now sold in Britain for such purposes are very inferior in taste and elegance to the Indian embroi- dery. The beetle-wing embroidery exhibited in 1851 from Madras was particularly ele- gant: and the velvet awnings, musnud covers, hookah carpets, and elephant trappings, embroidered with gold and silver, chiefly at Moorshedabad and Benares, were admired as well for richness as for the skill with which the ground-work was allowed to re- lieve the ornaments. The embroidered sad- dles and saddle-cloths, and floor-coverings from Pattiala, Mooltan, and Lahore, were of the usual style of what are called the works of that famed valley, and which was conspi- cuously shown in the dresses, caps, and slippers from Cashmere itself. But that the skill and taste are not confined to one part of India was also to be seen in the table- covers from Tatta in Sind and in the embroi- dered boots from Khyrpoor, which Mr. Digby Wyatt illustrated. The skill of the Chinese says Mr. Williams, (*Middle Kingdom, Vol* ii, *p* 123,) in embroidery is well known, and the demand for such work to adorn the dresses of officers and ladies of every rank, for embellish- ing purses, shoes, caps, fans, and other append- ages of the dress of both sexes, and in work- ing shawls, table covers, &c., for exporta- tion, furnishes employment to numbers of men and women. The frame is placed on pivots, and the pattern is marked out upon the plain surface. All the work is done by the needle without any aid from machinery; there are many styles of work, with thread, braid, or floss, and in one of the most ele- gant, the design appears the same on both sides, the ends of the threads being neatly concealed. This mode of embroidery seems also to have been known among the Hebrews, from the expression in Deborah's song, (Judges v. 30). "Of divers colors of needle work on both sides," which Sisera's mother vainly looked for him to bring home as spoil. In China, books are prepared for the use of em- broiderers, containing patterns for them to imitate. The silk used in this art is of the finest kind and colors; gold and silver thread is occasionally added to impart a lustre to the figures on caps, purses, and ladies' shoes. A branch of the embroiderer's art consists in the formation of tassels and twisted cords for sedans, lanterns, &c.; and in the knobs or corded buttons worn on the winter caps, made of cord intertwisted into the shape of a ball. Spangles are made from brass leaves by cutting out a small ring, by means of a double edged stamp, which at one drive detaches from the sheet a wheel-shaped disc.; these are flattened by a single stroke of the hammer upon an anvil, leaving a minute hole in the centre. Another way of making them is to bend a copper wire into a circle and flatten it. The needles are very slender, but of good metal; in sewing, the tailor holds it between the forefinger and thumb, pressing against the thimble on the thumb, to push it into the cloth.

In Southern India this art is practised, chiefly, at the towns of Tanjore, Madras, and Secunderabad. The Tanjore, and Madras works are very superior in quality and consist of a variety of fancy articles of great merit particularly pocket handker- chiefs, worked muslin dresses, scarfs which show great taste in the patterns and beauti- ful finish.

Embroidery in Gold and Silver is an art which furnishes some of the most gorgeous and expensive manufactures for which India has been long celebrated. In the taste and judg- ment evinced in the blending of brilliant colors and contrasting them with gold and silver on grounds of velvet, satin, silk, or

muslin, India in this manufacture, stands unrivalled. Some are very gorgeous shamianahs and elephant saddle cloths.

The gold and silver fancy fringes of Hyderabad are deserving of mention. Small samples of solid silver wire fringes and ornaments from Madura were deemed worthy of notice, but they are surpassed by the silver thread of Hyderabad.

In the embroidered fabrics in India, it may be mentioned, as a principle, that their patterns and colours diversify plane surfaces without destroying or disturbing the impression of flatness. They are remarkable for the rich diversion shown in the patterns, the beauty, distinctness and variety of the forms, and the harmonious blending of several colours. The oriental races have ever been celebrated for their skill in this art of embroidery which appears to have been practised in Assyria and introduced from thence into India. Pliny, however, mentions that it was a Phrygian invention and in Rome embroiderers were called Phryigiones. In Babylon, clothes were woven of different colours and called Babylonica. During the early part of the middle ages, Europe obtained its most important embroideries from Greece and the East. *J. B. Waring Master pieces of Industrial Art. Exh. of 1862. William's Middle Kingdom, Vol.*, ii. *p.* 123 *Royle, Arts of India, &c., p.* 506—507.

EMBRYOPTERIS GLUTINIFERA, *Roxb.*
Diospyros glutinosa. *Koen.*
,, embryopteris. *Pers.*

Gab.	Beng. Hind.	Timberri,	Singh.
Kusharta mara,	Can.	Tumbika,	Tam.
Cusharatha mara,	,,	Pani-chika,	Tam.
Wild Mangosteen,	Eng.	Tumei,	Tel.
Pani-jika,	Maleal.	Tumika,	,,

In the northern province of Ceylon, its timber is used for common house buildings, and the juice of the fruit is used to rub over fishing lines for the purpose of hardening and preserving them, also for paying the bottoms of boats. A cubic foot weighs 45 lbs. and it is esteemed to last 20 years.—*Mr. Mendis. Dr Cleghorn.* See Diospyros glutinosa.

EMBUDI CHETTU. Tel. also Konki. Tel. Pisonia villosa. *Poir.*

EMBURAL. Tam. Hedyotis umbellata Lam. Oldenlandia umbellata. See Chayroot.

EMDOSAURIANS. See Crocodilidæ.

EMERALD.

Zamurud,	Ar.	Smeraldo,	It.
Emeraude,	Fr.	Zamrud, Zimurud,	Mal.
Smaragd,	Ger.	Permataeju.	
Smaragdus,	Gr. Lat.	Zamarrud,	Pers.
Pumna.	Hind.	Esmeralda,	Sp.
Zamarrud.	Pers.	Patchee kallu.	Tam.
Nophec	Hebrew.	Patsa Rai,	Tel.

This precious stone has been known from the most ancient times. It is mentioned in Exod. xxviii, 18; in Tobit, Judith, Ecclesiastes, and Ezekiel. The famous emerald mines in Jabl Zabarah in Egypt—the Smaragdus Mons of the ancients—were worked 1650 B. C., in the time of the Great Sesostris II, by extensive galleries. They were again worked in the early part of the reign of Mahomed Ali pacha, and recently a British Company undertook them. The mines (*Bunsen's Egypt*, ii. 303) were on the Kosseir road from Koptos to Aennum (Philoteras). Wellsted thinks (*Trav.* ii, 323), that the locality indicated by Bruce was the island of Wadi Jemal, and that the Arabs had so called it, because of its proximity to the only emerald mines on the adjacent continent. Emeralds are now obtained in Egypt, Germany, from the Altai Mountains; the finest from New Grenada where they occur in dolomite, and, as is said, in India. The colour is peculiar, and called emerald green. The glass of bottle bottoms is, however, largely sold in Ceylon and other places as emeralds. Emeralds are rarely without flaws, " Rag," *Hind.* and, with the hope of deceiving, the manufacturers aware of this, make the false emeralds, with flaws. Of all precious stones, the emerald is most liable to defects, called flaws, and their absence should excite suspicion as they can be very easily imitated.

The Ural and Altai mountains have latterly furnished the finest emeralds: an inferior kind comes from Sakyat in Egypt. The localities in Coimbatore, which supply the beryl, are also supposed to have yielded the emerald, though Tavernier was not able to ascertain that, in his days, any part of India was yielding them. Tavernier (*Travels* p. 144) says "as for emeralds, it is a vulgar error to say they came originally from the East. And therefore when jewellers and goldsmiths, do prefer a deep coloured emerald inclining to black, tell ye, it is an oriental emerald, they speak that which is not true. I confess, I could never discover in what part of our continent those stones are found. But sure I am, that the Eastern part of the world never produced any of those stones, neither in the Continent, nor in the Islands. True it is, that since the discovery of America, some of those stones have been often brought rough from Peru to the Philippine Islands, whence they have been transported into Europe; but this is not enough to make them Oriental. Besides that, at this time they send them into Spain through the North Sea."—(*Tavernier's Travels, p.* 144.)

Pliny says, that in his time the best came

from Scythia. Mawe, on diamonds, quoted by Macculloch, says, that for the last two centuries Peru has been the only country known to yield emeralds. The beryl, is no doubt found in Siberia, which may have given rise to Pliny's statement. Many gems are imported from Ceylon, where the ruby, amethyst, topaz, sapphire, and cinnamon stone are found in great abundance, but not emeralds. Many emeralds come fromRussia, Siberia, and Central Asia to India.

The *beryl* of which mineral many of the stones used as emeralds, in India, consist, occurs in the Siberian Altai range; a number of these gems also come from Khatan, Ilchi, and the Chinese provinces. Natives of India say they are found in gold mines, and take 20 years to come to perfection. They are called "Zamrad," or "Zabrjad," and in Punjabi "Panna," the most esteemed colors are the "Zababi," next the "Saidi" said to come from the city Saidi in Egypt. "Raihani," new emeralds; "fastiki," old emeralds, that is, such as have completed their 20 years; "Salki," "Zangari" color of verdigris, "Kirasi," and "Sabuni."

Prismatic corundum or chrysoberyl, says Dr. Irvine, is found among the Tora hills near Rajmahal on the Bunas, in irregular rolled pieces, small and generally of a light green colour: these stones are considered by the Natives as emeralds, and pass under the name of "punna," but the natives are aware that they are still softer than the real emerald of India, which is generally green coloured sapphire. (*Gen. Med. Top. page* 160.)

The finest beryls (aquamarines), says Mr. Tomlinson, come from Siberia, Hindostan, Brazil. In the United States very large beryls have been obtained, but seldom transparent crystals: they occur in granite or gneiss. A reputed beryl of large size mentioned in most books on mineralogy has recently been discovered to be a lump of quartz.—(*Tomlinson.*)

Aquamarine includes clear beryls of a sea-green, or pale bluish, or bluish green tint. Hindoos and mahomedans use them pierced as pendants and in armlets. The emeralds met with in modern times do not often exceed the size of a walnut; some, however, of a larger size have been found—but such instances are rare. A crystal in the cabinet of the Duke of Devonshire, measures in its greatest diameter $2\frac{3}{8}$ths inches nearly; its lesser diameter barely 2 inches; its 3rd diameter $2\frac{1}{8}$th inches; the extreme length of the prism is 2 inches. It contains several flaws, and is therefore only partially fit for jewellery; it has been valued at more than 500 guineas. A more splendid specimen, weighing 6 ounces belonging to Mr. Hope, cost 500*l*. Both these specimens were exhibited in the Great Exhibition. Emeralds of less beauty, but of very large size, occur in Siberia. One specimen in the imperial collection of Russia measures $4\frac{1}{2}$ inches in length and 12 in breadth. Another is 7 inches long and 4 broad and weighs 6 lbs. Mr. Powell has seen a flat tablet of emeralds, full of flaws, but otherwise of good color, nearly $2\frac{1}{2}$ inches square, worn as an amulet, and engraved all over. The maharaja of Kapurthalla possesses a large oblong emerald of this kind, and the maharaja of Pattiala has a round emerald of enormous size. Sometimes emeralds have flaws of intervening talc or sand. It is believed that a fly will not settle on this gem. Most of the emeralds commonly in use, in India, are smooth, cut and bored like beads; they are always full of flaws, and this seems so much the custom that a very good mock emerald which Mr. Powell has is made with flaws—as if sure to be detected otherwise.—*Powell Handbook. Econ. Prod. Punjab, p.* 49. *Tavernier's Travels, p.* 144, *Bunsens' Egypt* ii, 303. Wellsted's Travels ii, 323. *King. Powell, Hand Book. Irvine, Med. Top. of Ajmer. Tavernier's Travels. Tomlinson.*

EMERAUDE. Fr. Emerald.

EMERIL, Emeri. Fr. Emery.

EMERY.

Emeri,	Fr.	Smerglio,	It.
Emeril,	,,	Smiris,	Lat
Smirgel,	Ger.	Nashdak,	Rus.
Smeregio,	It,	Esmeril,	Sp.

This substance is greatly used in the arts for grinding and polishing hard minerals and metals. Corundum and its varieties, viz., sapphire, corundum, and emery are only surpassed in hardness by the diamond. Emery is regarded as granular or amorphous corundum, coloured with iron, and is not known to occur in India, where corundum is used by the people in its place. It is principally imported into Britain from the island of Naxos in the Grecian Archipelago, and was found by Mr. Smithson Tennant to consist of Alumina, 86, Silica 3, Oxide of Iron 4. Total 93. It occurs likewise in Italy, Spain, and Saxony; and it is said, in small quantities, also, in Wicklow, Ireland. In the mixed corundums of Greece and Turkey the iron seems equally diffused through the mass imparting to it a bluish grey colour; but in specimens which reached the Madras Museum from Southern India the corundum and ore of iron, though occurring together, are not mixed, but remain apart, segregated, the corundum forming one side of a mineral and the oxide of iron, in a lump or lumps on

the other side; and all such masses are magnetic and possess polarity. Of the different varieties of emery used in the arts that of Naxos is still preferred, as it is more uniform in its quality than that from Pulah and Gumuch. That from Naxos is of a dark grey colour with a mottled surface and with small points of a micaceous mineral disseminated in the mass. It frequently contains bluish specks or streaks which are easily recognised as being pure corundum. When reduced to powder it varies in colour from dark grey to black, but the colour of its powder affords no indication of its commercial value. The powder of emery examined under the microscope shows the distinct existence of the two minerals, corundum and oxide of iron. The specific gravity of emery is about 4, but its hardness is its most important property in its application to the arts. The only difference in corundum seems to be the absence of oxide of iron. In Europe where machinery is so available, there could be no difficulty in preparing corundum powders of the requisite degrees of fineness. The selling price of Corundum in London has been from £10 to £25 a ton. There seems no reason why the picked corundums should sell for less than the finest emeries, and Captain Newbold mentions that the corundums near Gram, when sorted into the three sorts known in commerce, viz., the red, the whites, and the scraps, of these two are sold to the Arab merchants at Mangalore and Tellicherry at prices from twelve to fifteen or thirty rupees the candy equal to £4, £6, and £12 a ton.—*Madras Museum Report.* See Corundum.

EMETIC NUT. Gardenia dumetorum.

EMILIA PURPUREA. Cass. Syn. of Emilia sonchifolia. D. C.

EMILIA SONCHIFOLIA. D. C.

Emilia purpurea, Cass.	Crassocephalum sonchifolium, Less.
Cacalia sonchifolia, Linn.	Muel Shovi, Maleal
Senecio sonchifolia Mœnch	
Sadi modi, Beng.	

Grows in Southern Asia where it is used in medicine. In China its leaves are used as salad.

EMMODUGU. Tel. also Emmenta. Tel. Ficus nitida.—*Thunb.*

EMODUS and Imaus are surmised by Rennell to be different readings of the same name, and he supposes Imaus or Himaus to be derived from the Sanskrit word "Himh" signifying snowy, a name still borne by the great mountain range of the Himalaya.

EMUS. See Coleoptera.

EMU. See Casuarius. Dromaius Novæ Hollandia.

EMYDIDÆ, a family of reptiles of the Section Cataphracta or Shielded Reptiles, and order Chelonia, viz:

Sec. A. Cataphrachta. Shielded Reptiles.

Order. Chelonia.

Fam. Testudinidæ.

Gen. Testudo Indica, *Gmel.* Galap.
„ radiata, *Shaw.* Madag.
„ stellata, *Shaw.* Vizag.
„ platynotus. *Blyth.* Burm.
„ elongata *Blyth.* Arak. Ten.
Gen. Homopus Horsfieldii. *Gray.* Affgh.

Fam. Geoemydidæ.

Gen. Manouria Emys. *Gray.* Moulm.
Gen. Geoemyda grandis. *Gray.* Tenas.
„ tricarinata. *Blyth.* Chaiabassa.
Gen. Cuora Amboinensis. *Daud.* Malac. Ten.
Gen. Cyclemis orbiculata. *Bell.* Burm.

Fam. Emydidæ.

Of the Genus Emys, there are known to occur in India, and the S. and E. of Asia.

Gen. Emys nuchalis. *Blyth.* Java.
„ Hamiltonii. *Gray.* Calcutta.
„ trijuga. *Schweigg.* Arakan. Madras.
„ nigra. *Blyth.* Tenas.
„ Sebæ.

Emys Punctata. E. crassicollis, E. duvaucellii E. japonica, E. lineata, E. platyn, E. tectum, E. tentoria, also occur.

Gen. Tetraonyx Lessonii. *Dum et. Bib.* Cal. Ten.

Gen. Batagur lineatus. *Gray.* S. E. India.
„ Thurgii. *Gray.* Calcutta.
„ Dhongoka. *Gray.* Central. India.
„ Berdmoreii. *Bly.* Pegu.
„ Ocellata. *Dum.* Cal.
„ Trivittata. *Dum.* Moul.

Gen. Pangshura tectum. *Bell.* Cal.
„ Tentori. *Gray.* Indus.
„ Favivente. *Gunth.* Beng.
„ Smith. *Gunth.* Beng.

Gen. Platysternum megacephalum. *Gray.* Martaban.

Fam. Trionycidæ.

Gen. Emyda granosa. *Gray.* Calcutta.
„ Ceylonensis *Gray.* Ceylon.

The genus Emyda are the Marsh tortoises, and E. ceylonensis is the kiri ibba of the Singhalese.

Gen. Trionyx Gangeticus *Cur.* Beng.
„ Guntherii, *Gray.* Arak.
Gen. Chitra Indica. *Gray.* Hooghly.

Fam. Chelonidæ.

Gen. Sphargis coriacea. *Linn.* Tenass. coast.
Gen. Caretta imbricata. *Schweigg.* Bay of Beng.
Gen. Caouana olivacea *Esch.* Bay of Beng.
Gen. Chelonia virgata. *Schweigg.* Bay of Bengal.

ENAM. Hind. Pers. Grants or gifts generally of land and commonly in perpetuity for charitable purposes. A jaghire is usually an assignment of lands for service; or as a pension. Altumgha, is an estate in perpetuity for service, or free, as expressed in the deed. *Malcolm's Central India, Vol.* ii. 62.

ENAMEL.

Enamel,	Hind.	Schmelz,	Ger.
Email,	Fr.	Smalto,	It.

An enamel in the arts is an artificial vitreous mass the same as a paste, ground fine, then mixed with gum water and applied by a brush, and fixed by fusion. The art of fixing colours by melting in fire, says Dr. Royle, (*Arts of India, p.* 475-6) is of very ancient date: it was practised by the Egyptians, and carried to a high degree of perfection in Persia. The art is known in every part of India, and some exquisite specimens were sent to the Exhibition of 1851, both from Central and from North-western India. It is chiefly employed in ornamenting arms and jewellery, not only in gold, but also in silver.—(*Royle, Arts, &c., of India, page* 475.) Enamels being vitrifiable substances, to which peculiar colours are given, we may compare the Indian with the European methods of making enamel. In general, ten parts of lead and three parts of tin are oxidized by continued heat and exposure to air. To the mixed oxides add ten parts of powdered quartz, and ten parts of common salt, and melt in crucibles. Thus is obtained a white enamel, and the basis of coloured enamel, metallic oxides being added. The oxide of lead or of antimony produces a yellow enamel: reds are obtained by a mixture of the oxides of gold and iron. The oxides of copper, cobalt, and iron, give greens, violets, and blues; and a variety of intermediate colours by mixtures. The workmen of Behar are stated to make two enamels, which are applied to the surface of some of the rings. One is yellow: five parts of lead are melted in a shallow crucible, and to these is added one part of tin; and the alloy is calcined for four or five hours. It is then heated to redness in the crucible of the glass-furnace. One part of white quartz is next added, and the mass stirred about for three hours. It is then taken out with a ladle, poured out on a smooth stone or iron, and cooled in water. They then take one part of their palest green glass, and add a fourth part of the other materials, to make the yellow enamel. The green enamel is made in the same manner; and to the melted glass is added, not only the prepared lead and tin, but a small portion of the black oxide of copper. In Mysore they make a bright yellow enamel, by first calcining five parts of lead and one of tin, then adding one part of zinc, calcined in a separate crucible. When these begin to adhere they are powdered in a mortar. When the maker of glass-rings is at work, he melts some of this powder, and while the ring is hot, with an iron rod applies some of it in powder to the surface of the glass.—(*Royle, Arts of India, page* 476.)

At the Exhibition of 1862, a Jewel-enamelled ankus or elephant goad was contributed by H. H. the Rajah of Jeypore where the finest enamelled work of India is produced, and considered of great artistic merit. The enamellers there, came originally from Lahore. Their enamel is a kind of glass made in earthen vessels, and when fused the colouring matters are added; the whole is then allowed to cool, and in this state is kept for use. Only pure silver or gold articles are enamelled. From the silver, the enamel may come off in course of time; but it never does from the gold. All good enamel is consequently only applied to gold, which must be free from alloy, or otherwise it would tarnish by contact with the enamel in the great heat to which it is subsequently exposed. The gold is first carved of the required pattern; the enamel, having been ground to an impalpable powder, and made into a paste with water, is then placed on the exact spot required by the pattern. The article is then strongly heated, much skill being required to take it out at the precise moment when the enamel is thoroughly fused, but before the colours begin to run into one another. As soon as removed, the workmen then exert the full power of their lungs in blowing upon it as quickly and as violently as possible. The hardest colours are first placed in the furnace and fused and then those which melt more easily. Afterwards, the whole is ground and polished. The enamelled work of Jeypore is very highly valued, and can only be procured through H. H. the Rao of Jeypore himself, by whom the workmen are employed. The artisans themselves form a small family, and the real process of enamelling is kept by them as a secret, which descends from father to son like an heirloom.

Enamelling, as applied in India to jewellery, consists of an extremely fine pencilling of flowers and fancy designs in a variety of colours, the prevailing ones being white, red, and blue, and is invariably applied to the inner sides of bracelets, armlets, anklets, necklaces, earrings, surpech, tiara, and all that description of native jewellery, the value depending upon the fineness of the work, and often exceeding that of the precious stones themselves. In general the cost is moderate, as the finest specimens are only made to order. The best come from Benares, Delhi, and the Rajpootana states. In the South of India,

the manufacture of enamels on articles of domestic use like the above is almost entirely restricted to Hyderabad. It presents no varieties, but in general consists of a blue coating interlined with white on a surface of silver, and is applied to rose-water sprinklers, spice boxes, basins, and such like articles. The merit of the manufacture lies in the simplicity of the enamel itself, and in the lightness of the silver article to which it is applied. Though pleasing, it is the coarsest enamel produced in India. At Indore in Central India, the manufacture does not constitute a regular trade. It is invariably applied to articles of personal decoration such as necklaces, armlets, brooches, earrings, &c., which are set by native jewellers, according to the taste of the purchaser. These subjects generally consist in a representation of the avatars, or pictures of the metamorphoses of Indian deities; and the work is so perfect that it will stand, not only the influence of climate, but even rough handling.

The specimens of this kind of work have no fixed market value, and the price is, therefore, entirely dependent upon the number of competitors that may be in the field when any of them are offered for sale. A set of these ornaments, consisting of a necklace, earrings, two armlets, and a brooch, in plain gold, contributed to the Exhibition of 1851, was valued at 1,700 Rupees or £170. A duplicate, forwarded to the Paris Exhibition in 1855, was purchased for 600 Rupees or £ 60.—*Report of Exhib.of* 1862.*Royle, Arts of India, pp.* 475-6.

ENCAJES. Sp. Lace.

ENCENS. Fr. Frankincense. Olibanum.

ENCEPHALARTOS, a genus of the Cycadaceæ, their fruits are called kaffir bread. See Cycadaceæ.

ENCHINUS ARBOREUS. Syn. of fruit of Durio zibethinus. (*Qu.* Echinus ?)

ENCRE. Fr. Ink.

ENDE, a place resorted to by the Bughis traders. See Sumba.

ENDIVE, Cichorium endiva. Said to be a native of China. Used as salad, they are blanched by the leaves being tied together. *Jaffrey.*

ENDOR, the town of an Obi woman, mentioned in Scripture. See Ophis. Serpent.

ENDRA, Hind. Hiptage madablota.

ENG. Burm. In Amherst, a wood used for boat-building. Tree produces oil. It is a strong, heavy, useful, grey wood, suited for beams, piles, and the like.

ENG—BENG. Burm. In Tavoy, a strong wood used for common carpentry.

ENGELHARDTIA, Lesch, a genus of plants first discovered in the Malayan Archipelago, but since found in the Himalaya; to it belong Dr. Roxburgh's Juglans pterococca. E. Leschenaultii grows well in the plains of the North West Provinces but does not fruit. E. Colebrookiana is found as far north as Jurreepance and in Nepal. E. Roxburghiana, in Silhet and at Chappedong. In Silhet it forms a large tree, the wood of which is valued by turners, and the bark, containing much tannin is considered the best used by natives for tanning. (Roxb). E. Wallichana is found as far south as Penang and Singapore.—*Royle Ill. Him. Bot. p.* 342. *Wall Pl. As Rar. t.* 208.

ENG-GYENG. Burm. In Amherst, a timber used for posts of religious buildings. A useful wood, but liable to split.

EN-GIE or IN-GIE. Burm. A white linen jacket used as an article of dress by Burmans. *Winter's Burma. p. 54.*

ENGLAND, the southern part of an island in Europe, which, with Ireland, another island on its west, forms the kingdom of Great Britain that now rules British India. It is said to have been known to the Arian hindus.

ENGLISH WOOL. See Shawl goat.

ENGRAULIS ENCRASICOLUS.

Anchovy,	Eng.	Anchois,	Fr.
True Anchovy,	,,	Acciughe,	It.

The anchovies of commerce met with in India are wholly imported. It is a small fish about four inches long with bluish brown back and silvery white on the belly. Very abundant in the Mediterranean, where, though occurring in other seas, they are chiefly caught at night, by nets, their heads immediately taken off, their entrails removed and pickled. Another Mediterranean species, E. meletta, is largely substituted for and mixed with the true anchovy. It is said to occur in the Bay of Bengal, and is one of the fish made into Balachang.

ENGRAULIS VULGARIS. See Engraulis encrasicolus.

ENGYSTOMA CARNATICUM, occurs at Dacca and Birbhum.

ENGRAVING. See Box. Buxus. Carving. Wood engraving.

ENGRAVINGS, to reproduce prints, engravings, writing, &c., take a piece of paper, dip it in a weak solution of starch, leave it to dry, and then moisten it with weak sulphuric acid. Afterwards take an engraving, put it over the vapour of iodine, and leave it there for the space of about five minutes, by which time the iodine will have fixed itself in every part that is black. Then take the iodized engraving, apply it to the

ENAMEL. [illegible]it for a minute or two, [illegible]g is transferred, this can
Enamel, [illegible]eel, copper, and silver: and is
Email, [illegible]ans of engraving. To engrave

An ena[illegible] or silver, put an engraving over [illegible]reous [illegible]fumes, and then place it on the plate. then [illegible]copper, put it over the [illegible]fumes of harts-a bu[illegible] or ammonia, wash it, and the engraving is produced. If it be silver, proceed as for daguerreotype, holding it over the vapour of mercury, and the engraving is produced, a more simple means is to put the engraving over the fumes of orpiment for a few seconds, place it on a plate of copper, press it, and the engraving sinks into it.

ENJI, the jacket worn by the Burmese with the Putso.

ENKASING. Hind. Berberis aristata.

ENKIANTHUS QUINQUEFLORUS. One of the flowering plants of China. On mountains from 1,000 to 2,000 feet above the level of the sea, this Enkianthus is found growing abundantly, and in great luxuriance, fixing itself on the crevices of the rock, in situations with very little soil. About the end of April or beginning of May, as the wet season begins the Enkianthus grows luxuriantly. It is always in blossom at the time of the Chinese new year; when its flowers are in great request in the south of China for the decoration of the houses, boats, and temples, just as those of the Nandian are in the north. In going up the river towards the Fa tee gardens, Mr. Fortune met boats in great numbers loaded with branches of peach and plum trees in bloom, enkianthus quinqueflorus, camellias, cockscombs, magnolias, and various plants which flower at this season. The enkianthus is brought down from the hills with the buds just expanding; and after being placed in water for a day or two, the flowers come out as healthy and fresh as if the branches had not been removed from the parent tree.—*Fortune's Wanderings, p.* 128 to 157.

ENKIANTHUS RETICULATUS, several species of Amygdala are cultivated in China for their flowers, and at new year's day, in Canton, the budding stems of the flowering almond, narcissus, plum, peach, and the enkianthus reticulatus, or bellflower, are forced into blossom to exhibit, as indicating good luck in the coming year. – *William's Middle Kingdom, page* 283.

ENGYSTOMA INTERLINEATUM. *n.s.* *E. Carnaticum*, Jerdon; *Bufo melanostictus*. The *Hylœdactylus bivittatus*, Cantor, Hind-feet more webbed than in typical Engystoma; the belly and under surface of the thighs tuberculated; with also a few larger warts on the thoracic region. Length of head and body, 1½ in.; of hind-limb, 1⅓ in. Colour, a golden clay-brown above, with medial blackish vertical streak, diverging into two at the nape, which are continued to the base of each hind-leg, and when the hind-leg is closed it appears to be continued on to the limb. Limbs beautifully banded; the tarsi dusky posteriorly. Hab. Pegu.

ENHYDRA MARINA. See Hydridæ: Lutra.

ENNORE or KATIPAK, in lat. 13° 14′ N. long. 80° 20′ E. 9 miles N. from Madras, a small hamlet, on the southern end of the Pulicat Lake, a marine lagoon.

ENO. See Dyes.

ENOS, Aram. Adam and Enos the names of the first men. See Adam.

ENSAL. Singh. Cardamom.

ENTADA MONOSTACHYA. D. C. Syn. of Entada puscœtha—*D. C.*

ENTADA PUSCŒTHA. De Cand. W. and A. Roxb. Syn.

Entada monostachya, *D. C.*
Mimosa scandens, *Linn. Roxb.*
„ entada, „
Acacia scandens, *Willde.*

Gila-gacha,	Beng.	Pus-wael.	Singh.
Gardul of,	Bombay.	Hin-pus-wael.	„
Gradul,	Duk.	Maha-pus-wael.	„
Parin-kaka-vulli,	Maleal	Gila tiga,	Tel.

An immense climbing shrub forming elegant festoons, legumes from one to five feet long, four or five inches broad, formed of a series of joints, each containing one seed: they are roasted and eaten—enter into the native Materia Medica as an anti-febrifuge—are emetic and used to wash the hair. Its gigantic pods excite astonishment in passing through the forests.—*Cat. Ex.* 1862, *Tennant, Riddell, Mason.*

ENTOMOSTOMATA, of De Blainville, a family of molluscs, in which are included the genera cerithium, planaxis, subula, terebra, eburnea, buccinum, nassa, harpa, dolium, oniscia, ricinula, cancellaria and purpura. See Mollusca.

ENUGA BIRA. Tel. Elephant gourd. a large cucurbitaceous plant, not yet defined. —*Elliot.*

ENUGA DULA GANDI. Tel. Mucuna gigantea.—*D. C.*

ENUGA PALLERU. Tel. Pedalium murex.

ENUGU PESALU. Tel. A species of phaseolus.

EPE CHETTU. Tel. Hardwickia binata.—*Roxb.*

EOLUS. The chronicles of Eri describe Eolus as the chief of a Scythian tribe, who lived about 40 years after Moses i. e. 1368 to 1335 before Christ, he composed the chronicles of Eolus with the ancient traditions of his tribe.

EPEIRA, a great spider, found by Captain Sherwill, 1100 feet high, on the summit of Maruk, South of Monghyr. Some of the webs, including the guy ropes, were from 10 to 12 feet in diameter, the reticulated portions being about five feet, in the centre of which the spider, of a formidable size and very active, sits waiting for prey. In one web, was found entangled a bird about the size of a field lark, and eight young spiders feeding on the body. It was near the centre of the web, and its wings had been completely pinioned by the entwined web. The old spider sat about a foot above the bird. It was six inches across the legs and had a formidable pair of mandibles.—*Goss. Proc. Ent. Soc. November* 1, 1852, *p.* 239.

EPEROTIC and Illyrian, are branches of the old Indo-European stock of languages, See India p. 312.

EPHEDRA SAXATILIS; Asmani. Hind. A plant of Kaghan. *Cleghorn.*

EPHESUS, the chief town of Ionia, in Asia Minor, 45 miles south of Smyrna, famous for its temple of Diana. Amongst the mahomedans of the east, its story of the seven sleepers is continued, through the Koran. When the emperor Decius persecuted the christians, seven noble youths concealed themselves in a cavern, which was then blocked up with stones. They immediately fell into a deep slumber, which lasted for 187 years. At last the slaves of Adolius, removed some of the stones for building materials, on which the seven sleepers were aroused, and despatched Jamblichus, one of their number, to the city, to procure food; but the altered appearance of Ephesus, the age of the coin he presented to the baker, and his long beard, led to a discovery of the marvellous adventure. The bishop of Ephesus, the clergy and magistrates, visited the cavern, and, after conversing with the somnambulists, they quietly expired. James, a Syrian bishop of the fifth century, devotes a homily to its praise; and the seven sleepers are found in the Roman, Abyssinian, and Russian calendars. Mahomed introduced the tale in his Koran, as the companions of the cave, and says God caused them to turn over occasionally from right to left.—*Milner's Seven Churches of Asia, p.* 171, *Sale's. Koran, p.* 219.

EPI. Tel. Bassia latifolia.

EPICARPUS ORIENTALIS. Blume. Trophis aspera. Willde.

Sheora,	Beng.	Tinda parua,	Maleal.
Nak chilni,	Duk.	Pirahi,	Tam.
Siura,	Hind.	Pukki,	Tel.

A fibre is obtained from the stem: used as a tooth brush by the natives.

EPICERRIES. Fr. also Epices, Fr. Spices.

EPICHARMUS, with Plato, and others adopted a philosophy similar to that of the Vedanta, a system of perceptions of primary or secondary qualities. See Kama 454.

EPILOBIUM ANGUSTIFOLIUM. In England its leaves are used to adulterate tea.

EPILOBIUM FRUTICOSUM. Lour. Syn of Jussiæa villosa.—*Lam.*

EPIMACHUS MAGNUS, a bird of the coasts of New Guinea. It is the Upupa magna, *Gm.* and U. superba, *Lath.* Its tail is 3 feet long, and its head feathers are lustrous steel blue. See Aves. Birds.

EPINGLES. Fr. Pins.

EPIMEDIUM ELATUM. "Palar." Hind. A plant of Kaghan.

EPIODORUS, according to the Periplus, an island, the seat of the pearl fishery, it is the modern Manaar. See Manaar.

EPIPACTIS, a genus of plants belonging to the natural order Orchidaceæ or Orchideæ, and the tribe Limodoreæ or Arethuseæ. Wight gives figures of Epipactis carinata, Dalhousiæ, macrostachya.—*Wight. Voigt.*

EPIPHANES, the surname of the 6th Seleucus, B.C. 96, king of Syria.

EPIPHYLLUM, a division of the Cactus tribe, beautiful plants with flat pointed leaves.—*Riddell.*

EPIPHYTES, plants growing on the barks of other plants, like Orchids. See Aerides, Dendrobium, Loranthus, Cymbidium, Epidendrum, Gunnia.

EPOPÆIA. The two great hindu war poems are the Mahabarata and Ramayana.

EQUIDÆ, a family of mammals, in which the Asinus or ass, the Asinus kiang or wild ass, and Equus the horse, are the only two genera with the mule breed between. The horse does not occur in a wild state in India and will be noticed under "horse." The Asinus kiang, of Moorcroft, is known also as Equus kiang of Moorcroft is the Asinus polyodon of Hodgson, and E. hemioni of Pallas, is known as the jaghtai of Tartary; kiang in Tibet; the Ghor-khar of the Runn of Cutch and Sindh and seems to have several varie-

ties. The horse has been found fossil in Ava. *Cat. Mus. Ind. Ho.* See Horse.

EQUUS HEMIONUS. See Kyang. Equidæ.

EQUUS HEMIPPUS. See Gorkhar. Equidæ.

EQUUS KYANG. See Kyang. Equidæ.

EQUINOX. The Arab prince Albategnius stated the procession of the equinoxes to be 1° in 66 years.

ER. HIND. Prunus domestica.

ER. TAM. or Yer, a plough.

ERU. HIND. Manure.

ERA. Era and epoch generally mean the same thing. The Bengali and Vallaiti eras were established by Akbar. That of Bengal began on the 1st of the month Baisakh, 963 + 593=1556. The Valaiti-san was used in Orissa, where it was called the Aueli-san and began on the 1st of the month Aswin 963 + 592 A. D. 1555.

The *Alexandrian Era* was established commencing from the entrance of Seleucus Nicator into Babylon.

The Julian era was invented by Joseph Julius Scaliger about the middle of the 16th century. It is a period of 7980 years, arising from the multiplication of the Cycles of the sun, moon and indiction, or of the numbers 28, 19 and 15, its epoch commencing on the 1st January of the 706th year before the creation.

The *Mundane era* or era of creation, is the same as that of Alexandria, 4004 years before the Dyonisian or vulgar era. The Jews made it 243 years later or A. A. C. 3761 which is still the epoch of their mundane era.

The *kali yug* of the hindus, begins on Friday the 18th February and is for a period of 4,32,000 years of which 3101 had expired on the 14th March A. D. 1.

The *Era of Nabonassar*, 1st king of the Chaldæans, falls on Wednesday 26th February A. A. C. 747. Its year was of 365 days, without any intercalary day on the 4th year.

The *Olympiads*. A period of 4 years, the first of which began, it is supposed, with the nearest New Moon to the summer solstice, A. A. C. 776, being the 3938th year of the Julian period and 24 years before the foundation of Rome.

Vikramaditya was a prince of India who is supposed to have ascended the throne 57 years B. C. and the natives of Northern India count their luni-solar years from his accession.

Cesarian era of Antioch was established there in celebration of Cesar's victory at Pharsalia A. A. C. 47.

The Isberian or Spanish era dates from the conquest of Spain, in the year 715 of Rome.

Grahaparivrithi era of India, consists of 90 solar years. Its epoch is A. A. C. 24, and it is constructed of the sum of the products of revolutions of Mars (15) Mercury (22) Jupiter (11) Venus (5) Saturn (9) and Sun (1).

Constantinople era subsisted during the Greek empire, and in Russia, till the reign of Peter the Great.

Vrihaspati Chakra era of India is a Cycle of 60 of Jupiter's years.

Seleucidæ eras are two, the one reckoned from the date of Alexander's death A. A. C. 323, the second has its epoch 311 B. C. Both these were also called Syro-Macedonian. The people of the Levant and the Jews adopted it, the Jews calling it Tariq-Dilcarnaim and it is still in use amongst the Arabs.

Salivahana era. Salivahana was the son of a potter. He headed a successful popular movement and became the chief of a powerful monarchy in Maharashtra. He gave origin to a new era, which is still current in India. The era dates from A. D. 78, the supposed date of his death. It numbers the solar years, as the era of Vikramaditya numbers the luni-solar years.

The *Dioclesian era*, or Martyrs era, dates from A. D. 284, the year of that emperor's accession.

The *Hijira era*, dated from A. D. 16th July 622, the years are lunar.

There are two eras in Persia, viz., that of *Yezdejird*, iii. king of Persia dating from his accession 16th June A. D. 632 and that of *Malik-shah-Jelal-ud-din*, king of Khorassan, which dates from A. D. 1079, the date of his reforming the Yezdejird era. It is still in use in Persia, the Persian tropical year consists of 365*d*, 4*h*, 49′ 15″ 0‴ 48⁗ which is more correct than the Gregorian year.

The *Parasurama era* is current on the Malabar coast. At the birth of Christ 1176 years of the Parasurama era had expired, and the 1177th year began on the 17th August A. D. 1. Julian style.

The *ancient Jewish era* was composed of lunar years. Their *mundane era* is also of lunar years and its origin was in the 14th or 11th century.

Concurrence of Chronological Epochs at the birth of Christ, and Epochs of subsequent events referred to A. D. O. complete.

After Christ.	Reform of the Calendar in England, 29th March 1752. ...	1752
	Gregorian reformation of the Calendar, 4th October 1582 ...	1582
	Æra of Dioclesian or of the Martyrs, year begins 29th August	286
	Indian Æra of Salivahana, begins with the Hindu Solar year.	78
Indiction		3
Epoch of the Indian Cycle of 90 years or Grahaparivrithi, begins with the Hindu Solar year		24
Iberian or Spanish, its year begins with the Julian year ...		38
Cesarian of Antioch, year begins in August		48
Indian Æra of Vicramaditya, begins with the Hindu Luni-Solar year		57
2nd of the Seleucidæ, year begins 1st September, but according to the Arabs 1st October		312
Æra of Nabonassaar, began 26th February		746
Building of Rome, or Roman Æra		752
Olympiads, year begins 1st July		776
Indian Æra of Parasurama, begins 7th August 3537 of the Julian period...		1176
Indian Æra of the Caliyug, begins Friday 18th February 1612, Julian period		1301
For Epochs before Christ. Referred to supposed Epoch of Creation.	Epoch of Creation according to Port Royal writers. ...	4004
	Epoch of Creation according to Hutton. (authority or calculation not known.)	4007
	Julian period	4713
	Ecclesiastical of Antioch	5492
	Æra of Alexandria	5502
	Æra of Constantinople, begins Civil 1st September, Ecclesiastical 21st March...	5508
For Epochs after Christ.	Year of Christ complete, according to Dionysius Exiguus... ...	0

ERAGROSTRIS, Panicum, Pennisetum, Poa, Rotbellia, Saccharum, Vilfa, are the grasses of the Doab, only, perhaps, finer. *Birdwood quoting Royle.*

ERAMBOO. TAM. ? A Travancore wood of a dark brown colour: used for common houses.—*Col. Frith.*

ERAN. HIND. also Erana, Andromeda ovalifolia.

ERANDAMU. SANS. TEL. Ricinus communis.—*Linn.*

ERANDI. HIND. The castor oil plant, its seed and oil, the small plant is called "choti erandi." The larger plant the "barri-erandi."

ERANDI. HIND. The name of the Tusser silk moth, so called because it feeds on the castor oil leaves.

ERI. TAM. A tank.

ERANTHEMUM, a genus of plants of the natural order Acanthaceæ of which E. cinnabarinum, E. montanum, E. pulchellum, and E. nervosum occur.

ERBSEN. GER. Pease.

ERECH, a town near the Euphrates. See Kesra.

EREGATA AQUILUS. See Pelecanus.

ERIA OBESA. One of the most abundant of Tenasserim epiphytes, the flowers are small, and have little to recommend them.—*Mason.* Wight gives figures of E. pauciflora, polystachya, pubescens, and reticosa.

ERI BABUL. HIND. MAR. Species of Acacia, or varieties of Acacia arabica, also of Acacia farnesiana.

ERICENE-VEEJO. See Sakya muni. Hindoo.

ERICU. MALEAL of Rheede. Calotropis gigantea. *Brown*

ERIKATA. TEL. Celastrus paniculata. —*Willd.*

ERIMPANA, also Shunda-Pana. MALEAL. Caryota urens.—*Linn.*

ERINOCARPUS NIMMONII, one of the Tiliaceæ, the Jungle Bendy. A middled sized tree; flowers yellow in terminal panicles, appear in September and October. Fruit triangular, covered with bristles; angles somewhat winged, has a pleasing fragrance.—*Jaffrey.*

ERIOBOTRYA JAPONICA, *Lindl.*

Mespilus Japonicus, *Thunb.*		China of Bombay.?	
Yung-mai,	CHIN.	Loquat,	VERNAC.
Yang ma,	„		

This small tree of Japan and China, is now introduced all over the Deccan, and in the Punjab. It also grows in great perfection in New South Wales, and bears fruit twice in the year, and is highly esteemed both for deserts and preserves. The finest fruit is produced at the second crop, at the end of the cold season, and requires protection day and night; from birds in the former, and flying foxes in the latter. The fruit is of a yellow colour, with thin skin, a sweet acid pulp, one or two seeds in the centre—sometimes more. The seeds grow easily, and the fruit appears to be capable of great improvement. In Ajmere, it is cultivated in gardens but does not thrive well. It is very common in China and is often mentioned by Fortune, who found it growing at one place, along with peaches, plums, and oranges, and at another, with the Chinese gooseberry "Averrhoa carambola" the wanghee "Cookia punctata," and the longan and leeche.—*Tea Districts, pages* 7, 30, *Drs. Riddell, Irvine. Mad. Top, p.* 195, *Voigt, Cleghr. P. R. p.* 81.

ERIODENDRON ANFRACTUOSUM, *D. C. W. & A. W. Ic.*

Bombax pentandrum, *Linn. Rheede. Roxb.*
Gossampinus Rumphii, *Sch. & End.*
Ceiba pentandra, *Gœrtn.*

Shwet shimool,	BENG.	Pulim,	SINGH.
White Cotton tree,	ENG.	Imbool,	„
Hattian,	HIND.	Imbool gas.	„
Safed simal,	„	Elavum maram,	TAM.
Shamicula,	MAHR.	Elava maram,	„
Paniala,	MALEAL.	Pur,	TEL.
Pania,	„	Buruga,	„

There are six species of this genus of plants, five of which are natives of America but all known by the name of wool or cotton trees. They are large trees, with a spongy wood which is used for little besides making canoes in the districts where they grow, and this one only grows in Asia and Africa. It attains a height of 150 feet or more, but there are two varieties described, the one growing in the East Indies and the other in Guinea, which differ chiefly in the colour of their flowers. The Indian variety *E. a. Indicum*, has flowers yellowish inside and white outside; whilst that of Guinea *E. b. Africanum*, has large crimson flowers. The Guinea tree is one of the largest and tallest of the forest trees and the trunk is employed for making the largest-sized canoes. In Ceylon, this is very common, up to an elevation of 2,000 feet. It is an elegant tree, common on the Coromandel Coast; the leaves fall during the cold season, and the blossoms appear in February before the leaves. It grows in many parts of the Deccan, but is not common on the Bombay side save in some parts of Khandeish. The trunk is perfectly straight. It is a light wood, is employed by the toy-makers or moochi race. It is likewise used for making rafts and floats. The seeds are numerous, smooth, black, and enveloped in a very fine soft silky wool.

The gum is termed *Huttian ka gond*, and is given in solution with spices in bowel complaints.—*O'Shaughnessy, p.* 227, *Ainslie's Mat. Med. p.* 208, *Drs. Gibson, Wight, Riddell and Cleghorn, Voigt, Thwaites.*

ERIOLÆNA, *Species.*

Dwa-nee, BURMESE.

This tree is not uncommon in British Burmah, but not very large: wood of a beautiful brick red color, tough and elastic, used for gun stocks, paddles and rice pounders. It is a wood well worth attention, the weight being moderate, a cubic foot weighing lbs. 47. In a full grown tree on good soil the average length of the trunk to the first branch is 50 feet, and average girth measured at 6 feet from the ground is 7 feet. It sells at 12 annas per cubic foot.—*Dr. Brandis.*

ERIOLÆNA, *Species.*

Chlo-ai-ni, BURM.

A tree of British Burmah. A red light wood, used like Dwa-nee, Eriolæna, *sp.* for gun-stocks, paddles, and rice pounders, sells at 12 annas per cubic foot.—*Dr. Brandis, Cal. Cat. Ex.*

ERIOLÆNA CANDOLLI, *Wall.*

H'twa-nie, BURM.

A tree of the Prome mountains. *Voigt.*

ERIOLÆNA HOOKERIANA.

Nara botku, TEL.

A strong hard Godavery wood—something like the Botku, a new species of Cordia—*Capt. Beddome.*

ERIOLÆNA TILIIFOLIA.

H'lwa-bo, BURM. | Let pan, BURM.

Grows plentifully throughout the Pegu and Tounghoo districts, attaining a height of fifty feet, with a girth of seven or eight feet sometimes, but usually about six feet. It is a strong tough timber, similar in its properties to Kydia. Wood white-colored, adapted to every purpose of house-building—*McClelland.*

ERIOPHORUM CANNABINUM. *Royle.*

Cotton Grass, ENG. | Bhabur, HIND.

Common in the Himalaya where it is twisted into twine and ropes. Its seeds are clothed at their base with a cotton like substance with which pillows are stuffed and candle wicks made *Royle, Fib. Pl. p.* 33-34. See Cotton Grass; Cyperaceæ.

ERIOPHORUM ALBINUM. See Eriophorum.

ERIOPHORUM COMOSUM. See Eriophorum.

ERIVAN, has been a province of Persia, ever since the conquests of Nadir Shah. It once formed a part of the kingdom of Armenia; and, hence, its native inhabitants are commonly called Armenians. To the north, and to the eastward as far as Karadagh, it bounds the present line of frontier occupied by the Russians; *Porter's Travels Vol.* p. 195.

ERSA. HIND. Iris florentina.

ERMINE. ENG: FR.

Hermine, FR. | Gornostai, RUS.
Hermelin, GER.

The prepared skin of a weasel, largely used by the wealthy of Europe and China.

EROOPOOTTOO-IRVOLLY. TAM. ? A Palghat wood of a brown color, specific gravity 0·861. Used for buildings and bullock-yokes. *Colonel Frith.*

EROS. GR. The hindu Kama, p. 455.

ERPETONINÆ. See Hydridæ.

ERRA. TEL. Red; hence,

Erra Adavi Molla. Jasminum auriculatum.

Erra Avisi, or Erra Agati. Tel. Agati grandiflorum.

Erra Bondala Kobbari Chettu. Tel. Cocos nucifera.—*Linn.*

Erra Chamanti. Tel. Chrysanthemum Roxburghii.—*Desb.*

Erra Chandanam. Tel. Pterocarpus santalinus.—*Linn.*

Erra Chikkudu. Tel. Dolichos glutinosus.—*Roxb.*

Erra Chiratali. Tel. Ventilago maderaspatana.—*W. and A.*

Erra Chitramulam. Tel. Plumbago rosea.—*Linn.*

Erra Doggali Kura. Tel. Amarantus polygamus.

Erra Galijeru. Tel. Trianthema obcordatum.—*Roxb.*

Erra Ganneru. Tel. Nerium odorum.—*Ait.*

Erra Gobbi. Tel. Cæsulia axillaris.—*Roxb.*

Erra Goda. Tel. Dyospyros montana.—*Roxb.*

Erra Gummadi. Tel. Cucurbita maxima.—*Dsch.*

Erra Jilama Vadlu. Tel. Oryza sativa.—*Linn.*

Erra Jiluga. Tel. Sesbania aculeata.—*Pers. W and A.* Æschynomene spinulosa.—*Roxb.* Also Æschynomene cannabina.

Erra Juvvi. Tel. Ficus nitida. *Thunb.*

Erra-Kada-Tota Kura. Tel. Amarantus cruentus.—*Willd.*

Erra-Kala-Banda. Tel. Var. of Aloe indica.—*Royle.*

Erra Kaluva. Tel. Nymphæa rubra.—*Roxb. W. and A.*

Erra Kamanchi. Tel. Solanum rubrum.—*Mill.* that var. called S. erythropyrenum.—*Roxb.*

Erra Kodi Juttu Tota Kura. Tel. Celosia cristata.—*Linn.*

Erra Kuta. Tel. Argyreia aggregata.—*Chois. W. Ic.* Lettsomia aggregata.—*Roxb.*

Erra Kuti. Tel. Pavonia odorata.—*Willd.*

Erra Ludduga. Tel. Symplocos racemosa.—*Roxb.*

Erra Maddi. Tel. Terminalia arjuna.—*W. and A.* Syn. of Pentaptera arjuna.—*Roxb.*

Erra Masumul Irimusa. Cyng. Sarsaparilla.

Erra Mudapa Chettu. Tel. A Var. of Ricinus communis.—*Linn.*

Erra Mulu Goranta. Tel. A species of Barleria, also Amarantus spinosus.—*Linn.*

Erra Munagu. Tel. A Var. of Moringa pterygosperma.—*Gært.*

Erra Pachchari. Tel. Dalbergia frondosa.—*Roxb.*

Erra Pula Niruli. Tel. Species of Allium.—*Linn.*

Erra Pula Pedda Goranta. Tel. Barleria ciliata.—*Roxb.*

Erra Puniki Chettu. Tel. Cavallium urens :—*Sch and End.*

Erra Purugudu. Tel. Phyllanthus reticulatus. *Poir.* Vitis idœa.—*Roxb.*

Erra Sala Barta. Tel. Hibiscus hirtus.—*Linn.*

Erra Tamara Padmam. Tel. Nelumbium speciosum,—*Willd.* N. rubrum. *Rheede.*

Erra Tota Kura. Tel. Amarantus oleraceus.—*Linn.* Var. A. ruber, *Roxb.*

Erra Ulli Gadda. Tel. Allium cepa.—*Linn.*

Erra Usirika. Tel. Phyllanthus urinaria.—*Roxb.*

Erra Uttareni. Tel. Desmochæta atropurpurea.—*D. C.*

Erra Vadambram. Tel. Crossandra infundibuliformis.—*Nees. W. Ic.* 461, Ruellia inf.—*Roxb. Rheede.*

Erra Vasa. Tel. Variety of Acorus calamus.—*Linn.*

Erra Vegisa. Tel. Pterocarpus dalbergioides ?—*Roxb.*

Erra Vishnu Kranta. Tel. Evolvulus alsinoides, also Clitoria ternatea.

ERRANABOAS. See Chandragupta.

ERRANDI-KA-TEL. Hind. Castor oil.

ERTHA, the German goddess of the earth whom Colonel Tod supposes to be the hindu Ella. The German *Ertha* had her car drawn by a cow, under which form the hindus typify the earth (*prithivi*). *Tod's Rajasthan, Vol.* i. *p.* 574.

ERU. Hind. Manure.

ERUA BOVII. Webb, this and E. Javanica and E. Scandens of Jussieu grow up to 3 and 4,000 feet in the N. W. Himalaya. The flowers have a sweet fragrance and the woolly fruit is used for stuffing pillows. *Dr. J. L. Stewart.*

ERUKU, also called Yerkal, and Yerkalvadu a migratory tribe in the peninsula of India, occupying themselves ostensibly as basket makers, and in fortune telling. But they are notoriously predatory and steal girls whom they devote to prostitution. They are found in mat huts on the outskirts of towns.

ERULAR, a low type of the Dravidian race occupying the lower skirts of the forests at the base of the Neilgherry hills. They are all of one class, but they arrange themselves into two clans, the Urali and the Kurutalei. They dwell in the clefts of the mountains and in the little openings of the woods. The word Eruli means unenlightened or barbarous, from the Tamul word "Erul" darkness and is the term applied to them by their neighbours. They sacrifice he-goats and cocks to Mahri, their deity, which is a winnowing fan, and they have minor deities, mere stones, that they call Mashani and Konadi Mahri. They inter their dead in great pits, 30 or 40 feet square, thatched over, and planted across, with an opening about a cubit square in the centre of the planting, across this opening are laid pieces of wood, on which the dead are placed, and covered with earth, and are left so till another person die, when the former remains and the earth are turned into the pit and replaced by the newly dead. See Kurumbar.

ERU MADDI. Tel. Terminalia Berryi.—*W. and A.* also Pentaptera Berryi, also Pentaptera angustifolia.—*Roxb.* It is probably not Terminalia arjuna.

ERU MALLE. Tel. A species of Jasminum which grows near water.

ERUMBALA—? Ferriola buxifolia

ERUMITCHI NARAKUM. Maleal. Citrus bergamia. Risso.

ERU PICHCHA. Tel. Clerodendron inerme.—*Gaert.*

ERUPUNA in Tamil, and Eremburapan in Malayala. This tree is of a dark brown colour, with a yellow tinge, and in texture resembles the marda; it is heavy and strong, grows to about fifteen inches in diameter, and from fifteen to eighteen feet long. It produces a small black fruit which is of no use. The natives prefer it to other woods for rice beaters, from its weight and texture. —*Edye. M. and C.*

ERUPUTI MARAM. Tam. Dalbergia latifolia.

ERU TUMIKI. Tel. A species of Diospyros.

ERUVALU MARAM. Tam. Inga xylocarpa.

ERUVANGA. Tel. Solanum, *Sp.*

ERVALENTA. See Ervum lens.

ERVIE, or Urvie; Caladium esculentum. A small bulbous root sown from March to July, in rows of beds, mostly along a water course where ginger is planted. It requires much water and takes from six to seven months to ripen. When boiled and then roasted it is very wholesome and somewhat resembles a yam in taste: the natives also put it into curries. It is not liked by Europeans.

ERVUM LENS. Linn.

Adas,	Ar.	Mori	Hind.
Adz,		Masura,	Sans.
Massur,	Guz. Hind.	Massur parupu,	Tam.
Mauri	„	Chiri sanagalu,	Tel.

This pulse is grown all over India and is eaten as a dhal, in food, but is said to be heating and cause eruptions if too much indulged in. It is said to be the flour of this plant which is so highly extolled as a farinaceous aliment. By a slight change, Ervum lens became the Ervalenta, and another person, with another little change, sold the same article as Revalenta adding the term Arabica to denote its Asiatic origin. *Dr. J.L. Stewart, Hassal.*

ERVUM HIRSUTUM. *Willde.*

Lentil,	Eng.	Masuri	Punjabi.
Jhunjhunian-kari,	Hind	Massur Chenna.	

This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 5,000 feet, grows in corn fields in northern India and is cultivated for fodder. *Cleghorn Punjab Report, p.* 66.

ERYNGIUM, a genus of plants of no economic value. E. campestre of Europe grows in Cabul and Cashmere. E. giganteum and E. Perowskianum are ornamental garden plants, and E. planum grows in Cashmere.—*Dr. J. L. Stewart, Honigberger. Riddell.*

ERYSIMUM PERFOLIATUM, is cultivated in Japan for its oil seeds.—*O'Shaughnessey, p.* 187.

ERYSIPHE TAURICA, one of the Fungi of the Himalaya.

ERYTHRÆA ROXBURGHII. See Chiretta.

ERYTHREAN SEA. This name (*Pliny, lib.* vi. *cap.* xxiii. and xxiv.) was applied to the Indian Ocean, as well as to the two gulfs which it forms on each side of Arabia. Herodotus does not particularly distinguish the Persian Gulf but includes the Arabian sea and part of the Indian Ocean, under the general name of Red or Erythrean. And Pliny styles the Persian Gulf "a bay of the Red Sea." Greek and Roman authors, however, generally use the terms "Persian Gulf," but it appears also among them, as the Babylonian sea, and the Erythrean sea, and this has caused a confusion with the "Red Sea." The Persian Gulf, by many is described as the "Green Sea," also in Eastern manuscripts as the Sea of Fars or Pars, of Oman, of Kirman, of Katis, of Basrah; deriving these and other names from the adjoining provinces and remarkable places on its Arabian and Persian coasts.

The commercial routes to the East, from unknown times, have been three, viz., by the Red Sea, by the Euphrates and Tigris and Persian Gulf, the Erythrean Seas of the Ancients, and by the Cape of Good Hope. The earliest route between Europe and India of which there is any record in the works of Pliny, Herodotus, Strabo and others, was by the Red Sea. Even before the building of Troy, spices, drugs, and many other kinds of merchandise were sent from the East by this route. The ships coming from the Indian seas landed their cargoes at Arsinoe (Suez) from whence they were carried by caravans to Cassou, a city on the coast of the Mediterranean. The distance from Arsinoe to Cassou was about 105 miles. It is said that on account of the great heat the caravans travelled at night only, directing themselves by the stars, and by landmarks fixed in the ground. According to Strabo, this route was twice altered in search of a more commodious one. About 900 years after the deluge, and previous to the destruction of Troy, Sesostris, king of Egypt, started the idea which M. de Lesseps in the christian year of 1869 worked out satisfactorily. The Egyptian monarch caused a canal to be cut from the Red Sea to a branch of the Nile, and had ships built for carrying the traffic sent. For some reason or other the enterprise did not succeed, possibly because the canal was not made deep enough, or because it was connected merely with a branch of the Nile instead of the main stream.

The next mention of the Red Sea route, is to be found in the Bible. (I. Kings c. ix, v. 26). About 1,000 B. C. Solomon, king of all Israel, "made a navy of ships in Eziongeber, which is beside Eloth on the shore of the Red Sea, in the land of Edom." And these ships brought gold, silver and precious stones from Ophir and Tharshish in such quantities that King Solomon "exceeded all the Kings of the earth for riches." Silver was so plentiful at his court that it was "accounted nothing of." The king's drinking cups—were made of pure gold, and

his shields were covered with beaten gold. It has never been settled where Ophir and Tharshish were situated, but we are distinctly told that the navy of Tharshish brought "gold and silver, ivory and apes and peacocks," and it has been surmised by some writers that Tharshish was either China, or some islands in the China seas. Ophir has been supposed to have been some district or port in India. The "precious stones" which King Solomon procured from Ophir are specially referred to. Some Portuguese historians, however, have supposed that it was Sofala, or some other place near the mouths of the Zambezi, on the east coast of Africa, whence the Tharshish fleet brought the rich merchandise which contributed so much to the splendour and magnificence of Solomon's kingdom. The Tharshish fleet is said to have arrived at Eziongeber only once every three years, from which we may fairly infer that the voyage was a considerable one, or the ships had to go with the S. W. Monsoon and return with the N. E. winds, or made a trafficking voyage from one place to another until the one cargo was sold and another shipped. Ships or boats coasting from the Red Sea to the mouths of the Zambezi would scarcely take three years for such a voyage unless they had had long to wait for a return Cargo. The general belief is that Solomon's navigators crossed the open seas and traded with India and China. The apes and the gold and the ivories could, however, have been got from many parts of Africa, and the South and East of Asia and their Sanscrit, Ethiopian, Hebrew, Greek and Persian name of the ape, Kapi, Ceph, Koph, Kephos, or Kepos, Keibi and Kubbi, are identical, and show that the apes may have been brought from any of those regions: the Singhalese, Tamil and Telugu names, Kaki, Korangu and Kothi, are less similar, but yet sufficiently near to merit notice. Had the ships visited the Malay peninsula, Sumatra, Java or Borneo, they would have known of the Simia satyrus (the Orang-atan of Malacca, and Sumatra, the Mia of Borneo) or seen the Siamanga syndactyla, the long arms of which measures five feet six inches across in an adult about three feet high. Mr. Russel Wallace has given the names for monkey in 33 languages of the Eastern Archipelago, none of which have any resemblance to the Kapi, Kubbi or Koph of the Sanscrit or Egyptian or Hebrew; but one of them the Kurango of ERCaitam in N. Celebes, is almost identi-

ERUA's Tamul Korangu. The follownica and E. Archipelago names for monkey. 3 and 4,000 feeralla of Amboyna.

Babah of Sanguir, Sian.

Bohen of Menado and Bolanghitam of N. Celebes.

Budess, Javanese.

Dare of Bouton and Salayer of S. Celebes.

Kess of Amblaw, and of Cajeli, Wayapo and Massaratty in Bouru and of Batumerah.

Kessi of Cajeli.

Kesi of Camarian and Teluti in Ceram.

Kurango of Bolonghitam in N. Celebes.

Lehi of Matabello.

Lek of Teor and of Gah in Ceram.

Luka and Lukar of Teluti, Ahtiago and Tobo of Ceram.

Meiram of the Alfuro of Ahtiago in Ceram.

Mia of the Sulu Islands Tidore and Galela of Gilolo.

Mondo of the Baju.

Mingeet, Malay.

Nok of Gani of Gillolo.

Roke of Bouton of Celebes.

Rua of Larike and Saparua.

Sia of Liang in Amboyna.

Yakiss of Wahai in Ceram.

Similarly with regard to gold, it is a product of many countries, and there are conflicting opinions amongst the learned as to the meaning of Ophir, whether it be a country or it be the Arabic verb, Afr. to flow, to rush in, to pass on. Gold is found over a considerable part of the Malay Peninsula in the W. and S. parts of Borneo, in some parts of Luzon and Magindanao, and in the Philippine Archipelago, on Bachian in the N. and S. peninsulas of Celebes. It has been coined for money at Achin, but in no other part of the E. Archipelago. There are now in the Eastern Archipelago two Mt. Ophirs, one of them a mountain in Sumatra, in the Palimbayang district, rising 9770 feet above the sea to which the name was given by the Portuguese, and they gave the same name to a mountain 40 miles N. of the town of Malacca 4,000 feet high. In the vicinity of both of them gold has been obtained. But where the Opher was, from which Solomon got gold, will never be ascertained.

Necho, a King of Egypt who reigned about 600 years B. C., was also desirous of joining the Red Sea with the Mediterranean. He is also said to have commanded some Phœnicians to sail from the Red Sea to the Mediterranean, round the Cape of Good Hope—a voyage which they accomplished in two years. If the Phœnicians really did complete the voyage, they anticipated the discovery made by the Portuguese about 2,000 years afterwards. In any case, it is apparent that the king was fully alive in those days to the advantages of the trade from the East. About 100 years later, Egypt fell under the

kings of Persia, and Darius determined upon completing the projects of Sesostris and Necho by digging a canal between the Red Sea and the Nile; but being assured by the engineers of the period that the Red Sea was higher than the Nile, and that its salt water would overflow and ruin the whole land of Egypt, he abandoned his purpose.

The next king of Egypt who gave his attention to the construction of a Suez canal was Ptolemy, who reigned about 300 years B. C. He dug a canal from a branch of the Nile to Damietta, a port on the Mediterranean. This canal was 100 feet broad, 30 feet deep, and ten or twelve leagues in length, extending in fact to the "bitter wells." He meant to have continued it to the Red Sea, but desisted from fear that the Red Sea was three cubits higher than the land of Egypt! That this canal, though deeper than that of M. de Lesseps, did not succeed is evident from the fact that in 277 B. C. Ptolemy Philadelphus changed the direction of Indian traffic. Alexandria was now made the port on the Mediterranean side, and merchandise from Europe was carried thence up the Nile to the city of Coptus (probably near Keneh) and conveyed across the desert from thence to the sea-port of Myos-Hormos (probably near Cossier) on the Red Sea. On account of the dangers attending this port, Philadelphus sent an army to construct the haven of Berenice, in which the ships engaged in Indian commerce took shelter in great security. Trade increased enormously by the new route, and Alexandria became rich and famous. The father of Cleopatra received a prodigious revenue from customs alone. After the reduction of Egypt and Alexandria by the Romans, the trade increased still further. 120 ships were sent yearly from the Red Sea to India, sailing about the middle of July, and returning within the year. The returns on this Indian trade are said to have amounted to "an hundred for one," and through this increase of wealth the matrons and noble ladies of Alexandria were exceedingly profuse in decorating themselves with pearls and precious stones, and enhanced their personal charms by the use of musk and amber, and other rich perfumes.

Soon after this, the mighty Roman Empire fell and History itself is blotted out for a number of years. Not only the trade with India but India itself was completely lost to the Western world. When, after some centuries, we find the Genoese, engaging in commerce and navigation, a new trade route had been opened up between India and Europe. The merchandise from the Western part of India was now carried up the river Indus as far as it was navigable, and then across country, through Samarcand, to the river Oxus, down which it was shipped to the Caspain Sea. In like manner the merchandise from China and the Moluccas was shipped across the Bay of Bengal, and up the rivers Ganges and Jumna, and then carried overland to the Oxus. Samarcand was then a great emporium, and the merchants of India, Turkey and Persia met there to exchange their wares. The ships sailed across the Caspian to the port of Astracan, at the mouth of the Volga. Thence the goods were carried up the river to the city of Novogorod in the province of Reizan, (a city that must have been considerably to the South of the famous Nijni Novogorod of to-day,) then overland for some miles to the river Don, where they were loaded on barks and carried down stream to the Sea of Azoff, and on to the port of Caffa, or Theodosia, in the Crimea. Caffa belonged at that time to the Genoese, and they came there in their galliasses to fetch Indian commodities, which they distributed throughout Europe. This was a costly and round about route, but the merchants of those days made use of the rivers wherever they could.

In the reign of Commodita, emperor of Armenia, a better route was discovered, the merchandise being transported from the Caspian Sea through Georgia to the city of Trebisond, on the Black Sea, whence it was shipped to all parts of Europe. This was doubtless the origin of the connection of the Armenians with the trade of India. So highly was this route approved of that another Armenian emperor is said to have actually begun to cut a canal, 120 miles in length, from the Caspian to the Black Sea for the greater convenience of the trade, but the author of this scheme was slain and the enterprise fell through.

After a time the Venetians came upon the scene, and discovered a new and much shorter trade route to India, that down the river Euphrates—a route which even at the present day is declared by some to be the best that could be selected for communication between India and Europe. The Venetian merchants sailed from Venice to Tripoli; thence their goods were carried in caravans to Aleppo, which was a famous mart, whose reputation even Shakespeare did not fail to notice. From Aleppo the caravans made their way to Bir on the banks of the Euphrates. Here the merchandise was transferred to boats and conveyed down the river to a point near Bagdad on the Tigris. Bagdad being reached, the merchandise was then transferred to boats on the Tigris and carried down to Bussora and the island of Ormuz

in the Persian Gulf. In those days Ormuz was what Bombay is to-day, the greatest emporium in South Asia. Here all the velvets, cloths and manufactures of the West were exchanged for the spices, drugs and precious stones of the east.

The wealth acquired by the merchants of Venice in their trade with the East excited the envy of the whole of Europe. The Portuguese especially spared no expense in their endeavours to discover a new route to India, and after nearly a century of the most indomitable exertions they were fortunate enough in the latter part of the fifteenth century to find their way to Calicut by way of the Cape—a discovery whose effect may be likened in many particulars to that of the opening of M. de Lessep's Suez Canal. The Indian trade of those days was in fact revolutionized. In a very short time, the trade routes by the Red Sea and the Euphrates were completely forgotten, and the cheapest and shortest route between Europe and India was the high sea. After making use of the sea route for 500 years, the world is now returning to the route followed by the ships of king Solomon and Hiram king of Tyre as the best and the Euphrates route promises early to be opened, so that the routes of the Erythrean Seas of the ancient world will again be followed.—*The Madras Mail, 7th June* 1870. *Ouseley's Travels Vol.* I *p.* 163. *Ajaib al Baldan. Pliny lib.* vi. *ch.* xxiii. and xxiv. See Iran; Kishm, Musiris, Perim; Periplus.

ERYTHRINA, a genus of tropical trees and tuberous herbs with clusters of very large long flowers, which are usually of the brightest red; whence their name of Coral-Trees. Moore when describing the Indian islands, notices the

" Gay, sparkling loories, such as gleam between
" The crimson flowers of the Coral tree,
" In the warm isles of India's sunny sea.

Frequently their stems are defended by stiff prickles. Voigt notices 11 species as known in India, of which are E. arborescens of Nepaul, E ovalifolia of Bengal, E. Indica of India generally; E. stricta and E. suberosa of the Western Coast of India and E. sublobata of the peninsula. *Voigt* 237.

ERYTHRINA, Species.
Thykadah. BURM?

A tree which grows to a large size, and is procurable throughout the province of Akyab. Its wood is used for making banghies, also for boxes.—*Cal. Cat. Ex.* 1862.

ERYTHRINA, SP. The Mountain coral tree. A fine looking timber tree of this genus producing a reddish wood, is not uncommon in the interior of Tenasserim. The Karens select this tree in preference to all others on which to train their betel vines.—*Dr. Mason.*

ERYTHRINA CORALLODENDRON. LINN. Syn. of Erythrina indica.—*Lam.* See Cacao; Cocoa.

ERYTHRINA CRISTA-GALLI. See Erythrina.

ERYTHRINA FULGENS. PARI-JATA. HIND. Its flower is supposed to bloom in Indra's garden, and an episode in the Puranas, relates the quarrelling of Rukmini and Satyabhama, the two wives of Krishna, to the exclusive possession of this flower which Krishna had stolen from the garden.

ERYTHRINA INDICA, *Lam.; Roxb. W. & A.*

Erythrina corallodendron, *Linn.*

Palita mandar,	BENG.	Erabadoo gass,	SINGH.
Ka-theet,	BURM.	Mooloo Moorikah,	MAL.
Toung-ka-theet	„	Kaliana murukai,	TAM.
Pen-lay-ka theet,	„	Murukka maram,	„
Moduga vriksha,	CAN.	Muluka murukku,	„
Coral tree,	ENG.	Moochoo maram,	„
Indian Coral tree,	„	Badida chettu?	TEL.
Bastard teak,	„	Badapu chettu,	„
Moochy wood tree,	„	Badidapu chettu,	„
Furrud,	HIND.	Barijamu,	„
Pangra,	„	Barjapu chettu,	„
Panjirah,	„	Maha-meda,	„
Pangara,	MAHR.	Bandita chettu,	„
Mandara,	SANS.	Chalo-dhona,	URIA?

A large tree of Ceylon, of the peninsula of India, also growing in the Konkans, Bengal, Assam, Tenasserim, Martaban and Amherst, and in the islands of the Archipelago; in India, flowering at the beginning of the hot season, its seeds ripening in June and July. In Ceylon, it grows in the hot drier parts of the island. In Ganjam and Gumsur, where it abounds, it attains an extreme height of 30 feet, circumference 2 feet, and from the ground to the intersection of the first branch, is 6 feet. It is a common tree in all parts of the Bombay country, but most so on the coast. Its place in the forests is generally taken by Erythrina suberosa. It supplies, in Tenasserim, a soft, white wood, as easily worked as the pine, which might be made valuable for many economical purposes. It is the wood commonly used by the Moochie men for making light boxes, scabbards, children's toys, &c. It is likewise employed in making rafts, and fishermen's floats, and is hollowed out and made into canoes. The wood used for this purpose in upper Hindostan is the Bombax ceiba. It is the "Moochee" wood of Madras, and is there, also, used for toys, light boxes and trays, and the varnished toys from the Northern Circars are made of it. For sword scabbards, it is a first rate material, and may be exported to Europe so soon as the eyes of the military

public shall have been sufficiently opened to the necessity of sacrificing clank and shine to utility in the matter of sword scabbards. The wood is exactly $\frac{1}{3}$rd the weight of water, and of necessity very weak. It is particularly applicable to many purposes for which deal is employed at home, such as in making packing cases, &c., &c. The natives of Nagpore use it exclusively for sword cases. It is eaten by white ants eagerly. The timber, in Nagpore varies from 14 to 17 feet in length, and from 3 to $2\frac{1}{2}$ feet in circumference, and sells at 3 annas the cubic foot. This tree is employed in many parts of India to support the black pepper vine, being of quick growth from cuttings, with firm, permanent, smooth, bark, which never peels off and gives firm hold to the roots of the vine, and they are full of leaves and very shady during the hottest months of the year which shelters the vine from the intense heat of the sun and keeps the ground moist. As soon as the hottest weather is over, the leaves drop and expose the vines to the sun and weather during the cool season.—*Drs. Roxb.* iii 249, *Ainslie, Wight, Mason, O'Shaughnessy, Cleghorn and Gibson, Mr. Rohde, Capts. Sankey and Macdonald, M. E. J. Reports, Voigt, Thwaites.*

ERYTHRINA OVALIFOLIA, *Roxb.*

Huri kankra. BENG. | Yak erra baddoo gass. SING.

A tree of the hot drier parts of Ceylon, and grows in Bengal.—*Roxb.* iii 254, *Voigt, Thwaites.*

ERYTHRINA SUBEROSA. *Roxb.*

Muni.	TAM.	Muni?	TEL.
Motaga.	„	Moduga.	„

A small tree of Guzerat, Khandesh, of the Mahal districts east of the ghats, and a native of the Circars, growing in every soil and situation: leaves deciduous during the cold season. Flowers in February and March, soon after which the leaves appear; the trunk is generally erect from eight to twelve feet to the branches. It is less common than the E. Indica, and the trunk is covered with deeply cracked corky bark, deciduous in the cold season.—*Roxb.* iii, 253, *Voigt.*

ERYTHRINA SUBLOBATA, *Roxb., W. and A.* Erythrina maxima, *Roxb in E. I.* C. *Mus. t.* 105.

Badadumu?	TAM.	Badedam?	TEL.
Mullu moduga.	TEL.		

This tree is a native of the inland mountains of the Circars, and is frequently of great size, with branches spreading and numerous, and trunk without prickles. The wood, like that of all these species, is remarkably light, soft and spongy, and is much employed by the moochies who make trunks, toys, and other things that are to be varnished, the wood retaining its priming or under coat of paint better almost than any other wood; and it is not liable to warp, contract or split. The moochies at Condapilly and Nursapore are famed for their art in forming and varnishing this wood for toys, &c. It is planted by the Tamil people about their temples. In Bengal, the leaves fall during the cold season in February, when destitute of foliage, the blossoms appear and soon afterwards the leaves: the seed ripens in May, the trunk is perfectly straight in large trees, five or six feet in circumference, tapering regularly, and the seeds are enveloped in fine, soft, or silky wool, adhering slightly to them.—*Roxb.* iii, 254, *Mr. Rohde's MSS., Mr. Jaffrey.*

ERYTHRINUS, a genus of Tropical Fishes belonging to the family Clupeidæ. *Eng. Cyc.*

ERYTHROGENIS. See Ornithology.

ERYTHRONIUM INDICUM. See Squill.

ERYTHROSPERMUM PHYTOLACCOIDES, *Gard.* A middle sized tree of the Ambagamowa and Ratnapoora districts in Ceylon; growing up to an elevation of 1,500 feet.—*Thw. p.* 18.

ERYTHROXYLON AREOLATUM?

Shajar-ul-jin.	AR.	Devadara.	SANS.
Dawadar.	DUK.	Devatharam.	TAM.
Deo dhari,	HIND.	Dovadari.	TEL.

The flowers of this small tree are very little and of a yellowish green colour. The wood is so fragrant that the inhabitants of Mysore use it in lieu of sandal wood. Its leaves, Devadarum kirai, *Tam.*, are used by the people as greens: and bruised and mixed with gingelli oil, are applied as a refreshing application to the head.—*Ainslie, Jaffrey.*

ERYTHROXYLON COCA. See Erythroxyleæ.

ERYTHROXYLON INDICA, *Linn.* Syn. of Sethia Indica.

ERYTHROXYLON MONOGYNUM. *Roxb.* Syn. of Sethia Indica.—*D. C.*

ERZEROOM, the capital of the pashalic which bears the same name, is about ten days journey from the Persian frontier. It is built on an elevated plain about 6,000 feet above the level of the sea. The cold there is intense, and lasts usually from September till May. Lying on the high road from Persia to Constantinople, it is the resort of many merchants and caravans, but it has not recovered the Russian occupation in 1829, when its fortifications were dismantled, and many of its most opulent and industrious inhabitants, the Armenians, were induced to emigrate. One of the branches of the Euphrates flows at a short distance below the city.

ERZINGAN, a town of Mesopotamia.

ESA KHAIL, an Afghan tribe on the Punjab frontier, who, along with the shiah Turi,and the Jaji dwell on the daman or skirt of the Sulimani range. The Esa Khail occupy the banks and islets of the Indus in a valley containing forty-five villages; it is a narrow oblong strip between the Indus and a long spur of the Khuttuk range, that runs southward into the plain. *Rec. Govt. of India. No.* 11

ESA MUTTEE, a river near Dacca and in Kisnagurh. It runs near Pahrumala in the Bogra district.

ESAR. Hind. Rubus rotundifolius.

ESARHADDON, 3rd son of Sennacherib. See Babylon.

ESCAMONEA. Sp. Scammony.

ESCARBOUKLE. Fr. Carbuncle.

ESCHSCHOLTZIA, one of the Papaveraceæ, a very beautiful, very delicate little flower, of a deep yellow orange colour.—*Riddell.*

ESCOBAS. Sp. Brooms.

ESCOVAS. Port. Brushes.

ESCULAPIUS, amongst the Greeks and Romans the god to whom the care of medicine and health pertained. Esmun, the snake god of the Phœnicians, is identified by Bunsen (iv. 259) with the Egyptian Hermes, called Tet and Taautes in Phœnician. Esmun Esculapius is strictly a Phœnician god. He was especially worshipped at Berytus. At Carthage, he was called the highest god, together with Astarte and Hercules. At Babylon, Bel corresponded with him. According to Jamblicus and the Hermetic books, the Egyptian name of Esculapius was Kameph, (*Bunsen* iv. 256-7). The Aswini-Kumara, the sons of Surya, amongst the hindus, correspond with the western Greek and Roman Esculapius. See Pandu, Surya.

ESCULAPIAN ROD, has been supposed by some to be a stem of a Bauhinia plant. It is probably however the form serpents assume when in congress and which is represented at every hindu serpent shrine.

ESCULENT CALADIUM. Caladium esculentum. See Eddoes.

ESCULENT CYPERUS. Cyperus esculentus.

ESCULENT OKRO. Eng. Abelmoschus esculentus. W. & A.

ESDAILE, Dr. ob. 1859, at Sydenham; a Bengal medical officer, the eldest son of the Rev. Dr. Esdaile, afterwards of Perth, and was born at Montrose on the 6th February, 1808. He studied and graduated in the University of Edinburgh. In 1837, the facts of mesmerism began to be copiously and clearly presented to the British public, and becoming assured of its truth, he devoted himself to its study. His first results were published in the 'Indian Medical Journal' for June, 1845. His first trial was casual. Seeing a felon in agony after a surgical operation, he thought he would try to mesmerise the sufferer who presently exhibited the very phenomena which were witnessed in England—went to sleep, was pinched, had pins and nails thrust into him, sat on the edge of a chair with the nape of his neck resting against its sharp back; had fire applied to his knees, inhaled strong ammonia for some minutes, and drank it like milk, without any uneasiness, and bore the exposure of his eyes to the sun without winking or contraction of the iris. After this time Dr. Esdaile performed a very large number of surgical operations—some of them absolutely gigantic—without pain. Enormous tumours are common in India, and Dr. Esdaile cut many of them away with perfect success, the patients knowing nothing about the matter, till on awaking they saw their tumours lying upon the floor. In 1846 he removed 21 tumours—some weighing 30 lbs. one 40 lbs. and one 112 lbs.; in 1847, eight—one of 40 lbs. and another of 100 lbs. in weight; in 1848, 34—some of very great size and weight. In 1849, he removed 10—some very large. In 1849, we learn that he performed 62 capital operations. In one place we read that after 100 capital operations with insensibility, only two patients died within a month—one from cholera and the other from lock-jaw. Persecution, he of course, experienced; but the editors of the newspapers took up his cause. A mesmeric committee was appointed by Government to investigate his facts. He satisfied them, and was placed at the head of a mesmeric hospital. After his return from India, where he spent many years, he lived in privacy, first in Scotland, and as he found the north too cold ultimately in Sydenham, where he died."

ESKAR. Mahr. A village servant, generally a Mhar.

ESIKEDUNTI KURA. Tel. Gisekia pharnacioides.

ESMALTE. Sp. also Azul-Azur. Sp. Smalte.

ESMERALDA. Sp. Emerald.

ESMERIL. Sp. Emery.

ESOBH, of Scripture, supposed to be the Capparis Egyptiaca.

ESPADA. Port. Steel.

ESPECIARIA. Port. Especias, Especerias. Sp. Spices.

ESPERMA DE BALLENA. Sp. Spermaceti.

ESPONJA. Sp. Sponge.
ESPRIT DE VIN. Fr. Alcohol.
ESPEMILLA. It. Crape.
ESQIMAUX DOG. See Canis: Dog.
ESQUINA. Port. China root.
ESSBARE ARUM. Germano-Lat. also Essbare Wurzel. Ger. Arum esculentum, Caladium esculentum.

ESSENIANS, a sect amongst the Hebrews, who every day saluted the rising sun.

ESSENTIAL OILS, called also volatile oils, are obtained from various parts of odoriferous plants, chiefly by distillation, but also by the chemical perfuming process of enflowering. The best known volatile oils are those of almonds, aniseed, bergamot, cajaputi, camomile, camphor, caraway, cassia, cinnamon, cloves, juniper, lavender, lemons, mint, nutmeg, orange, peppermint, pimento, rhodium, rosemary, roses (otto), savine, sassafras, mint. But in India, sandalwood, jasmine, nutmegs, indeed every odoriferous plant, is by the perfumers made to yield an essential oil. The Chambeli-ka-attr of Lucknow from Jasminum grandiflorum, extracted from the petals, sells at 2 Rupees per tola. This plant is extensively cultivated in gardens in Lucknow for the sake of its flowers. Motiah or Belak-ka-attr of Lucknow, Jasminum sambac, is also extracted from the petals, and sells at 2 Rupees per tola. It is cultivated extensively in gardens in Lucknow for the sake of its flowers, and is coloured red by mean of dragon's blood. See Atr. Otto.

ESTHER. In the centre of Hamadan, is the tomb of Ali Ben Sina, and not far from it are those of Esther and Mordecai, which are held in great veneration by the Jews of the town, and kept in a perfect state of repair. On the dome over these tombs is an inscription to the effect that Elias and Samuel sons of Kachan finished building this temple over the tombs of Mordecai and Esther on the 15th of the month Adar 4474. The tombs are made of hard black wood which has suffered little from the effects of time during the 11½ centuries they have existed. They are covered with Hebrew inscriptions still very legible, of which Sir John Malcolm has given the following translation. "At that time there was in the palace of Suza a certain Jew, of the name of Mordecai: he was the son of Jair of Shimei, who was the son of Kish, a Benjamite, for Mordecai the Jew was the second of that name under the king Ahasuerus, a man much distinguished among the Jews, and enjoying great consideration amongst his own people, anxious for their welfare, and seeking to promote the peace of all Asia." The traveller, unless told, would never recognise them as tombs. The entry is by a low door, and the tombs occupy the whole of the internal space to the ceiling, leaving only a very narrow passage for walking round the huge stone-like construction in the middle. Literally, not an inch is left on the whitewashed walls on which the Jewish pilgrims of a thousand years have not inscribed their names.—*Ed. Ferrier. Journ. p.* 37.

ESTRICH, Estridge. Eng.

Duvet d'autruche, Fr.	Struthionum plumæ
Penna Matta di strozzo It	molliores, Lat.
	Plumazo de aves-trux Sp.

Fine soft down under the feathers of the ostrich.—*Faulkner. Macculloch.*

ESUPGOL, a prince of the island of Bunder deva. His daughter was married to Bappa who conveyed her to Cheetore. See Bappa.

ESUPGUL, also Ispaghol. Duk. Guz. Hind. Spogel seed.

ETAIN. Fr. Pewter.

ESWARA, a title of Siva. See Argha, Eeswara, Siva.

ETAMU. Tel. Pikota Tam. a lever for raising water.

ETAWA. A town of the Agra district, a revenue division.

ETHER, the air, the atmosphere. In India amongst the Arian hindus, adoration was offered to Ether, as Indra (Zeus), with the sacrifice of milk and the fermented juice of plants.

ETHER, medicinal substances obtained by distilling alcohol with an acid. There are several ethers and they are very inflammable.

ETHERIA. See Chamacea chamidæ.

ETHIOPIA. A country mentioned in the Scriptures, corresponding to the present kingdoms of Nubia and Abyssinia. It was also called Seba, also Meroe. It was at one time occupied by Arabs under a settled form of Government who conquered Nubia and harrassed the Thebans. During the earlier centuries all these Arabs were easily conquered by the Egyptians. *Sharpe's History of Egypt, Vol. i. pp.* 104-105. See Egypt. Khadim. Viswamitra.

ETHIOPIAN SOUR GOURD. Eng. Adansonia digitata.

ETI CHILLA. Tel. Diliwaria ilicifolia. *Juss.* Acanthus ilicifolia.—*Roxb.*

ETI MALLE. Tel. Polygonum tomentosum.—*Roxb.*

ETI MOHANA. Tel. a large kind of fern.

ETI PALA. Tel. Salix tetrasperma.—*Roxb.*

ETI PUCHCHA. Tel. Citrullus colocynthis.—*Schræd.*

ETRINTA. Tel. Sonchus ciliatus.—*Lam.*

ETRUSCAN, an ancient Indo-European dialect, distinct from the Italian. See India p. 312.

ETYMANDER, of the Classics is the river Helmund. See Arians.

ETZEL, known to Europe as Attila. He was the leader of the Hiong-nu, a pastoral tribe, who had been expelled from the borders of China by the powerful dynasty of Han, and formed one of those pastoral tribes who roam in the lands from the Altai to the walls of China. The Hiong-nu, after their inroad on the Gothic empire of Hermanrich, made their way, under Etzel or Attila, into the heart of France. Hordes from the same regions under Togral Beg, and Seljuk and Mahmud and Chengiz and Timur and Othman, overwhelmed the kaliphat and the empires of China, of Byzantium, and Hindoostan and lineal descendants of the shepherds of High Asia, still sit on the throne of Cyrus, and on that of the Great Constantine.

EUCÆRUS, the surname of Demetrius III, B. C., 94, a Greek sovereign of Syria. See Greeks of Asia.

EUCALYPTUS. This genus, consisting of lofty trees, is found in the Malay peninsula, but it is chiefly Australian, where the species occur in great profusion, and, with the leafless acacia trees, give a most remarkable character to the scenery. E. calophyllum attains a height of 150 feet; and a girth of 25 to 30 feet is not uncommon:—Several Eucalypti have been introduced into India and are growing on the Neilgherry hills. E. resinifera yields the Botany Bay kino. Large cavities occur in the stem of E. robusta, and the places between the annual concentric circles of wood, are filled with a beautiful red or rich vermilion-coloured gum, which flows out as soon as the saw affords an opening. Eucalyptus rostrata of western Australia, is the mahogany of the colonists, also the Jarrah or Yarrah, and has been recommended for the railway sleepers of India. In many species the leaves and other characters at different ages of the tree, or in different situations, are so variable in their form, that it is difficult botanically to distinguish them from each other. The leaves are often arranged with their faces vertical, so that each side is equally exposed to the light. The following seem to be the botanical species to which the colonial names belong:—

Blue Gum of Port Jackson, Peppermint Tree ...	E. piperita.
Blue Gum of Hobart Town ...	E. globulus.
Stringy Bark	E. robusta.
Iron Bark: Kino-Gum, White Gum of Van Diemen's Land.	E. resinifera.

The Weeping Gum of Van Diemen's Land. The Mountain Blue Gum of Van-Diemen's Land. The Black Gum of Van Diemen's Land. The Black Budded Gum of Van-Diemen's Land. The Cider-Tree of Van Diemen's Land, and the Manna Gum are all unascertained.

Manna of Moreton Bay ...	E. Manna. Cun.
Blood wood of Port Jackson ..	E. Corymbosa.
White Gum of Moreton Bay...	E. subulata-Cun.
White Gum of the S. W. Interior.	E. lencodendron. Cun.

Dr. Bennett, in his "Wanderings in New South Wales," states that a large quantity of camphorated oil, which closely resembles the cajeputi, is produced from the foliage of several species of Eucalyptus. Some of the leaves, which are of a bluish green, contain it in such abundance as to cover the hand with oil when one of the leaves is gently rubbed against it. This Australian genus possesses 130 species. Several of them have been introduced into India, and others of them might be so. The Australian names gum trees, blue gum, grey, spotted, &c., are terms which vary in each district, but many of them yield a timber tougher and more durable for ship-building than either oak or teak; and not liable to injury from salt water or white ants. All the varieties afford a very valuable, close-grained, and highly scented cabinet wood, and essential oil is extracted from the leaves of one variety, the E. robusta, which was pronounced not unlike cajaputi, but very fragrant. All the varieties tried on the Neilgherries have succeeded, on every description of soil, from the swamp to the poorest clay, at all elevations, but also with a rate of growth little short of miraculous, viz., a foot per mensem, whereas hard woods in Britain progress at the rate of one foot annually. House-holders on the Neilgherries are now covering their compounds with the eucalypti and that pretty Australian favourite the Acacia melanoxylon, which is so invaluable as a source of fuel, for, like the perennial grasses, the more it is cut the better it grows. Eucalypti form the most prevalent forest feature over the greater part of East and South Australia, rivalled by Leguminosæ alone.—*Bennett. Simmonds. Eng. Cyc. Royle, p.* 301.

EUCALYPTUS AMYGDALINA, Bennet. The abundant Tasmania peppermint tree, is the least valuable as a timber tree, but lbs. 100 of its fresh leaves yield three pints of essential oil.—*Bennett.*

EUCALYPTUS CALOPHYLLA. See Eucalyptus.

EUCALYPTUS CORYMBOSA. See Eucalyptus.

EUCALYPTUS GIGANTEA. *Hook*, Stringy bark is a large tree with a hard wood but swelling and shrinking with the varying states of the atmosphere.—*Bennett.*

EUCALYPTUS GLOBULUS. LAB. Grows to 350 feet with a circumference of 50 to 100 feet, and has often 200 feet without a branch. It has large leaves and flowers and a hard, heavy and dense wood. —*Bennett.*

EUCALYPTUS GUNNII, when wounded, furnishes the inhabitants of Van Diemen's Land with a copious supply of a cool, refreshing, slightly aperient liquid, which ferments and acquires the properties of beer. —*Eng. Cyc.*

EUCALYPTUS KINO. See Eucalyptus resinifera.

EUCALYPTUS LEUCODENDRON. See Eucalyptus.

EUCALYPTUS MANNA. See Eucalyptus.

EUCALYPTUS MANNIFERA, exudes a saccharine mucous substance resembling manna in its action and appearance, but less nauseous. It is not produced by insects, and only appears in the dry season. Other species yield a similar secretion at Moreton Bay and in Van Diemen's Land. Mr. Backhouse says it coagulates, and drops from the leaves in particles often as large as an almond.—*Eng: Cyc.*

EUCALYPTUS OLEOSA, the plentiful Mallee scrub, is not more than 12 feet high, yields the next largest amount of oil. —*Bennett.*

EUCALYPTUS PERFOLIATA, is growing abundantly, on the Neilgherry and Pulney Hills, and at Bangalore, in Mysore. It is one of the most hardy of the genus and the best suited to the hills. Eucalyptus perfoliata, E. pulverulenta, exist in the open air near Edinburgh; they and other species will thrive in the south and west of England. See Evergreens.

EUCALYPTUS PIPERITA. See Eucalyptus.

EUCALYPTUS PULVERULENTA. See Eucalyptus. Evergreens.

EUCALYPTUS RESINIFERA.

E. Kino. | Metrosideros gummifera.

Bôtany bay kino tree. Brown gum tree. A native of Australia, cultivated in the Calcutta Garden. Has leaves with very minute and numerous little dots. The bark, says Dr. O'Shaughnessy, yields a gum not inferior to kino, and sold as such. The bark of this and other species is so hard as to cause them to be called Iron-Bark Trees by the colonists. And the Blue Gum-Tree and some others throw it off in white or gray longitudinal strips or ribands, which hanging down from the branches, have a singular effect in the woods. An astringent juice flows from this tree, named Botany Bay kino. Ainslie quotes Dum-ul-ookwain as the Bazaar name of this kino, but that term properly applies to the "Dragon's blood." It is infusible, occurs in fragments of variable size and form, often covered with brownish powder, brittle, thin, translucent and ruby coloured, fracture glassy and chocolate coloured, of variable depths of tint, destitute of odour. Taste austere and somewhat bitter, powder red-brown; water dissolves about two-thirds, alcohol three-fourths, ether one-twentieth only. But there are different statements made by writers on this subject. Mr. White, who has witnessed the collection in Australia, says a single tree will yield 500 lbs. of this kino in one year by incisions practised on the bark. The medical uses of this article correspond exactly with those of kino, as already described. The bark and leaves are aromatic, but their essential oil has not been separated.

Mr. Simmonds says the astringent gum common throughout Western Australia, and of a considerable commercial value, is believed to be from the (Eucalyptus resinifera.) It is considered to be inferior to the ordinary Kino (Pterocarpus marsupium), and conjectured by Pereira to become gelatinous when made into tincture. Its bark is a powerful tanning substance, and a single tree will often yield 60 gallons of an astringent resinous-like substance from incisions in its bark; sold in the bazaars of India as a kind of kino.—*Simmonds. O'Shaughnessy, p.* 336. SeeGums andResins.

EUCALYPTUS ROBUSTA, contains large cavities in its stem between the annual concentric circles of wood, filled with a most beautiful red or rich vermilion-coloured gum, which flows out as soon as the saw affords an opening.—*Eng. Cyc.* See Eucalyptus.

EUCALYPTUS SUBULATA. See Eucalyptus.

EUCALYPTUS VIMINIALIS and E. Dumosa, produce a manna.

EUCHARIDIUM. A small plant bearing a purple flower.—*Riddell.*

EUCHEUMA SPINOSA, of Malacca, yields part of the agar-agar of commerce.

The plants and their synonyms, which yield the commercial agar-agar are as under:

Eucheuma Spinosa.

Fucus spinosus,	Linn.	Plocaria candida,	Nees.
„ tenax,		Gracillaria tenax.	
Gigartina tenax,	Turner.	„ spinosa.	
Agar Agar,	Malay.	Bulung,	Jav.
Karang,	„	Dongi Dongi,	Mac.
Sajor-karang	„		

The Plocaria candida of Nees yields the Ceylon moss and the whole thallus of this one of the Algæ, is sometimes imported from Ceylon into Britain, and used there for dressing silk goods. The Malay name of agar-agar is also given to the Gracillaria spinosa likewise one of the Algæ, of the Order Rhodymeniaceæ and seems to have as synonyms, Gigartina tenax also Gracillaria tenax, also Fucus tenax of Turner. Mr. Williams and the honorable Mr. Morrison say of the Gigartina tenax, that the Chinese people collect this sea-weed on the coast to a great extent using it in the arts and also for food. The Gigartina tenax is prepared as affording an excellent material for glues and varnishes. It is boiled and the transparent glue obtained is brushed upon a porous kind of paper called "shachi" which it renders nearly transparent. It is also used as a size for stiffening silks and gauze, and extensively employed in the manufacture of lanterns and in the preparation of paper for lattices and windows. This and other kinds of fuci are boiled down to a jelly by the islanders on the south and extensively used for food, it is known in commerce under the name of agar-agar. (*Williams, p.* 275.) The Honorable Mr. Morrison says the Gracillaria tenax is the Fucus tenax of Turner; about 27,000 lbs. are annually imported into Canton, from the provinces of Fokien and Tchi-Kiang, and sold for 6d. to 8d. the pound. The Chinese make it the basis of an excellent glue and varnish, and employ it chiefly in the manufacture of lanterns, to strengthen or varnish the paper and sometimes to thicken or give a gloss to silks or gauze. Mr. Neill thinks that the gummy substance called Chin-chou, or hai-tsai, in China and Japan, may be composed of this substance. Windows made of slips of bamboos and crossed diagonally, have frequently their interstices wholly filled with the transparent glue of hai-tsai. *Honorable Mr. Morrison, Compendious Summary. Williams.* See Agar-Agar, Algæ. Edible sea weed. Fucus, Plocaria.

EUCRATIDES. A Bactrian king, B. C. 185 who ruled over Bactriana, Ariana, Patalene, Syrastrene, Larice, Nisa, Gandharitis, Peukelaotis and Taxila. While still ruling, Antimachus Nicophorus seized part of his dominions and after the parricidal murder by Heliocles of Eucratides, his countries remained in the hands of Antimachus Nicophorus and Apollodotus. The Arian written character was adopted first, on the coins of the Greek kings, from Eucratides down to the barbarian king Hermæus. Eucratides was the earliest of the Greek kings of Bactria, Kabul and Aria who adopted bilingual inscriptions on his coins. It is supposed he did so consequent on his conquest of the Parapamisus after assumption of the title of Great King. On his murder, his wide dominions are supposed to have been broken into several independent kingdoms. His parracidal son, ruled for a few years over Bactria and Paropamisus.

According to Cunningham (*Hist. Panj.* i. *p.* 57.) Eucratides invaded India B. C. 165 and annexed the Panjab, which on his demise fell to Menander or Apollodotus. A list of kings, he says, had been obtained from recently discovered coins, of Greek mintage, bearing Arian inscriptions on the reverse, ranging from 153 to 120 B. C., who are supposed, upon good grounds, to have been sovereigns of the Punjab, the valley of the Indus, and Cabul.—*Thomas' Prinsep. History of the Punjab, Vol.* i *p.* 57.

EUDEMOS, a Greek ruler in the Punjab, who, along with Taxiles and Porus was named by Alexander to succeed Philip, on the murder of the latter by the mercenary soldiery. The Greek Colonists in the Panjab had first been placed under Philip while the Civil administration remained in the hands of Taxiles and Porus. After Alexander's death in B. C. 323 Eudemos made himself master of the country by the treacherous assassination of king Porus. A few years later in B. C. 317, he marched with 3000 infantry and 5000 cavalry and 120 elephants to the assistance of Eumenes, and did good service at the battle of Gabiene but, during his absence, Chandragupta, roused the nation, and slaughtered and expelled the Greeks. See Chandragupta.

EUDYNAMIS ORIENTALIS. *Linn.*

Cuculus maculatus,	Gmel	Cuculus mindanensis.	
„ niger.		„ scolopaceus,	Linn.
Kokil,	Beng.	Kokila,	Tel.
Koel (the male)	Hind.	Nallak (male)	„
Koreyala, (the fem)	„	Podak (female)	„

The male bird is greenish black throughout, and the female is glossy dusky green spotted with white above. Like the Cuckow, the koil lays its eggs in the nests of other birds. The nest of the "seven brothers" the "Sat Bhai," is selected occasionally, and it is a curious sight to see these social birds unitedly feeding the young koil that

has been hatched in their nest. Because the koils song is especially heard at the season of spring it is called the friend of love.

Sweet bird, whom lovers deem Love's messenger,
Skilled to direct the god's envenomed shafts
And tame the proudest heart; Oh, hither guide
My lovely fugitive or lead my steps
To where she strays.

Moors Pantheon p. 206. *The Hero and the Nymph p.* 247, *Jerdon Birds* 1342. See Kameri.

EUGEISSONIA TRISTIS. *Griff.*

Bartam, MALAY.

A palm growing on the hills about Ching, Malacca and Penang. The leaves are used in Penang in making mats for the sides of houses, also for thatch, and for all the purposes to which those of the Nipa fruticans are applied.—*Griffith's Palms.*

EUGENIA. A genus of plants named in honour of Prince Eugene of Savoy. It contains nearly 200 species, though numbers have been removed to the genera Nelitris, Jossinia, Myrcia, Sizygium, Caryophyllus and Jambosa, in which are now contained the Clove-Tree, the Rose-Apple, and Jamoon of India, formerly included in Eugenia. This genus is confined to the hot and tropical parts of the world, as Brazil, the West India Islands, and Sierra Leone, and extends from the Moluccas and Ceylon in the south to Silhet and the foot of the Himalayas in the north. Some of the species secrete a warm volatile oil in their herbaceous parts; abound in tannin: yield good wood: and a few have fruits which are edible, though not very agreeable, from being impregnated with the aroma of the oil. Dr. Wight gives, in Icones, the following species of Eugenia:

(E) angustifolia,	(J) pauciflora,	(S) montana,
,, cymosa,	,, polypetala,	,, myrtiolia,
(N) acuminata,	,, purpurea,	,, Neesiana,
,, bracteolata,	,, ternifolia,	,, oblata,
,, claviflora,	(S) alternifolia,	,, obtusifolia,
,, grata,	,, Arnottiana,	,, operculata,
,, inophylla,	,, brachiata,	,, paniala,
,, lanceolata,	,, calophyllifolia,	,, polyantha,
,, leptantha,	,, caryophyllifolia,	,, praecox,
,, Wightiana.	,, caryophyllœa.	,, pulchella,
(R) Mooniana.	,, cerasoides,	,, reticulata,
,, Willdenowii,	,, cordifolia,	,, revoluta.
(J) alba,	,, corymbosa,	,, rottleriana.
,, amplexicaulis,	,, cymosa.	,, rubens.
,, aquea,	,, ferruginea,	,, rubicunda,
,, cylindrica,	,, fruticosa,	,, salicifolia,
,, hemispherica,	,, glandulifera,	,, sylvestris,
,, lanceolaria,	,, grandis,	,, thumra,
,, laurifolia,	,, jambolana,	,, toddalioides,
,, macrocarpa,	,, jambolana, var.	,, venusta,
,, Malaccensis,	microcarpa.	,, Wallichii,
,, Munroii,	,, lanceœfolia,	,, Zeylanica.

Mr. Thwaites mentions as growing at no great elevation in Ceylon, the Eugenia decora, *Thw.*, a small tree near Galle. Eugenia flaccifera, *Thw.*, a small tree at Reigam Corle; Eugenia fulva, *Thw.*, a small tree at Pasdoon Corle; Eugenia rivulorum, *Thw.*, a small tree on the banks of streams in the

Singherajah forest, between Galle and Ratnapoora, and Eugenia terpnophylla, *Thw.*, a middle sized tree of Ambagamowa and Ratnapoora districts, and Reigam Corle. Eugenia mabæoides, (*Wight Illust.*) grows in the central province, at an elevation of 4,000 to 7,000 feet. Eugenia Mooniana, *Wight, Ill,* is abundant in the central province, up to an elevation of 4,000 feet, and Eugenia Willdenovii, *D. C.* Tambaleya-gass, *Singh.*, is common in the hotter parts of the island. Dr. McClelland names seven species of Pegu, viz. Eugenia nervosa, E. pulchella, E. myrtifolia, Tha-bai-jeen, *Burm*, E. jambosa, of the Southern parts of Pegu, affording dark strong wood.

Eugenia pulchella, Khway-tha-byai, *Burm.* very plentiful in the Pegu and Tounghoo districts.

E. vulgaris, Thabyai-tha-phan. *Burm.*

E. ternifolia, Thab-yew-tha-byai, *Burm.* and E. jambolana also occur, but less plentifully than E. pulchella. These all afford excellent close grained strong timber, but subject to the attacks of white ants. Wood red colour, strong and adapted for house-building.—*Drs. Wight and McClelland, Voigt, Thwaites, Eng. Cyc.*

EUGENIA, *Species.*

Thab-yeh-tha-pan. BURM.

The different kinds of Thabyeh, of British Burmah, have a hard red coloured wood, close, but not straight grained, and supposed to be brittle. The wood is subject to the attacks of white ants. The stems are occasionally used for canoes. This is also used for house building. Breaking weight of the "Thabyehgah" E. caryophyllifolia, 254 lbs. A cubic foot weighs 50 lbs. In a full grown tree on good soil, the average length of the trunk to the first branch is 30 feet and average girth measured at 6 feet from the ground is 9 feet. It sells at 8 annas per cubic foot. (*Note.*—This seems to be Dr. McClelland's E. vulgaris.)—*Drs. McClelland and Branis.*

EUGENIA, *Species.*

Tha-bya. BURM.

A tree of Moulmein.—*Cal. Cat. Ex.* 1862.

EUGENIA. *Species.*

Tha-bya-gyin. BURM.

A tree of Moulmein. Wood soft, used in the ordinary purposes of a building material. —*Cal. Cat. Ex*, 1862.

EUGENIA ACRIS, *W. & A.*

Eugenia pimenta, *D. C. var.* ovalifolia.
Myrtus pimenta, *Linn. var.* latifolia. *Roxb.*
,, acris. *Sw.*
,, caryophyllata. *Jacq.*
,, aromatica. *Poir.*
Myrcia acris. *D. C.*
,, pimentoides, *D. C.*

Wild Cinnamon Tree, ENG. | Sung, HIND.
„ Clove „ | „

A small tree, introduced from America, grows in Bombay, the leaves have a pleasant smell when bruised. Timber hard, red and heavy, capable of being polished and used for mill cogs and other purposes, where much friction is to be sustained.—*Riddell, Voigt.*

EUGENIA ACUTANGALA. LINN.
Barringtonia acutangula.
Hinjolo. URIA.

Under these names, Captain Macdonald describes a tree of Ganjam and Gumsur, of extreme height 30 feet, circumference 4½ feet and height from ground to the intersection of the first branch, 6 feet. Grows in abundance on the banks of rivers. The wood is not affected by damp, and is therefore generally used for the wooden frame work at the bottom of wells. Rice pounders are also made of it. The bark is given medicinally to women after childbirth.—*Captain Macdonald.*

EUGENIA ALTERNIFOLIA. *Roxb.*; *W Ill.*; W. *Ic.*

Movi chettu, TEL. | Moyi chettu, TEL.

Very common on the Nagari hills.—*Flora Andh.*

EUGENIA AMŒNA. *Thwaites.* A small tree of Ceylon, at Kokool, Corle and Dolosbage district, up to an elevation of 1,500 feet.—*Thw.*

EUGENIA BRACTEATA. *Roxb.*; W *& A.*

Engenia Roxburghii, *D. C.*
„ Zeylanica. *Roxb.*
„ læta. *Ham.*
Myrtus bracteata. *Willde.*
„ littoralis. *Roxb. in E. I. C. Mus.*
„ coromandeliana. *Koen.*
„ ruscifolia. *Willde.*
„ latifolia. *Heyne,*
„ Heynei. *Spreng.*

Aramanda. TEL. | Goragamudi. TEL
Arivita. „ |

A shrub, frequent in low jungles near the sea on the Coromandel coast, and in the Northern Circars. It is only used for firewood. It likewise grows at Jaffna in Ceylon.—*Flora Andh., Thwaites.*

EUGENIA CARYOPHELÆUM, its berry is eaten in Ceylon.

EUGENIA CARYOPHYLLATA. *Thun.*

Caryophyllus aromaticus. *Linn.*
Myrtus caryophyllus. *Spreng.*

Luvunga. BENG. | Ran jambool. MAHR.
Clove tree. ENG. |

A tree of the Moluccas, but cultivated in Ceylon, the Malay Peninsula, in the south of India, in Travancore, also in Mauritius and Bourbon. The cloves of commerce are the unopened flowers, the flower buds. It is hardly found on the Bombay side, north of the Savitree. South of that river it is found only in Raees or greenwood jungles, and about temples. The wood appears quite equal to that of the common Jambool the Eugenia jambolana.—*Dr. Gibson, Voigt, M.E. A. R.* See cloves.

EUGENIA CARYOPHYLLIFOLIA. *Roxb.*; *W. Ic.*, 553.

Calyptranthes caryophyllifolia. *Ains.*

Choto jam, BENG. | Naurei, TAM.
Thab-yeh-gah, BURM. | Nawel maram, „
Naradidi Vriksha, CAN. | Neredu manu, TEL.
Nawel wood tree, ANG TAM. | „ chettu, „
Koata naga ? TAM. |

Grows in Coimbatore, in the Northern Circars, in Bengal and British Burmah. It is a native of various parts of India growing luxuriantly in almost every soil and situation. Flowering time the hot season; bears a round berry, black when ripe, the size of a pea. Ainslie gives a favorable account of the timber, and the wood is very strong, close grained, hard and durable. The different kinds of Eugenia, called Thab-yeh in British Burmah, have a hard, red colored wood, but not straight grained, and supposed to be brittle. The stems are occasionally used for canoes, especially those of Thab-yeh-gah, the breaking weight of which is 254 lbs. A cubic foot weighs 56 lbs. In a full grown tree on good soil, the average length of the trunk to the first branch is 20 feet, and average girth measured at 6 feet from the ground is 6 feet. It sells at 8 annas per cubic foot.—*Drs. Roxburgh, Wight and Brandis, Mr. Rohde's M.S.S. Voigt. Cal. Cat. Ex.* 1862.

EUGENIA CARYOPHYLLIFOLIA. *Lam.* not *Roxb.* Syn. of Syzigium jambolanum.—*D. C.*

EUGENIA CERASOIDES, *Roxb.*
Thabyehgyin. BURM.

The different kinds of Thabyeh of British Burmah have a hard red coloured wood, but not straight grained and supposed to be brittle. The stems are occasionally used for canoes. A cubic foot weighs 51 lbs. In a full grown tree on good soil, the average length of the trunk to the first branch is 40 feet and average girth measured at 6 feet from the ground is 9 feet. It sells at 8 annas per cubic foot.—*Dr. Brandis, Cal. Cat. Ex.* 1862.

EUGENIA JAMBOLANA, *Lam.*; *Roxb.*

Syzigium jambolanum, *D.C.*; *W. Ic. W.Ill. W.&A.*
„ caryophillifolium, *D. C.*
Eugenia jambolana. *Lam.*
„ jambelifera, *Roxb., in E. I. C. Mus.*
„ obtusifolia, *Roxb. Fl. Ind.* 2 *p.* 485.
„ caryophyllifolia, *Lam.*
Calyptranthes jambolana, *Willde.*
„ caryophyllifolia, *Willde.*

Myrtus cumini, *Linn.*

Kalo jam,	Beng.	Sirru naga,	Tam.
Burra jamon,	Hind.	Kotti naga maram,	„
Rai jamun,	„	Pedda neredu,	Tel.
Jambool,	Mahr.	Sanna neredu,	„
Koatti naga maram ?	Tam.	Jamo,	Uria ?
Nirarlay ?	Tam.	Bodo jamo,	„
Peru nagal,	„	Coojee jamo,	„
Sina naga	„		

Mr. Robert Brown of the Madras Agri-Horticultural Gardens considers that this is the Calyptranthes caryophyllifolia and jambolana he sent for specimens according to the Tamil names, Nawel Maram and Naga maram, and they were both the same plants; and, as far as he can make them out, the following are one species:

Syzigium jambolanum.
Eugenia caryophyllifolia.
„ jambolana.
Calyptranthes caryophyllifolia.
„ jambolana.

About Madras, this tree is generally much destroyed by the Carpenter Bee. It, likewise, grows in the Bombay side of India, in Coimbatore, in Ganjam and Gumsur, in Bengal and Kemaon. It is found in all the Bombay ghat and coast forests; also pretty extensively near villages, where it has been planted. The tree is not very common either in Bodogoda or lower Goomsur, but is said to be rather plentiful in the Chokapaud forests. There are two kinds there termed respectively the "Bodo" & "Coojee" Jamo. Dr. Wight, writing in Coimbatore, says "of this wood I have no knowledge, it is said to be brittle and bad, but is described by Ainslie as fit for house building purposes." But Dr. Gibson thinks that Dr. Wight under-rates the quality of the wood, and he says that it makes excellent beams, but on account, probably, of its brittleness, is never cut up for cabinet purposes. The bark affords a large supply of a kino extract. —*Drs. Wight and Gibson, Capt. Macdonald, Voigt. Cleghorn, Punjab Report, Kullu and Kangra p.* 82.

EUGENIA LAURINA,—?

Wal boamboo, Singh.

Under these names Mr. Mendis mentions a timber tree of the central province of Ceylon, used in house buildings. A cubic foot weighs 36 lbs, and it lasts 15 years.

EUGENIA MALACCENSIS. *Linn.*

Jambosa Malaccensis, *D.* C.
„ purpurascens, „
„ domestica, „

Malaka amrool, Beng.	Jambu Malacca maram,
Namball paio, Maleal.	Tam.

This tree was brought to India from Malacca. The fruit somewhat resembles a pear in shape, is pleasant to the taste, is reckoned very wholesome, and bears some resemblance in taste to a juicy apple, but it is a very indifferent fruit. *Drs. Ainslie and Mason.*

EUGENIA JAMBOS. *Linn.*

Jambosa vulgaris, *D*, C.

Gulab jam,	Beng.	Gulab-jamun,	Pers.
Gulabi jam,	Duk.	Raja jembu,	Sans.
Rose apple	Eng.	Jambo,	Singh.
Jamb,	Hind.	Jambu-nawel maram	Tam
Jam,	Maleal.	Jembu-neredi manu	Tel.

Grows in both the Indian peninsulas, in Bengal and in Sirmore. This tree bears a light whitish yellow fruit, pear shaped, with smooth skin, having a rose flavor, whence its English name. It is commonly cultivated in gardens on the coasts and in Hyderabad. It is easily propagated by seed, and grows luxuriantly in a good garden soil. The red coloured species, having the same flavor, is called the Jambo Malacca. The fruit is not much esteemed. In Tenasserim, the rose apple is cultivated to a small extent in European gardens.—*Drs. Ainslie, p.* 228, *Mason and Riddell.*

EUGENIA OBTUSIFOLIA. *Roxb.*

Thabyehgjo, Burm.

The different kinds of Thabyeh of British Burmah have a hard, red colored wood, but not straight grained and supposed to be brittle. The stems are occasionally used for canoes. A cubic foot weighs 48 lbs. In a full grown tree on good soil the average length of the trunk to the first branch is 20 feet, and average girth measured at 6 feet from the ground is 9 feet. It sells at 8 annas per cubic foot.—*Dr. Brandis, Cal. Cat. Ex. of* 1862.

EU-HO, called also the Yun-Lian-Ho, a river of China, a tributary of the Pei-ho river. At the junction is the town of Teen-tsing-foo a place of great trade.

EULÆUS, an ancient town in Susiana, supposed by some to be the Ulai of Daniel viii. 2, the Cissia of Herodotus, Susa and the modern Shush. See Khurdistan, Susa.

EULOPHIA VIRENS. R. Br. W. Ic.

Limodorum virens Roxb. Corr. Rheede.

Khassiat us Salib,	Ar. Hind. Pers.	Veduru gadda,	Tel.
Whitlo-	oot, Eng.	Goru chettu gadda,	„
Salep,	„	Rayo duru dumpa,	„
Salep misri,	„	Orkis,	Yunani,
		Saturyun,	„
		Turphyla,	„

One of the plants the tubers of which form part of the Saleb misri or Salep of Commerce. Most of the rhizomata and roots of the species of the family Orchidaceæ yield starch in a peculiar form. The roots of the species of Orchis are used in Europe under the name of Salep as an article of diet, and

the same use is made of the rhizomata of a species of Eulophia in the East Indies. Although specimens of the plant were brought from Cashmere by Dr. Royle, they were not in a state of preservation to be identified. —*Lindley Flora Medica. Eng. Cyc. Birdwood. Hogg p.* 779. *Voigt* 629.

EUMENES. See Chandragupta.

EUMETA CRAMERII. *Westw.*

Sack Trager,	GERM.	Kundi Puchi,	TAM.
Dalme-Kattea,	SINGH.	Muluka Rasari,	„

This is one of the wood moths or wood carriers of Ceylon. The insect gathers a bundle of thorns or twigs about it, binds them together by threads so as to form a case. The male, at the close of the pupal rest, escapes from one end of the case, but to the female it is a covering for life. Another species is E. Templetonii. *Tennant's Ceylon.* See Wood-moth.

EUNUCHS, are still employed in the households of the mahomedans and hindus of Egypt, Persia, Arabia and India. We learn from Herodotus, (*lib.* 6), that the Persians in remote times, were waited upon by eunuchs, and some attribute to them the invention. Ammianus Marcellinus, however, (*lib.* 14), ascribes the origin to Semiramis. Burton says that they were not known in Arabia at the time of Mahomed, but in the chapter of the Koran on "Nur" or Light, men who have no need of women are spoken of as persons before whom women may appear: the learned, however, do not agree as to who were here meant. Burton also (*Pilgrimage ii.* 74 *to* 155) mentions eunuchs coming to the prophet's tomb. Nearly all the slave hunters in Abyssinia when they catch a young lad, mutilate him and send him over to Mecca; but it is mentioned that they are still mutilated in Rajputana and in Aurungabad. Dr. Wolff (*Bokhara vi. p.* 217) mentions that in his time several of these eunuchs were married to several wives, and he instances Manujar Khan, the governor of Isfahan. Sir John Malcolm had known only two or three instances of eunuchs being employed in situations of trust during the reign of the king of Persia to whom he went as ambassador. He, however, observed that they were treated with uncommon attention and deference. In Hyderabad, in the Dekhan eunuchs are few, and there are many women dressed as men and employed as musicians and military guards.—*Malcolm's History of Persia, Vol.* ii, *p.* 438. 155 *n. Burton's Pilgrimage to Meccah Vol.* iii. *p.* 408.

EUONYMUS, a genus of plants belonging to the natural order, Celastraceæ, of which about 28 species mostly small trees, are known to occur in the South and East of Asia. E. echinatus of Nepaul is a shrub or climber, there are three unnamed species in Kaghan, "Barphuli" and "Siki" and "Butten." E. glaber occurs in Chittagong: E. grandiflorus and E. Hamiltonianus in the Dehra-Dhoon. E. grossus in Nepaul. E. dichotomus: E. Goughii and E. acutangulus in the Peninsula.—*Voigt.*

EUONYMUS FIMBRIATA.

Saki,	HIND.	Bar-phulli,	HIND.

Wood hard and useful.

EUONYMUS GARCINIFOLIA (?)

A small tree, growing near the Bombay ghats in the upper country to the south. It seems to be often cultivated in Canara, on account of its straightness, as applicable for house rafters. It does not reach a size sufficient to fit it for general purposes.—*Dr. Gibson.*

EUONYMUS REVOLUTUS. *Wight, Ill.* 178. A middle sized tree of Newera and other very elevated parts of Ceylon.—*Thw. En. Pl. Zeyl. p.* 73.

EUONYMUS TINGENS. The bark in the inside is of a fine yellow colour similar to that of Rhamnus. It is used to mark the Tika on the forehead of the hindus, and is considered by the natives to be useful in diseases of the eye—*Royle. O'Shaughnessy, page* 272.

EUPATOR, the surname of Antiochus V. a Syrian king B. C. 164. See Greeks of Asia.

EUPATORIUM TRIPLINERVE, *Vahl.*

E. ayapana, *Vent.*	E. aromaticum.
Ayapana, BENG. HIND.	

The dried leaves and twigs are used in medicine. An infusion is a very agreeable diaphoretic and mild tonic. Dose, two fluid ounces thrice daily, and is a favorite remedy among the native practitioners.

The leaves are used in the Mauritius as a substitute for tea. There are several species, viz., E. Guaco, E. odoratum, E. perfoliatum and E. rotundifolium, or bone-set, is possessed of greater bitterness and less aroma, than E. ayapana, and is stated to be employed with much success as an antiperiodic in the intermittent fevers of the United States of America.—*O'Shaughnessy, Beng. Phar. page* 298. *Beng. Dispensatory* 422-3.

EUPHORBIACEÆ, *Spurgeworts*, a natural order of exogenous plants. In China many plants are cultivated for their oil to be used in the arts as well as cooking; a strong oil is derived from the seeds of two or three plants belonging to the euphorbiceous family, for mixing with paint, smearing boats, &c. It is deleterious when taken into the system, but does not appear to injure those who use or express it.—*William's*

Middle Kingdom, p. 107. See Euphorbia, Cluytia collina, Commia, Croton, Emblica; Givotia Rottleriformis, Hura crepitans Buxus, Jatropha, Ricinus, Cascarilla. Slipper plant.

EUPHORBIA, a genus of exogenous plants, giving its name to an extensive and important natural order. E. peplus, is purgative and emetic, in dose of 24 grs. E. gerardiana, E. pithyusa, E. sylvatica, same effect, dose 15 to 24 grs.—*O'Shaughnessy p.* 565.

Voigt enumerates 31 species as known in India, viz:

Acaulis.	Lactæ.	Prolifera.
Antiquorum	Ligularia.	Prunifolia.
Arborescens.	Linearis.	Punicea.
Bojeri.	Lophogona.	Pyrifolia.
Bupleurifolia.	Maculata.	Sessiflora.
Chamæsyce.	Melliflora.	Splendens.
Dracunculoides.	Nevulia.	Thymifolia.
Exigua	Parviflora.	Tiraculli.
Hirta.	Peltata.	Trigona.
Hoyæfolia.	Peplis.	Uniflora.
	Picta.	

And in other countries are E. balsamifera and E. Canariensis.

EUPHORBIA, Species. Yamula, BURM. Used for frames of lacquered ware.

EUPHORBIA AGRIA, (affinis, species) grows in the mountains of Cashmere, where it is officinal. The root of this plant is sometimes as thick as the arm, knotty, with boughs, and is blackish, whence the Cashmerians call it the black Hirbee (Euphorbia) and consider it the strongest of all other species (white, yellow, etc.) A man who had taken such a root out of the ground not having observed the rule to have the wind behind him, got a swollen face, from the powerful vapors.—*Honigberger, page* 274.

EUPHORBIA ANTIQUORUM. *Linn. Roxb. W. Ic. Rheede.*

Nara Shij,	BENG.	Shadida kalli,	MALEAL.
Triangular Spurge,	ENG.	Shadre kalli,	TAM.
Nara-Sij,	HIND.	Bonta Jamudu,	TEL.
Siard,	,,	Bomma Jemudu;	,,
Thuar.	,,	Bonta-chemudu.	,,

A common plant in the South of Asia. According to Dr. O'Shaughnessy, (*page* 564,) no Euphorbium resin is obtained from this species in India; other writers however say that an immense quantity of gum resin, might be collected from it. The dried stalks are the cheapest of firewoods.—*Irvine. O'Shaughnessy* 564.

EUPHORBIA BOJERI. BOJER'S EUPHORBIA. This large scarlet-flowered species of euphorbia from Madagascar is very common in gardens in Tenasserim.—*Mason.*

EUPHORBIA CANARIENSIS. *Linn.*

Canary Spurge.	ENG.	Sheer-darakht-zekoom	PERS.
Akeil nefseh,	ARAB.		
Firfyoon,	,,	Sudusudu,	MALAYA.
Firbeyoon,	,,	Furbiune,	MOROCCO.
Shia-dzaon,	BURMAH.		

In the Canaries, on volcanic soil, E. Canariensis and E. laphylla form great bushes with arms like candelabras.

EUPHORBIA CEREIFORMIS. See Euphorbia antiquorum.

EUPHORBIA CONTINIFOLIA. See Euphorbia antiquorum.

EUPHORBIA CASHMEREANA; TSOK, or Tsuk of Cashmere root of a dark brown colour, about an inch thick and is officinal in Cashmere.—*Honigberger, p.* 274.

EUPHORBIA CATTIMANDU. *W. Ell. W. Ic.*

Aku Chenrudu, TEL. | Katti mandu, TEL.

In Telugu literally "knife medicine" because used to fix knives in wooden handles, the juice of this plant is used in cementing iron with other substances (the blade and handle of a knife for instance.) It is common in the Northern Circars and is called Akoo Chenroodoo—which is described in Campbell's dictionary as "Euphorbia Neriifolia." This species and its product were brought to public notice by Mr. Walter Elliot.

EUPHORBIA CYPARISSIAS.

Tithymalus Cyparissias. | *τιφυμαλος.* Diosc. iv. 165.

Europe. Root excessively acrid. Des Longchamps considers the bark of the root a good emetic in doses of 12 to 18 grs. —*O'Shaughnessy.*

EUPHORBIA EPITHYMOIDES. See Euphorbia verrucosa.—*Honigberger, p.* 274.

EUPHORBIA GERARDIANA. See Euphorbia. Euphorbia antiquorum.

EUPHORBIA HELIOSCOPIA, vegetates in the gardens of Cashmere. The juice is very acrid and irritating. The seeds of this plant are officinal, and combined with toasted pepper are recommended in cholera. —*Honigberger, p.* 274.

EUPHORBIA HEPTAGONA. See Euphorbia antiquorum.

EUPHORBIA HYPERICIFOLIA. See Euphorbia antiquorum.

EUPHORBIA IPECACUANHA. Action of root exactly like that of Ipecacuanha, but more violent. It only requires to be given in proportionally small doses to be a perfect substitute for the best ipecacuan. *O'Shaughnessy. p.* 565. See Euphorbia antiquorum.

EUPHORBIA LAPHYLLA. See Euphorbia.

EUPHORBIA PITHYUSA.

EUPHORBIA LATHYRIS,

Spurge. ENG. | Caper spurge. ENG.

The seed of this Euphorbium contains yellow fixed oil, stearine, acrid brown oil, crystalline matter, brown resin, an extractive colouring matter, and vegetable albumen.—*O'Shaughnessy, p.* 565.

EUPHORBIA LIGULARIA, ROXB. ii. p. 465.

Munsa sij, BENG. | Sha Zoung, BURM.

A plant sacred to Munsa, or Manisa, the goddess of serpents. The root of the tree mixed with black pepper is employed for the cure of snake bites, both internally and externally.—*O'Shaughnessy, p.* 564.

EUPHORBIA LIGULATA. This large columnar Euphorbia is common all along the Soane river, and is used everywhere for fences.—*Hooker, Him. Jour. Vol. I, p.* 46.

EUPHORBIA LONGIFOLIA, its yellow root is long and smooth for about half an inch to an inch in diameter and is called the yellow Hirbee. This species is used at Lahore as well as in Cashmere. The Cashmerean surgeons apply it in fistulous sores, &c.—*Honigberger, p.* 275.

EUPHORBIA MAURITANICA. See Euphorbia antiquorum.

EUPHORBIA NERIIFOLIA. *Linn.* Syn. of Euphorbia nivulia. *Buch.*

EUPHORBIA NIVULIA. *Buch. W. Ic.*

Euphorbia Nereifolia, *Linn. Roxb. Rheede.*

Shij,	BENG.	Pattakarie,	SANS.
Patteun; or P'tun,	DUK., HIND.	Elle kalli,	TAM.
Sij,	,,	Aku jemadu or chemudu,	TEL.
Ella kalli,	MALEAL.		

Branches round, juice used by the natives as a purgative, externally as a stimulant in rheumatism and contracted limbs; leaves diuretic. Grows all over the rocky parts of the Deccan. Abundant over all the hills within some miles of Ajmeer. It has a whitish dead appearance, except during the rains, and forms a capital fence round fields, &c.—*Irvine, Riddell. Honigberger, p.* 275, *O'Shaughnessy, p.* 565.

EUPHORBIA OFFICINARUM. Arabia, and Africa. Mr. Pereira considers the Mogadore Euphorbium resin to be produced by this species, which has a bright crimson flower. *O'Shaughnessy,* p. 564.

EUPHORBIA PILULIFERA.

Umawm patcheh-arise. TAM.

An abundant weed to be found everywhere; used but seldom, mixed with others as greens. See Vegetables of Southern India.

EUPHORBIA PITHYUSA. See Euphorbia, Euphorbia antiquorum.

EUPHORBIA TIRUCALLI.

EUPHORBIA ROYLEANA. *Bois.* Grows wild in the Suwalik tract; is used as a hedge plant growing on a dry rock. In experiments on the milky juices of various plants to get a substitute for red lead in closing steam joints, and as a coating for cisterns, &c., by boiling down the juice of this euphorbia, adding dates and again boiling and skimming, a gutta-percha-like material was obtained better fitted for the purpose than that from the Ficus Indica or F. religiosa, &c., but practically the experiment does not appear to have had much result. *J. L. Stewart, M. D.*

EUPHORBIA THYMIFOLIA. *Linn. Roxb.*

Shwet kirui,	BENG.	Patcha-arise?	TAM.
Shwet Kherua,	,,	Sittrapaladi,	,,
Duddhi,	HIND.	Bidduru nana-biyam,	TEL.
Bacta vinda chada,	SANS.	Reddi-vari-nana-bala,	,,
Chin-amam,	TAM.		

This little annual plant is common in the S. of Asia. Its juice and flowers are purgative and given in worms.—*O'Shaughnessy. p.* 565. *Dr. Honigberger, page* 275.

EUPHORBIA TIRUCALLI. *Linn.*

Lanka sij,	BENG.	Tirukalli	TAM.
Milk hedge,	ENG.	Kalli,	,,
Unarmed ,,	,, ,,	Jemudu,	TEL.
Indian Tree Spurge,	,,	Kalli Chemudu,	,,
Sendh,	HIND.	Manche,	,,
Seyr Teg,	MAHR.	Lodhoka sijhoo,	URIA.
Tirukalli,	MALEAL.		

Natives of India, suspend in their houses a few branches of the milk hedge, to attract flies. The mature wood is very strong and durable when not exposed to wet. On the Bombay side, it is extensively used, whenever procurable, as a dunnage material for the flat roofs of houses. It is sufficiently close-grained to be useful to turners. Could be readily creosoted, but is very seldom of scantling sufficient for sleepers. Wood light colored, the root of old shrubs is understood to be well adapted for gun stocks, but plants of sufficient age are seldom met with. Dr. Wight had often heard it spoken of as excellent for gun stocks, but it seemed to him too light colored. On the Godavery it grows to a large tree and the wood seems hard but is not used. In Gumsur and Ganjam it is not common, but extreme height 20 feet, circumference 2 feet, and the height from the ground to the intersection of the first branch, 6 feet. This plant is much used for making hedges, and from its continual green appearance is well adapted for the purpose. It grows best either upon a bank, or wall of large stones laid loosely for the purpose, having a good cover of earth upon it. Any cuttings will grow, and the plant if by itself will attain

the height of twenty feet or more. The wood makes the best charcoal for gunpowder. A parasite of a yellow thread-like appearance, and leafless, (the Cassyta filiformis) is very destructive to it, and will totally destroy a tree or a whole hedge in a short time, if not removed.—(*Riddell.*) Wood is light colored, the root of old shrubs is understood to be well adapted for gun-stocks, but plants of sufficient age are seldom met with. The milk mixed with flour, in doses of a drachm daily, is an Indian specific in syphilis. The inspissated milk is a violent emetic and purgative.—*O'Shaughnessy, page* 563. *Madras Exhibition of* 1855. *Drs. Wight, Riddell, Gibson and Cleghorn, Captain Beddome, Captain Macdonald.*

EUPHORBIA TITHYMALOIDES. The slipper plant, or buck-thorn, is thick, deep-green leafed, grows about three feet high, but, if kept trimmed, is admirably adapted for a border to a flower parterre: if occasionally watered is always green.—*Riddell.*

EUPHORBIA TORTILIS. *Rotll. W.Ic.*

Azfur zukkum,	Ar.	Tirukhu-kalli,	Tam.
Pilie saynd,	Duk	Tirugu jemudu,	Tel.
Vajratunda,	Sans.		

This plant has got its Tamul and Telugu names from its branches being scolloped and twisted, the milky juice is very similar in its appearance and nature to that of the Euphorbia antiquorum, it is prescribed in small doses in conjunction with Palmira jaggery; undiluted it acts as a vesicatory, but mixed with a certain portion of castor oil it forms a useful embrocation in cases of palsy and chronic rheumatism.—*Ain's Mat. Med. p.* 120.

EUPHORBIA VARIEGATA, can be raised from seed in any common garden soil. —*Riddell.*

EUPHORBIA VIROSA. See Euphorbia antiquorum.

EUPHORBE. Fr. Euphorbium.

EUPHORBIEN GUMMI. Ger. Euphorbium.

EUPHORBIUM. Eng. Lat.

Farfiun	Ar.	Euphorbien gummi,	Ger.
Akal-nafzah,	,,	Saynd-ka dud,	Hind.
Zekum,	,,	Sudusudu,	Malay,
Gholak	,,	Vajrakshira,	,,
Kala,	,,	Vajrakantaka,	Sans.
Nara-shij,	Beng.	Dalukgaheh-kiry,	Singh.
Shia-d'zaon,	Burm.	Shadr 'kalli pall,	Tam.
Euphorbe,	Fr.	Bonta jemmudu palu,	Tel.

A concrete gum resin, obtained from Euphorbia Canariensis of N. Africa and the Canaries; E. officinarum of Arabia and Africa; E. antiquorum of Arabia and India, E. tetragona. It is used externally in medicine.

EUPHORIA, a genus of fruit plants common to India and China, several species having been found in the district of Silhet; Dr. Roxburgh mentions the Chinese fruit E. Longan as indigenous in the mountainous country which forms the eastern frontier of Bengal, and having had specimens of the Lichi sent him from old trees growing on the Garrow mountains, when the trees in Bengal were but small. The Euphoria (or Nepheleum) litchi grows to 24 or 30 feet. It grows well in Bengal and the Mauritius, but in Madras has failed, and until recently was not very successful in Tenasserim.—*Mason. Royle Ill. Him, Bot. p.* 136.

EUPHRASIA OFFICINALIS, Euphrasy Eye-bright. a native of the heaths and pastures of Europe, of the Himalaya, Cashmere, and all the north of Asia. It is a pretty plant, slightly bitter and aromatic, once celebrated as an application to weak eyes, but now seldom or never employed.—*O'Shaughnessy, p.* 478, *Hogg, p.* 567, *Honigberger, p.* 276.

EUPHRATES, in Arabic and Persian, Forat or Forath, in the Hebrew language, Perath or Phrath, words which mean to fructify, or to fertilize. The elevated plateau which extends from the base of Mount Ararat into Northern Armenia, Kurdistan, and part of Asia Minor, contains the sources of four noble rivers, having their estuaries in three different seas; and thus, from Armenia, as from the centre of a great continent, giving an easy communication to the several nations of Europe and Asia. By following the Kizil Irmak through Asia Minor we reach the Black Sea, from whence there are inlets to Russia, Austria, Turkey, &c. In the same way the Aras, by terminating in the Caspian, opens several routes towards Great Tartary, as well as towards the rest of Central Asia and China; while the Tigris and Euphrates, with their numerous ramifications, afford abundant means of communicating with Persia, India, Arabia, and the continent of Africa. An extensive mercantile intercourse is also maintained with the same regions by means of numerous caravans, which, since the time of Abraham at least, have traversed the countries watered by those four rivers. The Euphrates rising near the shores of the Black Sea, and in its course to the Indian Ocean, almost skirting those of the Mediterranean, at one time formed the principal link connecting Europe commercially with the East. It has two great sources in the Armenian mountains, and the most northern of these sources, is situated in the Anti-Taurus, 25 miles N. E. of Erz-Rum. The branch from thence takes at first a westerly direction, and after passing

within seven or eight miles of the capital of Armenia, it is joined by two small feeders. Its first large tributary, however, is the Mahmah Khatun, which runs into it down the plain of Tejran. From hence the river, which is now a considerable stream, known by the name of the Kara Su, makes a circuit, winding through the mountains and over rapids, into the plain of Erzingan, through which it flows in the same general direction, close to the town of that name. At Erzingan, it is fordable only at a few places even in the dry season. As it nears the ancient Hit, with its bituminous fountains, the stream has an average width of 350 yards, with a depth of 16 feet and a current of three knots per hour in the season of the floods, when there are fourteen islands on some of which are small towns. About 70 miles lower down is the modern castle of Felujah, situated $29\frac{3}{4}$ miles W. 2° N. of Baghdad. The average width in this part of the river decreases a little, being only about 250 yards, with an ordinary depth of 20 feet; and there is a current of less than two and a half miles per hour in the flood season, when the river forms thirteen islands, without wood. About Felujah, at $5\frac{3}{4}$ miles N. 60° W. from it, the derivation, called the Saklawiyah, takes place; this stream crosses Mesopotamia by a tortuous eastern course on the north side of Akar Kuf, and enters the Tigris at a point five miles below Baghdad, but, until altered by Daud Pasha to avoid the danger of inundations, it joined the Tigris a little above the city. The distance from river to river (by the course of the Euphrates steamer in passing, under Lieut. Lynch, in 1838) is about 45 miles. Near the junction of the Euphrates and Tigris in L. 31° N. and L. 47° E., after a course of 950 miles, is the walled town of Kurnah containing about 800 houses, disposed along the right bank of the Tigris and the left of that of the Euphrates. It fluctuates as to size, and it was larger in 1831 than it was found in 1836 and 1837. It is chiefly constructed of reed-mats, and is on part of the supposed site of ancient Apamea; which probably stood within the line of walls still extending across the peninsula formed where the two great rivers cease to be known by their individual names. The Euphrates and Tigris, from this form one tidal channel, almost half a mile wide, and which takes nearly a straight course. S. 37° E. under the well known appellation of Shat-ul Arab, and when five miles below Kuruah their united waters receive those of the Kerah, or Kerkhah, which coming from the mountains of Ardelan through an extensive tract of country, passes a short distance westward of the ruins of Susa and likewise of the town of Hawizah. After receiving this accession, the Shatt-el-Arab flows through date groves and near several villages, chiefly on the left bank, and at length arrives opposite Basrah, which is $39\frac{1}{2}$ miles by the river, and 36 miles S. 34° E. direct from Kurnah. In the whole of this distance there are but two islands, both of them large; and the river has an average width of 600 yards, with a depth of 21 feet; it has a current of two knots per hour during the flowing, and three knots per hour during the ebb tide. The modern town of Basrah is built on both sides of a creek, or canal, and in its present decayed state, as compared with former times, it still contains about 6,000 houses, which commence nearly at the edge of the main stream, and on its right bank. Below the city, this majestic river sweeps a little more to the eastward; its width is about 700 yards; its ordinary depth 30 feet; and it forms three large islands between this place and the small town of Mohamarah; that is, within a distance of $22\frac{1}{2}$ miles by water, or $20\frac{1}{2}$ miles direct, S. 70° E. Here the Karum enters it, after a long course from the Koh-i-zerd through Shuster, Ahwaz, and other places. After this great accession to its waters, the Shatt-el Arab inclines a little more towards the South; during the remainder of its course it passes many large villages, and almost continuous belts of date-groves; and at length it reaches the sea, which, at the bar, is 40 miles from Mohamarah. Between this last place and the sea its average width is 1,200 yards, and its ordinary depth 30 feet. The permanent flooding of the Euphrates is caused by the melting of the snow in the mountains along the upper part of its course. This takes place about the beginning of March, and it increases gradually up to the time of barley harvest, or about the last days in May, when it is usually at its greatest height. At Fort William the depth was found to be increased by $13\frac{1}{2}$ feet; but, lower down, this varied, as may be supposed, in different places, according to the width of the stream. The river continues high, and its course very rapid, for 30 or 40 days; but afterwards, there is a daily decrease, which becomes very small and regular towards the autumn. From the middle of September to the middle of October the river is at the lowest. Mr. Rennie found the quantity of water discharged by the Euphrates, at Hit, to be 72,804 cubic feet per second: and the quantity discharged by the Tigris, at Baghdad, to be 164,103 cubic feet. The sum of these quantities (=236,907 cubic

feet) may, perhaps, be taken as a near approximation to the whole quantity discharged in a second by the Shatt el Arab, which is formed by the united waters of those rivers. Mr. Rennie estimates the quantity discharged by the Danube, in an equal time, at 338,100 cubic feet.

The breadth of the Euphrates at Babylon, says Colonel Chesney, is mentioned by Strabo as a stadium: Rennell says 491 feet; D'Anville 330 feet. Niebuhr 400 Danish feet, Rich 450 feet. The banks of the river are low and fertile. Its first rise is in winter, but it rises again in March, in April is at its full and continues so till June, overflowing the surrounding country, filling all the canals, and many parts of the ruins of Babylon are then inaccessible. On breaking down the river wall at Felujah, which is 36 miles to the westward of Baghdad, its waters spread over all the country to near the bank of the Tigris, of a depth sufficient to allow rafts and flat bottomed boats to cross and bring lime from Felujah. Its course through the site of Babylon is North and South. (*Euphrates and Tigris.—Col. Chesney, p.* 62.)

The Euphrates was first crossed by Abraham. The crossing of the Tigris, the passage of which is noticed as Heber (Eber) occurred B. C. 4,500 or B. C. 5,000, subsequent to Nimrod. The mountainous lands at the sources of this river, formed the primeval seat of the Semitic races. (*Bun.* iii. 413-460.)

The original Highland, south west of Armenia (Arminn) the country between the sources of the Euphrates and Tigris, and Mesopotamia proper, is Aram Nahrain. The Aramæans, were a Semitic race of highlanders who first settled on the upper part of the Euphrates and Tigris districts, and then passed through Mesopotamia proper (Aram of the two rivers,) the low land (where is Mash-Mons Masius) which falls gradually towards Syria, afterwards called Aram. The name of Uz, in Nejd, proves that its offsets extended as far as North Arabia. The upper Euphrates is nearly in the centre of that great range of territory called by the ancients Armenia, which extended eastward from that river to the Caspian Sea, and again westward over a part of Asia Minor. The former portion was almost universally known by the name of the Greater, and the latter by that of the Less Armenia; but both were sometimes subdivided into First, Second, and Third Armenia: a fourth division was added by Moses Choronensis and others. This last division, being on the eastern side of the Euphrates, constitutes in reality part of Armenia Major; while Armenia Minor is confined to the country westward of the Euphrates and is composed only of the three subdivisions above alluded to. Armenia Major in the time of its greatest prosperity, extended from 36° 50′ to 48° N. Lat.; and eastward, in one direction, from 38° to about 48° 40′ E. Long., with a surface of nearly 84,756 square miles of diversified country. Strabo (*Lib.* xi. *p.* 530,) makes it 200 schoens long by 100 wide, which would give a much greater superficies. The general limits of this territory will probably be best understood by considering the Euphrates to be its western boundary from Sumeisat until a few miles south of Erzingan, where the boundary quits the river, and preserves the direction of Tarabuzún, till it meets the mountains southward of Gumish Khanah.—(*Col. Chesney's Euphrates Expedition, p.* 94.) The populations to whom the term Armenian is now applied, call themselves Haik. Their chief occupancies are the Turkish province of Erzerum, and the Russian district of Erivan, and in Erivan the patriarch resides. They are now under the sway of Russia, Persia and Turkey, but they are found in all eastern countries; 37,676 are in European Russia alone, and one important settlement of them in Venice, that of the Mechitarist monks, on the island of St. Lazarus. In figure, the Armenians have been likened to the Jews, the Turks and the Afghan. They evince great commercial aptitude, and are bankers and merchants. In Armenia, however, they cultivate the soil. Before their conversion they were fire worshippers. Many of them now are Nestorians, some are Romanists. The language of the present day has affinities with the Iron, and Persian, Arabic, Syrian and Turk. General tradition and the formation of language point alike to the mountains of Armenia as the birth place of the Arab and Canaanitish nations, and there is especial native evidence to the same effect as regards Edom, consequently, also, the Phœnicians. Babylonia was a narrow tract along the river Euphrates from Erech or the modern town of Seikh ul Shuyukh to Kalneh on the Khabur river and eastward till it joined Assyria.

Bassorah, is built on a creek, or rather canal, about one mile and a half distant from the Euphrates. The banks of the creek are fringed with foliage, among which are the walnut, apple, mulberry, and apricot. It is called by the Arabs "Al-Sura" from "Be-al-Sura," signifying the stony soil on which it is built. Never having been the seat of sovereign power, it is not adorned with those structures which decorate the cities of the

east. The khalif Omar, in the fifteenth year of the Hijrah, wishing to combine the commerce of India, Persia, and Arabia and secure that of Sind and Guzerat, laid the foundation of this place near to the confluence of the Euphrates and Tigris. The Shatt-ul-Arab empties itself at the distance of eighty miles into the Persian Gulf, and commands the navigation of the surrounding countries, with the coast of India. *Latham, Descriptive Ethnology*; *Colonel Chesney's Euphrates Expedition* p. 94. *Bunsen's Egypt*, iii. 431. *Rich. Ruins of Babylon, page* 14. See Arabistan, Afghanistan, India, Iran, Jews, Kellek, Khalifah, Kirman, Koh, Kooffa, Koorna, Kush. Mesopatamia, Sassanidæ, Semitic Races, Tigris.

EUPLECTES. See Ploceinæ.

EUPLOCAMUS IGNITUS. See Phasianidæ.

EURASIAN, a name applied to the descendants of Europeans and Natives of India, also called Indo-Britons, and half-caste, all of which terms might advantageously cease to be used, and the people be designated Europeans. See East Indians.

EUROPA, seems to be derived from "Surupa," Sans., of the beautiful face,—the initial syllable *su* and *eu* having the same signification in the Sanscrit and Greek languages, viz., good, and Rupa is countenance. *Tod.*

EUROPEAN. This term, in British India, is usually meant to signify a native of Europe or America, of pure descent, in contra-distinction to a native of India, or an East Indian.

EURYA, *Species.*

Thaun. BURM.

Used in Tavoy for fuel only.

EURYA JAPONICA. *Thunb.*

Var. α. E. Thunbergii.	Var. γ. E. Chinensis.
Var. β. E. acuminata.	Var. δ. E. parviflora.

Neyadasse-gass. SINGH.

Vars. α, β, and δ in the more elevated parts of Ceylon inland, up to 8,000 feet; δ in exposed situations; var. β from a little above the sea-level, up to an elevation of 5,000 feet, very abundant.—*Thw. En. Pl. Zeyl. I. p.* 41.

EURYALE FEROX. *Salisb.*

Nymphæa Stellata. *Willde.* Anneslea spinosa. *Roxb.* ii 573.

Machana. HIND. | Nallani padmam. TEL.

An Indian water-lilly with a small bluish purple flower covered everywhere with prickles, and so closely allied to Victoria regia as to be scarcely generically distinguishable from it. It grows in the eastern Sunderbunds, Lucknow, Tipperah, Chittagong, Saharunpur, Kashmir, and China. The discoverer of Victoria called the latter "Euryale Amazonica." These interesting plants are growing side by side in the new Victoria house at Kew. The Chinese species has been erroneously considered different from the Indian one. The fruit of Euryale ferox, is round, soft, pulpy, and the size of a small orange; contains from eight to fifteen round black seeds as large as peas, which are full of flour, and are eaten roasted in India and China, in which latter country the plant is said to have been in cultivation for upwards of 3,000 years.—*Hooker. Him. Jour. Vol.* ii. *p.* 255. *Thw. Voigt.*

EURYCLES AMBOINENSIS. SAL.

Larmen. BURM. | Næ.men. BURM

A fragrant white flowering bulb of the amaryllis tribe, not uncommon in native gardens of Tenasserim.—*Mason.*

EURYLAIMUS. See Aves. Birds. Musicapidæ.

EURYLEPIS TŒNIOLATUS. *Blyth.* A scink of the N. W. Himalaya. Pale olive-grey above, with three pale spotted dark bands more or less distinct, reaching backward as far as the hind-limbs; and the tail more or less speckled with dusky black: under-parts spotless dull-white. Length of adult 9 inches.

EUSEBES, a surname of Antiochus X, king of Syria, B. C. 95.

EUSEBIUS. See Zoroaster.

EUSPIZA STEWARTI. Blyth, affined to Eu. cæsia (Cretzch.) Length about $5\frac{1}{2}$; of wing 3 to $3\frac{1}{4}$ in.; and tail $2\frac{1}{2}$ in. Crown and front of neck ashy. See Aves. Birds.

EUTERPE CARIBBÆA. SPRENG. Syn. of Areca oleracea.—*Linn.*

EUTERPE EDULIS, MART: A palm of Brazil which might advantageously be introduced into India.

EUTERPE MONTANA. See Cocoa-nut palm.

EUTHYDEMUS, a Greek ruler in Bactria, B.C. 220, his sway extended over Ariana, including Aria, Dranga, Arachosia, and Paropamisadæ, Nysa, Gandharitis, Peukelaotis, and Taxila. See Greeks of Asia. Kabul, p. 437.

EUTHYMEDIA. Bayer says, in his History Reg. Bact. p. 84, that according to Claudius Ptolemy, there was a town within the Hydaspes yet nearer the Indus, called Sagala, also Euthymedia; but he scarcely doubts that Demetrius called it Euthydemia, from his father, after his death and that of Menander. Demetrius was deprived of his patrimony, A. U. C. 562. Sagala is conjectured by Colonel Tod to be the Salbhanpoora of the Yadu when driven from Zabulisthan and that of the Yuchi or Yuty, who were

fixed there from Central Asia in the fifth century, and if so early as the second century when Ptolemy wrote, may have originated the change to Yuti media, the central Yuti. Numerous medals, chiefly found within the probable limits of the Greek kingdom of Sagala, either belong to these princes or the Parthian kings of Minagara on the Indus. The legends are in Greek on one side, and in the Sasanian character on the reverse. The names of Apollodotus and Menander have been decyphered, but the titles of "Great King," "Saviour," and other epithets adopted by the Arsacidæ are perfectly legible. The devices however, resemble the Parthian. These Greeks and Parthians must have gradually merged into the hindu population. *Rajasthan Vol. I. p.* 233.

EUTOCA MULTIFLORA. A genus of flowering plants blue, pink, and violet.—*Riddell.*

EUSUFZYE, an Afghan tribe whose territory is bounded on the S. by the Indus; N. and E. by the Swat mountains, and W. by the Cabul river and the Mehra, or desert plateau between it and Hushtnuggur. The tract is intersected on the east by off-shoots from the Swat mountains, but in other parts it is a perfect plain. The inhabitants are proud, warlike and extremely sensitive in all matters connected with family custom. In the Peshawur district, the Eusufzye may claim political importance. As soldiers, they are not inferior to any of the independent tribes. They are the most martial of all the British subjects on the frontier, and the history of many generations attests their military exploits. Participators in every war that has convulsed the Peshawar valley, and always the recusant subjects of the Sikhs, they have now literally turned their swords into plough-shares and are right good lieges of the British. Their customs have been respected, the allowances of the chief and their village head-men have been confirmed. Though constantly tampered with by the Swat government to rebel, they only once yielded to temptation. That single instance occurred just after annexation in 1849. At the battle of Teree, which gave the sovereignty of Peshawur to the Sikh, the Eusufzye formed the strength of the mahomedan army which, numbering 30,000 men, withstood a Sikh force of equal numbers, supported by guns and headed by Runjeet Singh himself. *Records of the Government of India, No. ii, Parl. Pap. E. I. Cabul and Afghanistan.* See Afghân, Kabul, Khyber.

EVAPORATION. In his annual report of the Bombay Geographical Society from May 1849, to August 1850, Vol. ix., Dr. Buist, on the authority of Mr. Laidly, stated the evaporation at Calcutta to be "about fifteen feet annually, that between the Cape and Calcutta it averages, in October and November, nearly three-fourths of an inch daily; between 10° and 20° in the Bay of Bengal, it was found to exceed an inch daily. Supposing this to be double the average throughout the year, we should, have eighteen feet of evaporation annually." But, all the heat received by the intertropical seas from the sun annually would not be sufficient to convert into vapour a layer of water from them sixteen feet deep. It is those observations as to the rate of evaporation on shore that have led to such extravagant estimates as to the rate at sea. The mean annual fall of rain on the entire surface of the earth is estimated at about five feet. *Beng. Pharm p.* 285. *Maury's Physical Geography, pp.* 130-131.

EVE, the mother of the human race, is recognised under different names in all Cosmogonies. The Eve of Mosaic history, became the Astarte of the Assyrians; Isus nursing Horus of the Egyptians; the Demeter and the Aphrodyte of the Greeks the Scythian Freya and Baltis. The Eve of Genesis is the Hawa or Havvah of the Arab and mahomedan generally, Baltis, in Byblius called Beuth or Behuth, i.e. void of Genesis, is identical with space and means the mother's womb, the primeval mother—the fundamental idea, being the mother or source of life, which is the meaning of Havvah the Eve of Genesis. The tomb of Eve is pointed out in several places. On the east, Mecca is bounded by a hill called Abu-Kubays, and according to many mahomedans, Adam with his wife and son Seth lie buried there. At less than a mile from the Medina gate of Jeddah, a tomb said to be of our common mother Eve, is surmounted by a cupola and surrounded by walls, inclosing a pretty cemetery, in which many of her children lie around her. *Bunsen's Egypt. Hamilton Sinai, Hedjaz and Soudan p.* 66. See Abu Kubays; Adam; Baltis, Mount Arafat.

EVERGREENS. Trees and plants of the S. and E. of Asia which retain their foliage, in Britain are much prized. These consist of species of Abies, Cunninghamia, Cupressus, Ilex, Juniperus, Thuja, Arbutus, Aucuba, Buxus, Laurus, Rhamnus, Acacia affinis, Eucalyptus, Ligustrum, Magnolia, Berberis, Cistus, Colletia, Cotoneaster, Daphne, Rhododendron, Yucca, Bignonia, Jasminum and Vinca. *Eng. Cyc.*

EVERGREEN BEAD TREE. ENG. Melia sempervirens.

EVERGREEN CYPRESS. Cupressus sempervirens.

EVERGREEN OAK. Ilex.

EVERLASTING FLOWERS. Several flowers which retain their shape and appearance after being dried.

EVENING PRIMROSE.—Godetia and Œnothera.

EVIL EYE.

El-Eyn,	ARAB.	Jattatura,	ITAL.
Baskanos ophthalmos,	ANCIENT GREEK.	Chashm-i-bad,	PERS. HIND.
Kako Mati,	MODERN. GREEK.	Drashti Dosham,	SANS.
Mal occhio,	ITAL.	Kan pada,	TAM.
		Kannu Taku,	TEL.

The evil eye alluded to in Proverbs xxviii, 22, and Mark vii, 22, is still a subject of dread in all eastern countries as well as in many of those of Europe. The Irish and Scotch as much believe that their cattle are subject to an injury from the blight of the evil eye as did Virgil's shepherd when he exclaims Nescio quis teneros oculus mihi fascinat agnos. The Greeks of the present day entertain the same horror of their Kako mati as did their ancestors in their Baskanos ophthalmos, and the Mal occhio of modern Italy is the traditional fascinatio of the Romans. Mr. Buckingham relates that when in Persia, being ill, his companions attributed his sickness, to the ill-wishes of a malignant enemy; to remove which, a fakeer took some rags from his body, and deposited them in the new made graves of some holy personages, believing that they thus acquired a virtue potent enough to dispel the supposed evil influence. The Arabians and Turks believe in it, and apologise for the profusion of jewels with which they decorate their children on the plea that they are intended to draw aside the evil eye. The mahomedans suspend objects from the ceilings of their apartments for the same purpose and the Singhalese and hindus place whitened chatties on the gable ends of their houses and in fields, to divert the mysterious influence from their dwellings and crops. On one occasion in the Northern Mahratta country, surrounded by villagers, all inclined to give trouble, but more than others, was one with an unhappy expression of countenance, their annoyances ceased on our shouting to the ugly man, Chasm-i-bad dur!—Avaunt the evil eye! Happy for an opportunity to ridicule one whom doubtless they knew to be not a loveable person, they joined in jesting raillery against him. The mahomedans hang round their children's necks and suspend in their houses, or place over the lintels of their doors charms consisting of verses of the koran, which are inscribed by holy men, or incantations by pretended exorcists, written on paper, or engraved pot-stone, silver or gold, to guard against the evil eye. And hindus resort to their temples to make offerings to their deities for the same object. Hindus and mahomedans alike think that jewels on children tend to attract on the jewels, the evil eye: Hindu mothers, when they suspect that the evil eye has fallen on their child from home, on returning to their house, take some chillies and salt in their hands and describe a circle round the infant's head, and thereafter place the chillies and salt in a well or in the fire, to destroy the evil eye and its charm together. Pretending exorcists, both men and women, also exorcise those blighted with the evil eye, by reciting a charm over cow-dung ashes, and rubbing it on the forehead and body of the child.—*Travels in Assyria, Media, Persia. p.* 172. *Milner's Seven churches of Asia p.* 120. *Burton's the city of the Saints p.* 129. *Sonnerat's voyage p.* 89. *Sir J. E. Tennant's Ceylon.* See Somal.

EVEREST, Rev. Mr., wrote on the Fossil shells in the Himalayas. (As. Res. 1833, vol. xviii. part 2 p. 107.) On the quantity of water and mud discharged by the Ganges annually. (Prinsep's Gleanings in Science, vol. iii.; Bl. As. Trans. vol. I.; Lyell's Principles of Geology, 8th Edn. 1851, p. 241.) Rain and drought of the last eight seasons in India. (London. 1847. 2 vols. 4to. Edin. Rev. on 1841.) Geological observations from Calcutta to Ghazipore, (Gleanings in Science, 1831, vol. iii. 131.) Experiments and observations on quantity of mud brought down by the Ganges near Ghazipore, with its depth and velocity. (Bl. As. Trans. 1833. vol. I. 238. p. 549.) On the Gypsum of the Himalayas. (Ibid. 430.) *Dr. Buist's Catalogue.*

EVEREST. Col. G., Surveyor General of India. Measurement of arc of meridian, 1830.—Cal. Rev. No. vii.—Trigonometrical Survey of India.—Lond. 1847. 2 vols.. 4to. Edinburgh Review on, April 1848, p, 392.—*Dr. Buist's Catalogue.*

EVIMPANNAH.—TAM. Caryota urens.

EVIL SPIRITS, See Bali, Gantea. Hindoo, India, Shanar.

EVOLVULUS ALSINOIDES. *Linn. Roxb. Rheede.*

Evolvulus hirsutus LAM.

Sankh Pushpi,	HIND. SINGH.	Vishnu Karandi,	TAM.
		Vishnu Kranta	TEL.
Vistnu Karandi,	,,	Nalla Vishnu Karanta,	,,

Common in many parts of India. The different parts of this plants are used in medicine. *J. L. Stewart, M. D.*

EVOLVULUS EMARGINATUS.

Shumburrie, SANS. | Yellikachevi kura, TEL.
Yelichavi kire, TAM.

Used as greens.—*Ainslie's Mat. Med. p.* 258.

EVOLVULUS HIRSUTUS, LAM. Syn. of Evolvulus alsinoides.—*Lam.*

EXACUM. *Schreb.* Dr. Wight in Icones gives the following species, Exacum bicolor; Courtallense, Hyssopifolium, pedunculare, Perrottetii, Petiolare, Pumilum, sessile, Wightianum, and Zeylanicum.

EXACUM BICOLOR. ROXB. *Wight Ic.Pl. Ind. Ort.* 1321. Country kreat, ENG. has long been used as a bitter tonic. It grows in Cuttack, at Mangalore; rare, on the Neilgherries, below Kotagherry, and abundant a mile below Nedawuttum, where it flowers during the autumnal months. This species enamels the swards of the Western Ghauts with its beautiful blossoms, has the same bitter stomachic principles for which the Gentiana lutea is so much employed, and it is believed may be used with advantage in lieu of gentian, for medicinal purposes. It is known in Mangalore as country creat, and sold there at 1 anna 6 pie per lb. The name, Country Creyat, shows that it is used as a substitute for Creyat (Andrographis paniculata).—*Ind An. Med. Science, No.* 6, *p.* 270. *Cleghorn.* See Chiretta. Opheliaelegans.

EXACUM HYSSOPIFOLIUM. WILLD. Syn. of Cicendia hyssopifolia.—*Adans.* See Chiretta.

EXACUM TETRAGONUM. Ooda Cheretta *Hind.* purple Chiretta *Eng.* Koochuri Bengali. A most elegant plant, used as a tonic bitter.

EXCHANGE TABLES—INDIA AND LONDON.

Rupees.			1s. 10d. per Rupee.			1s. 10½d. per Rupee.			1s. 11d. per Rupee.			1s. 11½d. per Rupee.		
Rs.	A.	P.	£	S.	D.	£	S.	D.	£	S.	D.	£	S.	D.
100000	0	0	9166	13	4	9375	0	0	9583	6	8	9791	13	4
50000	0	0	4583	6	8	4687	10	0	4791	13	4	4895	16	8
40000	0	0	3666	13	4	3750	0	0	3833	6	8	3916	13	4
30000	0	0	2750	0	0	2812	10	0	2875	0	0	2937	10	0
20000	0	0	1833	6	8	1875	0	0	1916	13	4	1958	6	8
10000	0	0	916	13	4	937	10	0	958	6	8	979	3	4
5000	0	0	458	6	8	468	15	0	479	3	4	489	11	8
4000	0	0	366	13	4	375	0	0	383	6	8	391	13	4
3000	0	0	275	0	0	281	5	0	287	10	0	293	15	0
2000	0	0	183	6	8	187	10	0	191	13	4	195	16	8
1000	0	0	91	13	4	93	15	0	95	16	8	97	18	4
500	0	0	45	16	8	46	17	6	47	18	4	48	19	2
400	0	0	36	13	4	37	10	0	38	6	8	39	3	4
300	0	0	27	10	0	28	2	6	28	15	0	29	7	6
200	0	0	18	6	8	18	15	0	19	3	4	19	11	8
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50	0	0	4	11	8	4	13	9	4	15	10	4	17	11
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20	0	0	1	16	8	1	17	6	1	18	4	1	19	2
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5	0	0	0	9	2	0	9	4½	0	9	7	0	9	9½
4	0	0	0	7	4	0	7	6	0	7	8	0	7	10
3	0	0	0	5	6	0	5	7½	0	5	9	0	5	10½
2	0	0	0	3	8	0	3	9	0	3	10	0	3	11
1	0	0	0	1	10	0	1	10½	0	1	11	0	1	11½
0	12	0	0	1	5	0	1	5	0	1	5½	0	1	5½
0	8	0	0	0	11	0	0	11½	0	0	11½	0	0	11½
0	4	0	0	0	5½	0	0	5½	0	0	5½	0	0	6
0	3	0	0	0	4	0	0	4½	0	0	4½	0	0	4½
0	2	0	0	0	2½	0	0	2¾	0	0	2¾	0	0	3
0	1	0	0	0	1½	0	0	1½	0	0	1½	0	0	1½
0	0	9	0	0	1	0	0	1	0	0	1	0	0	1
0	0	6	0	0	0¾	0	0	0¾	0	0	0¾	0	0	0¾

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EXCHANGE TABLES—INDIA AND LONDON.

Rupees.			2s. per Rupee.			2s. 0½d. per Rupee.			2s. 1d. per Rupee.			2s. 2d. per Rupee.		
Rs.	A.	P.	£	S.	D.	£	S.	D.	£	S.	D.	£	S.	D.
100000	0	0	10000	0	0	10208	6	8	10416	13	4	10833	6	8
50000	0	0	5000	0	0	5104	3	4	5208	6	8	5416	13	4
40000	0	0	4000	0	0	4083	6	8	4166	13	4	4333	6	8
30000	0	0	3000	0	0	3062	10	0	3125	0	0	3250	0	0
20000	0	0	2000	0	0	2041	13	4	2083	6	8	2166	13	4
10000	0	0	1000	0	0	1020	16	8	1041	13	4	1083	6	8
5000	0	0	500	0	0	510	8	4	520	16	8	541	13	4
4000	0	0	400	0	0	408	6	8	416	13	4	433	6	8
3000	0	0	300	0	0	306	5	0	312	10	0	325	0	0
2000	0	0	200	0	0	204	3	4	208	6	8	216	13	4
1000	0	0	100	0	0	102	1	8	104	3	4	108	6	8
500	0	0	50	0	0	51	0	10	52	1	8	54	3	4
400	0	0	40	0	0	40	16	8	41	13	4	43	6	8
300	0	0	30	0	0	30	12	6	31	5	0	32	10	0
200	0	0	20	0	0	20	8	4	20	16	8	21	13	4
100	0	0	10	0	0	10	4	2	10	8	4	10	16	8
50	0	0	5	0	0	5	2	1	5	4	2	5	8	4
40	0	0	4	0	0	4	1	8	4	3	4	4	6	8
30	0	0	3	0	0	3	1	3	3	2	6	3	5	0
20	0	0	2	0	0	2	0	10	2	1	8	2	3	4
10	0	0	1	0	0	1	0	5	1	0	10	1	1	8
5	0	0	0	10	0	0	10	2½	0	10	5	0	10	10
4	0	0	0	8	0	0	8	2	0	8	4	0	8	8
3	0	0	0	6	0	0	6	1½	0	6	3	0	6	6
2	0	0	0	4	0	0	4	1	0	4	2	0	4	4
1	0	0	0	2	0	0	2	0¾	0	2	1	0	2	2
0	12	0	0	1	6	0	1	6½	0	1	6¾	0	1	7½
0	8	0	0	1	0	0	1	0¼	0	1	0½	0	1	1
0	4	0	0	0	6	0	0	6¼	0	0	6½	0	0	6½
0	3	0	0	0	4½	0	0	4½	0	0	4¾	0	0	5
0	2	0	0	0	3	0	0	3	0	0	3¼	0	0	3½
0	1	0	0	0	1½	0	0	1½	0	0	1½	0	0	1½
0	0	9	0	0	1¼	0	0	1¼	0	0	1¼	0	0	1¼
0	0	6	0	0	0¾	0	0	0¾	0	0	0¾	0	0	0¾

EXCHANGE TABLES—LONDON AND INDIA.

Sterling.			1s. 10d. per Rupee.			1s. 10½d. per Rupee.			1s. 11d. per Rupee.			1s. 11½d. per Rupee.		
£	S.	D.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
10000	0	0	109090	14	7	106666	10	8	104347	13	3	102127	10	7
5000	0	0	54545	7	3	53333	5	4	52173	14	7	51063	13	3
4000	0	0	43636	5	10	42666	10	8	41739	2	1	40851	1	0
3000	0	0	32727	4	4	32000	0	0	31304	5	7	30638	4	9
2000	0	0	21818	2	11	21333	5	4	20869	9	1	20425	8	6
1000	0	0	10909	1	5	10666	10	8	10434	12	6	10212	12	3
500	0	0	5454	8	9	5333	5	4	5217	6	3	5106	6	2
400	0	0	4363	10	2	4266	10	8	4173	14	7	4085	1	8
300	0	0	3272	11	8	3200	0	0	3130	6	11	3063	13	3
200	0	0	2181	13	1	2133	5	4	2086	15	4	2042	8	10
100	0	0	1060	14	7	1066	10	8	1043	7	8	1021	4	5
50	0	0	545	7	3	533	5	4	521	11	10	510	10	2
40	0	0	436	5	10	426	10	8	417	6	3	408	8	2
30	0	0	327	4	4	320	0	0	313	0	8	306	6	2
20	0	0	218	2	11	213	5	4	208	11	2	204	4	1
10	0	0	109	1	5	106	10	8	104	5	7	102	2	1
5	0	0	54	8	9	53	5	4	52	2	9	51	1	0
4	0	0	43	10	2	42	10	8	41	11	10	40	13	7
3	0	0	32	11	8	32	0	0	31	4	10	30	10	3
2	0	0	21	13	1	21	5	4	20	13	11	20	6	10
1	0	0	10	14	7	10	10	8	10	6	11	10	3	5
0	15	0	8	2	11	8	0	0	7	13	3	7	10	7
0	10	0	5	7	8	5	5	4	5	3	6	5	1	8
0	5	0	2	11	8	2	10	8	2	9	9	2	8	10
0	4	0	2	2	11	2	2	2	2	1	5	2	0	8
0	3	0	1	10	2	1	9	7	1	9	1	1	8	6
0	2	0	1	1	5	1	1	1	1	0	8	1	0	4
0	1	0	0	8	9	0	8	6	0	8	4	0	8	2
0	0	6	0	4	4	0	4	3	0	4	2	0	4	1
0	0	5	0	3	8	0	3	7	0	3	6	0	3	5
0	0	4	0	2	11	0	2	10	0	2	9	0	2	9
0	0	3	0	2	2	0	2	2	0	2	1	0	2	1
0	0	2	0	1	5	0	1	5	0	1	5	0	1	4
0	0	1	0	0	9	0	0	9	0	0	8	0	0	8

EXCHANGE TABLES—LONDON AND INDIA.

Sterling.			2s. per Rupee.			2s. 0¼d. per Rupee.			2s. 1d. per Rupee.			2s. 2d. per Rupee.		
£	S.	D.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
10000	0	0	100000	0	0	97959	2	11	96000	0	0	92307	11	1
5000	0	0	50000	0	0	48979	9	6	48000	0	0	46153	13	6
4000	0	0	40000	0	0	39183	10	9	38400	0	0	36923	1	3
3000	0	0	30000	0	0	29387	12	1	28800	0	0	27692	4	11
2000	0	0	20000	0	0	19591	13	5	19200	0	0	18461	8	7
1000	0	0	10000	0	0	9795	14	8	9600	0	0	9230	12	4
500	0	0	5000	0	0	4897	15	4	4800	0	0	4615	6	2
400	0	0	4000	0	0	3918	5	11	3840	0	0	3692	4	11
300	0	0	3000	0	0	2938	12	5	2880	0	0	2769	3	8
200	0	0	2000	0	0	1959	2	11	1920	0	0	1846	2	6
100	0	0	1000	0	0	979	9	6	960	0	0	923	1	3
50	0	0	500	0	0	489	12	9	480	0	0	461	8	7
40	0	0	400	0	0	391	13	5	384	0	0	369	3	8
30	0	0	300	0	0	293	14	0	288	0	0	276	14	9
20	0	0	200	0	0	195	14	8	192	0	0	184	9	10
10	0	0	100	0	0	97	15	4	96	0	0	92	4	11
5	0	0	50	0	0	48	15	8	48	0	0	46	2	6
4	0	0	40	0	0	39	2	11	38	6	5	36	14	9
3	0	0	30	0	0	29	6	2	28	12	10	27	11	1
2	0	0	20	0	0	19	9	6	19	3	2	18	7	5
1	0	0	10	0	0	9	12	9	9	9	7	9	3	8
0	15	0	7	8	0	7	5	7	7	3	2	6	14	9
0	10	0	5	0	0	4	14	4	4	12	10	4	9	10
0	5	0	2	8	0	2	7	2	2	6	5	2	4	11
0	4	0	2	0	0	1	15	4	1	14	9	1	13	6
0	3	0	1	8	0	1	7	6	1	7	0	1	6	2
0	2	0	1	0	0	0	15	8	0	15	4	0	14	9
0	1	0	0	8	0	0	7	10	0	7	8	0	7	5
0	0	6	0	4	4	0	3	11	0	3	10	0	3	8
0	0	5	0	3	8	0	3	3	0	3	2	0	3	1
0	0	4	0	2	0	0	2	7	0	2	7	0	2	6
0	0	3	0	2	4	0	2	0	0	1	11	0	1	10
0	0	2	0	1	8	0	1	4	0	1	3	0	1	3
0	0	1	0	0	8	0	0	8	0	0	8	0	0	7

EXERCISES OF SOLDIERS. Fencing is a graceful art, and one highly useful in eastern warfare. A good swords-man, full of confidence, with a supple wrist and ready with his point, has a capital chance of success against the sweep of the oriental scymetar. A single-stick player is greatly benefitted by a knowledge of the use of the foil. Bayonet fencing may be resolved into the lunge, parries carte and tierce, the feint, and the point, then a loose practice with knobbed sticks. Every man's carriage and appearance are improved by fencing, to say nothing of his health and the improvement of his chest. In large barracks, a room might be set apart for fencing and for gymnastics generally. This would be much better than exercise round a billiard table. Regimen and exercises remove disease; fencing may thus materially benefit a sickly youth, and add vitality to his frame. The leather gauntlet to the elbow is supposed to defend the arm from a sabre cut, but a swords-man who can divide a lemon on the open hand, cut through an inch of lead, or sever a leg of mutton with a sweep from left to right, would soon "walk through" the gauntlet, if it be not provided with flat pieces of steel inside. An invisible shield may be worn inside the left sleeve, on which unexpected defence to receive a stroke and return with a point. One of these was offered for the acceptance of the late Sir Robert Peel, on the formation of the new police, when they used to be so murderously assailed by ruffians, General Dallas, Governor of St. Helena, used to show the cavalry jacket he wore at the time of the siege of Seringapatam; it was "first-rate," coming well over the hips, and the shoulders and top of the arm defended by silver chain work. A score of maitres d'armes might be got up, one for each of the large garrisons, by selecting smart non-commissioned officers. A knowledge of Boxing prevents men resorting to the cowardly knife to settle their quarrels, when their natural weapons suffice. First-class sparrers seldom or never have occasion to use the naked fist, though they have the power and the skill to do so. Nothing gives a man confidence in his own powers so well, or sets him better on his legs than practising the art of self-defence, with the gloves. Nothing makes him more alert and springy, suppleing the joints and giving quickness to the eye. Besides moving round one's antagonist to plant the scientific blow, both arms are brought into play in boxing, and only one in fencing; this is a superiority which boxing has over fencing as a manly exercise. The principal thing to check among sparrers is loss of temper; if a man cannot control his

temper on getting a blow from a muffled hand, he ought not to put on the gloves for the agreeable practice of sparring. Quickness and lightly hitting (as with single-stick) is best; according to the size and weight of the individual, a pair of dumb bells exercised daily give great additional powers to the boxer, who, with the body well planted on the bent legs, left foot advanced, the hands lightly playing in front of the chest, the blow delivered with a swing from the shoulder straight between the eyes or above the waistband, stopped for the head with the fore-arm, the nails turned outwards, or for the body, on the arm, the nails turned inward, illustrates scientific boxing.

Extension Motions,—as practised in the barrack square, are of the greatest service in banishing the rustic air, opening the chest, and giving freedom and grace to the limbs. To prevent stooping, and to give a tendency to preserve an upright position, the people of India practise a simple and excellent manœuvre on the ground or against the projecting corner of a wall. Extended on the ground supported by their toes and hands or placing themselves opposite a wall they raise and lower the body, from and to the ground, they press the wall first with the right hand, turning the head to the left, and then with the left hand, turning the head to the right, and so alternately dozens of times, finishing by sinking to their heels half a dozen times to supple their legs. This simple exercise is particularly recommended to the notice of gymnasts. Bringing the hands to the front, then over the head, the fingers touching, extending the arms and bringing them to the side, bending over till the hands touch the feet, throwing the hands to the rear and making them meet in front alternately are all easy and useful practices and preparations for the Indian club exercise, admirable as it is for the back, arms, and loins.

Walking.—Nothing is more important for the Infantry officer or soldier than the power of walking a considerable distance without fatigue. This cannot be acquired by occasional efforts and walking long distances at irregular intervals; such, instead of being beneficial, is very hurtful. The irregular walker will say, "I feel much the worse, instead of the better, of the long walk I took this morning." Whereas, a man in the daily habit of walking six or eight miles a day. with intervals of rest, will not be knocked when put to twenty or twenty-five miles [illegible] ice. We are taught to turn out our [illegible]lking; the American Indians, how- [illegible]rn the foot straight, walk lightly [illegible] of the foot, and make no noise with the heel, as those white men who walk clumsily do. Our soldiers are taught to keep the arms quiet in walking, whereas the Russians, with the fire-lock in the left hand, swing the right hand right across the body to help them on.

The highland kilt is well adapted for walking, as are the breeches of the Tyrolese, open at the knee. The long Alpen stock is a wonderful help among hills, and gives a man a third leg as it were. The dress of the French Zouave is admirable. For daily practice, a mile a quarter of an hour will be found the best rate for most men who would pretend to be walkers; among the men of the day the walking powers were remarkable of General Sir Colin Campbell (Lord Clyde), an early riser, temperate and light of foot.

Over exertion is most hurtful.—Some fine young men, though they have won a wager to march ten miles in two hours, equipped in heavy marching order, with firelock, belts, pack, and sixty rounds of ammunition, yet have injured their constitution thereby; old gymnasts should not encourage these great trials of strength and endurance, as they injure instead of benefitting the athlete. Among the first pupils of the Rolands of Edinburgh, were the fine men, Leith and Horn, models of muscular development, and casts of whose limbs are preserved—both have long ceased to walk this fair earth, self-sacrificed from overtasking their strength. Hood's strong man broke down attempting to lift the best bower anchor of the "Chesapeake."

Dancing.—As an exhilarating exercise, should be encouraged in barrack rooms, and as an assistant to good walking. The soldiers of the noble Black Watch had no objection to a reel during a halt on an ordinary march, this, in fact, with the music of the pipes, sub Jove, had always a most enlivening effect on the column. *Singing* (also of great importance to cultivate) usually ending the march, after the way-side dance.

Running.—The best runners are those who have power of limb, combined with good wind. In running, "those magnificent savages," the Kaffirs, excel, trotting over seventy miles a day on emergencies; their legs are like pillars. The late Colonel Mackenzie Frazer, a very powerful man, said that he ran across Scotland in one day; this was accomplished at a part in the North where it is seventy miles in breadth. The wind was behind him, and with his kilt on he went away before it, full sail, down a long valley. A tolerably thick sole may do for walking, but not for a runner. In the woods of America, the Indians mocassins have no

soles at all, that is, the upper and sole are of one thickness, giving perfect freedom to the foot on the soft surface of grass, leaves, and vegetable mould. Frequent practice over 100 yards is best, and with the arms well trussed; after that 1,000 yards, and before the steeple-chase up hill is attempted, as a feat for accomplished runners. Lieut. Machell, 14th regiment, won the Irish Champion's belt, by running 150 yards in 17 seconds at Cork, and 200 yards in 23 seconds. But with this, as with other exercises, men "rejoicing in their youth," should not be provoked to attempt more than will do them good; heart disease is oft-times the result of excessive running and rowing.

Picking up Stones.—To pick up a hundred stones separately, and place them in a basket within the hour is a good practice in running, and should of course be begun slowly, picking up the first fifty to get into wind, then taking the most distant stones "is the trick." This was once done in 37½ minutes though 55 minutes is very fair 6¼ miles with the stooping.

A sack race, though it is more properly jumping than running, always affords great amusement, and is a good finish for a competition in manly exercises.

Leaping.—The apparatus for leaping is very simple for soldiers' competition; two light posts driven into the ground, and pierced with gimlet holes for pegs to support a cross bar; by this, the high leap is practised with or without a run, and a good leaper can manage, with a run, the height of his chin. The long leap with and without a run follows, and very good jumping with a run may be reckoned at from 17 to 21 feet.

The hop, step, and jump, is a favourite competition. The deep leap, or one from a height descending, is useful, and care should be taken not to alight on the heel, but on the toes, to avoid a jar to the system, 30 feet may be dropped with safety after some gradual practice. Vaulting over gates is a favourite amusement with active young men, also the leaping pole for clearing brooks, and going across country with greater facility.

Putting, &c., or throwing a shot, stone, or square weight, is much practised by artillerymen, as pitching the caber or young pine tree, is by Highlanders. Lifting weights is a good trial of strength if overstraining be avoided, 500lbs. may be raised by many men without difficulty, by standing over the body to be raised, introducing a stout stick into a rope surrounding the 500lb. weight, stooping, then grasping the stick with the hands before and behind, and then gradually rising.

Climbing—The thick mast, then poles and ropes, ladders hand over hand, &c., are strengthening exercises. Whilst exploring in the woods of New Brunswick some of the branchless trunks, were climbed, for the purpose of observation, by having irons strapped inside the legs and under the feet, and at the extremity of them, next the heels, were spikes to stick into the wood like bear's claws. Practice with the Eastern toddy drawer's apparatus would be useful. A simple apparatus for climbing, &c., may be set up in a barrack square, by resting one of the ladders usually found there against a gable, having a stout rope hanging from it, also a triangle, consisting of a bar of wood and a couple of ropes, swinging at the height of seven feet form the ground for the usual exercises of the gymnastic school on the horizontal pole; near the canteen, and for the amusement of the men in barracks, skittles, the nine holes, and quoits should be arranged.

Swimming.—If a body of troops be quartered convenient to water, it is of great importance they should be taught to swim. Besides promoting health, muscular development, and good spirits, swimming is of the highest utility to a British soldier, especially moving as he does so often across the ocean to foreign stations, east, south and west, and liable to the chances of wrecks at sea and accidents in crossing rivers. Various swimming belts are recommended; those to inflate have saved men's lives, and have also lost them, for the substance of which they are made is perishable and the belt collapses sometimes, after being laid by, and will not hold air. Captain Bond, 14th Regiment, and late 12th Lancers, was saved by one of the air belts, after being four hours in the water, on the occasion of the fearful wreck of the Birkenhead steamer at the Cape of Good Hope, and seeing at first strong swimmers pass him, whom he afterwards came up with, miserably perishing from exhaustion and the sharks. The only reliable belt is composed of flat pieces of cork, nine inches long, four broad, and two thick, sewn into a stout belt, which, when folded together, occupies little space in a carpet bag; this is imperishable angular hollow tin swimmers lately patented by an officer of the Royal Navy. Where there are no safety belts on the occasion of a wreck, the expedient of empty and corked bottles, or gourds placed under the arms, and inside a Jersey shirt, with a strap round the waist, may be resorted to. Many valuable lives are yearly lost from ignorance of the simple principles of floating in salt water (naturally so sustaining for the human body); from the mere

act of keeping the head up, the back hollowed, and the hands down, and moving them gently and horizontally under the surface, the body is supported upright in the water. For bold and powerful swimming, and diving fearlessly into deep water, practice is required; but two lessons are sometimes all that are necessary to set men going as swimmers, and as were practised formerly by the light company, 14th Regiment, who had a boat found them to exercise in rowing and to learn swimming thus:—A six feet pole was rigged out horizontally from the stern of the boat; at the end of the pole was an iron ring, a rope passed through this; one end of the rope was held by the instructor in the boat, at the other end of the rope was a girth, which supported the learning swimmer round the chest in the water till he was directed, with elevated head and concave spine, to strike quietly forward with his hands, and backwards frog-like, with his legs, whilst an assistant rowed leisurely into water of any depth. It is of advantage, to have a floating platform, round the edge of which the teacher walks holding a string which passes round the learner's chest and supports him in his first essay. A scanty portion of raiment should be provided as the swimmer's costume, and canvas slippers are also useful on pebbly shores. In India, rapid rivers are swam with a string of gourds round the waist, or under the arms. In Africa, by means of a wooden horse, that is, a log or large branch of a tree, with a peg driven into it, to hold on by with one hand, whilst the other hand and feet propel.

Competitions.—Exercises being encouraged and promoted out of doors in fine weather, an empty barrack-room or hut being set apart as a winter gymnasium, it is desirable to have, every few weeks, competitions to keep the practice alive, and make men as in the old border charters, "strong for feichten," instead of weak from strong drink. Competitions succeed best if a good deal be left to the men themselves, whilst moderate prizes from the gymnastic fund suffice. Three officers may form a committee to get materials for the roped ring, and arrange preliminaries. To prevent delay between the games, the names of intending competitors should be collected the day before, and one game be rolled into another, and two or three hours, at most, occupied by them. The Judges should be non-commissioned officers, and the whole conducted with strict impartiality, and in perfect good humour.

Theatrical amusements—are very well also, but manly exercises promote self-respect, and something in this way always in prospect, attaches men to their corps, and produces a laudable pride in the noble profession of arms.—*Lieut. Col. Sir J. E. Alexander, on manly exercise for soldiers in United Service Magazine for November* 1858.

EXCŒCARIA, *Species?* Thur-ro-tha, *Burm.* A Tavoy wood.

EXCŒCARIA AGALLOCHA. *Linn. Roxb. W. Ic.*

Arbor excœcans. *Rumph. Amb.* ii. 179, 80.

Ugaru of Sunderbuns,	Beng.	Bone baya-za,	Burm.
Ta yau,	Burm.	Gewa,	Hind.
Ka yau,	„	Tella keeriya gass,	Singh.
		„ Chettu,	Tel.

This tree grows in Ceylon where it is very common near the sea. It grows freely in the Sunderbuns, is plentiful in the Rangoon and Tonghoo districts, and grows through the Eastern Archipelago. The Bengali name, Ugaru indicates a belief that it yields the fragrant Aloe-wood of commerce, but this does not seem to be the case. Dr. O'Shaughnessy, at one place, says (p. 563) that its wood is knotty grey or blackish, smooth and resinous. But Dr. McClelland describes it as white coloured, and adapted to every purpose of house building. The sap is described as extremely acrid, and as causing great agony if, in cutting down the tree, any of it fall into the eyes. Hence Rumphius name "excœcans" or blinding, and this is probably correct as Rumphius himself became, from some cause, blind at the early age of 44. *Thwaites En. Pl. Cey. McClelland. O'Shaughnessy*, p. 563.

EXCŒCARIA JAMETTIA. *Spreng.*

Tiger's milk tree. Eng. | Kametti, Maleal.

Grows on the western coast of India. It abounds in an acrid juice, from which a good kind of caoutchouc may be prepared.—*Useful Plants.*

EXCŒCARIA OPPOSITIFOLIA. *Jack* Common in the Central Province of Ceylon, at an elevation of 4,000 to 6,000 feet.—*Thw. En. Pl. Zeyl., p.* 269. *Jack Cal. Journ. of Nat. Hist. IV, p.* 386.

EXIDIA AURICULA JUDÆ. Fries. Jew's Ear Fungus. One of the Thallogens, of almost universal growth and used medicinally.

EXIDIA HISPIDULA, one of the edible fungi of China.

EXILE TREE. Thevetia neriifolia.

EXOCETUS. A genus of fishes belonging to the Abdominal Malacopterygii, forming part of the family Exocideæ. Their pectoral fins are very long, nearly equal to the length of the body. The fish to escape its enemies rises into the air and its pectoral fins vibrate while wet, and re-vibrate as often as they pass through a crest wave, wetting

the fins afresh. Some of the fish proceed from 70 to 250 yards. There are several species. Exocetus volitans. *Linn.* the flying fish; E. solitarius; E. evolans; E. exiliens; E. mesogaster. The E. volitans is usually 10 or 12 inches long, but attains to 15 or 20 inches. Thirty-two seconds is the greatest length of time that their flight has been observed, and distance accomplished 250 yards. They are captured by torch light in the West Indies. *Collingwood, Bennett's Gatherings of a Naturalist. Bikmore.*

EXOGENS. See Chenopodiaceæ.

EXOGYRA. See Pecten spondyloideum.

EXOSTEMA. See Cinchona.

EXOTIC PLANTS have been extensively introduced into India. The house of Timur and of that, particularly, Baber, Akber and Jehangir, brought many of the trees of their native countries into India, Baber, whenever he found leisure in the midst of his active life, diversified with multitudinous vicissitudes, formed a garden. Akber followed up the plans of Baber, and introduced the gardeners of Persia and Tartary, who succeeded with many of their fruits, as peaches, almonds, (both indigenous to Rajpootana,) pistachios, &c. To Jehangir's Commentaries we owe the knowledge that tobacco was introduced into India in his reign; but in latter years, the British have introduced Cinchona, many of the Acacias, the Eucalyptus, discovered the tea plant, introduced Sorghum sacharatum, Divi-Divi, and the Musa textalis, or Manilla hemp was brought through Colonel Balfour from the Eastern Archipelago. Multitudes of exotic flowering plants have been introduced into India. *Tod's Rajasthan.*

EXPORTS. See Cotton manufactures. India, Food plants, Rice, Java.

EYDOUX. See.

EYES, PAINTING mentioned in 2 Kings ix 30, Jer. iv. 30, Ezek xxiii. 40) and tiring of the head is still common in every eastern country. In painting the eyes, mahomedans use two substances, lamp black (Koh'l) and grey oxide of antimony, the latter the men use, and the women use lamp black.

EYRE, MajorGeneral Sir Vincent, K.C.S.I., born 22nd January 1811, author of Military Operations at Caubul 1842; Prison sketches 1843. Metallic Roads 1856. He was a prisoner under Mahomed Akbar Khan in Afghanistan. His defence of Arrah in the revolt of 1857 virtually suppressed the rebellion in Shahabad. He exerted himself and was the founder of the town of Esapur near Dehra Dhoon at the base of the Himalayas.

EYUBI, a descendant of Salah-ud-Din, the Saladin of the Crusaders. The family are known as the Hassan Keif, and occupy the district of Shirwan. In Mr. Rich's time, the bey was powerful and independent. See Kafra.

EZIONGEBER, on the shores of the Red Sea, 1 Kings ix & 26, is a little port at the head of the Elamitic, or eastern gulf of the Red Sea. This town more naturally belonged to the Midianites of Sinai, or rather to their friends the Egyptians. It was afterwards called Berenics by the Ptolemies; and its place is still pointed out by the Egyptian name of the valley in which it stood as Wasly Tabe, the valley of the city. Solomon's ships sent from Eziongeber, brought home chiefly gold from Ophir, no doubt the town known seven centuries later under the name of the Golden Berenice, and not many miles from the modern Souakin, where gold was more common than in every other place of trade. From Ophir they also brought precious stones and ebony. *Sharp's History of Egypt Vol.* i. 107.

EZRA, the prophet scribe is called by the mahomedans, Ozair. According to mahomedan tradition, Ezra was of the race of Jacob, of the tribe of Levi, and fourteenth in descent from Aaron. They say that the Holy Scriptures, and all the scribes and doctors who could read and interpret them, excepting a few who were taken captives to Babylon, were involved in the destruction of Jerusalem by Nebuchadnezzar. Ezra who was then very young, was among the captives, and continued to read and teach the law of God to his countrymen during their captivity. At the end of the captivity, Ezra returned to Jerusalem, and some say there, some, near Babylon, while he was occupied in weeping over the ruined city and temple of God, he said to himself, "How can fallen Jerusalem ever rise again!" No sooner had he conceived this thought than God struck him dead, and he remained so for one hundred years, when he was raised again, and employed the rest of his days on earth in explaining the word of God to the Jews. The Christians of the East say that Ezra drank three times of a well in which the holy fire had been hid, and that thus he received the gift of the Holy Ghost, which rendered him capable of re-establishing the Holy Scriptures among his countrymen. About 100 miles above Koorna, on the right bank of the Tigris, is his tomb. It is a pretty mosque of tesselated brick work, surmounted by a green cupola, and the corners and tops of the tomb are ornamented with large balls of copper gilt. *Rich's residence in Koordisan, Vol.* ii. *p.* 390. *Mignan Travels, p.* 9. *Townsend Outram. and Havelock, p.* 308. See Koorna: Tigris

F. This English letter has a perfect representative in the ف of the Arabic, Persian and Hidustani, but has no representative in Sanskrit, Hindi, Mahratti, Guzerathi, Bengali, Uriya, Telugu, Karnata, Tamil and Malayalam. The Mahratta people, however, pronounce it distinctly, the sound of F being given by them to that of the English and Hindi ph. The Mohawks of N. America, as also the Hurons and the tribes called the six nations never articulate with their lips. They have no p, l, m, f, v, or w,—no labials of any kind. In the Society islands, the gutturals are wholly absent; and in China, neither the d, nor r, is used, and g, h, ph. and f, in the non-Aryan tongues are often interchanged.

FAARSI, Jap. a varnish, in use, in Japan, of an inferior kind supposed to be from the Rhus vernix but adulterated with the varnishes of India and Siam.

FABACEÆ. The Bean tribe, leguminous plants, of which 284 species belong to New Holland and Polynesia; 42 to Japan and China 12 to Timor: 14 to Persia, 20 to Arabia, and 891 species in the E. Indies and Java, arranged under 133 genera. *Voigt.*

FABA VULGARIS. Mœnch.

Vicia faba,	Linn.	Chastang,	N. W., Himm.
Common bean,	Eng.	Nakshan,	„
Bakla,	Hind.	Pinnis,	Anglo-Tam.
Kaiun,	N. W., Himm.		

This is found wild in the Sutlej valley between Rampur and Sungnam at an elevation of 8,000 to 14,000 feet. Cultivated from time immemorial for food for man and beast as a vegetable, or the beans are ground into flour.—*Cleghorn Punjab Report p. 66. Dr. J. L. Stewart.*

FABACEÆ. Leguminous plants. See Dalbergia leguminosæ.

FACAS. Port. Knives.

FACBERI. Singh. In Ceylon two sorts of Crotalaria, which grow there pretty plentifully, viz. C. laburnifolia, and retusa, both with yellow flowers. *Thunberg's, Travels. Vol. IV. p.* 185.

FADANIYA. Hind. Urinary and intestinal calculi, the bezoar stones. See Bezoar.

FADUJAR, also Hajr-ul-bucher. Arab. Bezoar.

FADVI. Pers. Hind. Servant—Devoted servant.

FÆNICULUM PANMORI. *D. C.*

Anethum panmori. *Roxb.* ii. 94.

Razeeanuj,	Arab.	Badian,	Pers.
Mooree,	Beng.	Moodorika.	Sansc.
Goowa mooree.	„	Dewadooroo,	Singh.
Warealee,	Guz.	Rata-enduru,	„
Sonf,	Hind.	Perun Siragam,	Tam.
Mayuri,	„	Pedda gillakara,	Tel.
Panmuohri,	„		

Cultivated in India. Fl. small, bright-yellow, Febr.; fr. March and April. Seeds of a pleasant, sweet, warmish taste, used for culinary and medicinal purposes, especially among the natives. *Voigt.* 24. See Confection of Black pepper.

FÆNUM. Lat. Hay.

FÆTID CASSIA. See Cassia tora.

FAGARA OCTANDRA. See Tacamahac.

FAGARA PIPERITA, the Pepper-bush of Japan. The leaves, as well as the berries, have a spicy taste, are heating, and at the same time rather disagreeable to the palate. *Thunberg's Travels. Vol. III. p.* 62.

FAGARA RHETSA. Roxb. Syn. of Xanthoxylon rhetsa.—*D. C.*

FAGHUREH JABRONG. A spice of Assam and Himalayas.

FAGONIA CRETICA. Linn.

Spalaghzai,	N. W. Himm.	Damiya,	N. W. Himm.
Dhama,	„		

A small spinous weed common in most parts of the Punjab plains, and occurring in Affghanistan to about 3,500 feet. The plant is given as a febrifuge and tonic, and Dr. Bellew states that, in the Peshawar valley, it is administered to children as a prophylactic against small-pox. *Dr. J. L. Stewart.*

FAGOPYRUM. A genus of plants of the Nat. Ord. Polygonaceæ, of which P. cymosum, P. esculentum, P. fagopyrum and P. tataricum are known in India. Dr. Stewart thinks there are three species in northern India.

FAGOPYRUM EMARGINATUM. *Meisn.*

F., vulgaris,	—— ?	Ogal,	Hind.
Buckwheat,	Eng.	Phappar,	„
Obal,	Hind.	Phulan,	„

This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 13,000 feet. At high elevations, cultivated to a great extent, this, with reddish flowers, is generally said to grow lower than P. esculentum, but he has seen both on the Sutlej at the same level, about 8,500 feet. *Cleghorn, Punjab Report, p.* 66. *Dr. J. L. Stewart.*

FAGOPYRUM ESCULENTUM.

Polygonum fagopyrum, *Smith.*

Buckwheat,	Eng.	Paphra,	Punjabi.

This has an erect stem, without prickles. It is found in the Sutlej valley between Rampur and Sungnam at an elevation of 13,000 feet. At high elevations, this and F. emarginatum are cultivated to a great extent. It grows on the worst and poorest soils, and is often sown as food for game, it is a native of Persia and other Asia-

tic countries, but was introduced into Europe by the Crusaders; and in many parts of France, where it is commonly grown, is called Saracen corn; so much is it esteemed in Belgium, that M. Bory St. Vincent says he was shown the tomb of the person who is reported to have first brought it into that country. *Babington, Manual of British Botany; Burnett, Outlines of Botany. quoted in Eng. Cyc. Cleghorn's Punjab Report p.* 66,

FAGOPYRUM POLYGONUM, was sent for exhibition to Lahore from the hills of the N. W. Himalaya and from Amritsar and Hushyarpur in the plains.

FAGRÆA FRAGRANS. *Roxb.*

Annah-beng, BURM ? of Martaban.
A-nan, BURM ? of Amherst, Tavoy and Mergui.
Annan-tha. BURM ? of do. do. do.

This useful tree grows in Martaban, Tenasserim, inland, particularly up the Attaran river: is very abundant in Amherst, Tavoy and Mergui, and in the islands of the Tenasserim Coast. Its maximum girth 4 cubits, and maximum length 20-25 feet, but of so slow growth that the Burmese refer to it in a proverb. When seasoned, it sinks in water. In Martaban, it is described as a compact, hard, yellow and very beautiful wood. In Tenasserim, also, as a very hard and excellent timber. In Amherst, Tavoy and Mergui, though almost imperishable, it is not found capable of bearing so heavy a strain as some of the other valuable woods of the province. It bears a breaking weight of 400 to 500 lbs. and its chief value as a timber is its imperishability when exposed to water or damp. Mr. Riley and Captain Dance say that the teredo navalis will not attack it, and Captain Dance mentions that neither heat nor moisture will warp or rot it, that it is impervious to the attacks of ants, and that the posts of a wharf at Tavoy, which for several years had daily, as the tides flowed and ebbed, been partly dry and partly wet, continued untouched by the worms. It is used for building houses, kyoungs, zyats, &c. as posts for buddhist edifices, piles for bridges, wharves, &c., but for lay purposes only by the English, as the Burmese regard it as too good for the laity and say it ought to be confined to sacred purposes. Hence, as the phoongies orBurmese priests look on it as a sacred tree, Annan wood has been more preserved in the forests of Amherst, Tavoy and Mergui than any other valuable wood: it is scattered thickly over the alluvial plains together with Strychnos nux vomica. It has been recommended for railway sleepers. Dr. Wight, in Icones, figures three species of this genus, viz., F. Coromandeliana; Malabarica and Zeylanica, the properties of which are not known.—*Rev. Mr. Mason's Tenasserim, Captain Dance's Report, Dr. McClelland's Report.*

FAGU. HIND. Ficus carica;—Faguri HIND. F. caricoides.

FA-HIAN, the Fo-kue-ki of Remusat, Klaproth, Landresse, a Chinese buddhist traveller in India, Kotan (Yu-than) and Tibet in A.D. 399-400, along with Hoeiking. Fa-Hian with Hoei-king, and other Chinese pilgrims reached Yu-than or Khutan, in A.D. 399-400. Fahian then travelled by Tsu-bo and Yuhoei and over the Tsu-Ling mountains southwards to Kie-Chha the modern Ladak where he rejoined Hoeiking. From Kie-Chha the pilgrims proceeded westward to Tho-ly which they reached in one month. *Fa-hian* came to India, overland by way of Tartary and Cabul, visited Ceylon and sailed thence to Java. On his return, he left behind him an account of his travels called Foe Koue Ki or an account of the Buddhist countries. At the time of his visit, Buddhism was still the dominant religion, though Vaishnava doctrines were gaining ground. *Cal. Rev. Cunningham*, Ladak. See Airun, Buddha, India, p. 364. Inscriptions 378, 384.

FAIENCE. FR. Delft.

FAILI, a tribe of Kurds. They are also called the Bakhtiari and dwell in the mountainous part of Kirmanshah. See Kurdistan.

FAILSUN. GREEK. TURK. Spogel seeds.

FAIL ZAMAN, amongst the Rajputs, security for good behaviour: Hazir zaman, security for re-appearance.

FAIR ENG. A fair, called in India, a mela, or assemblage is held periodically at many places. The system is known to most Asiatic nations, and has been followed up with eminent success in Russia, and exists in full force in Toorkistan, North of Hindoo-Koosh, it is not unknown in some parts of the Cabool dominions, and has long been familiar to the natives of India. The celebrated fair at Hurdwar will immediately occur to most, and, besides it, numerous mela," or assemblages, take place in different parts of the country. In Asia everything yet contributes to give them vigour, and they flourish as the only means by which nations distant from each other, and the population ofwhich is often widely spread, can be readily supplied with articles of home and foreign produce. The merchants who carry on the trade from India to Cabool are principally Lohanee Afghans, whose country lies westward of the river between Dera IsmaelKhan and Cabool, and they now make an annual journey to and from these

places, bringing with them the productions of Afghanistan, and taking back those of India and Europe. Being a pastoral race, they are their own carriers; and being brave, they require no protection but their own arms. They leave the rugged mountains of the west at Drabund, and assemble at Dera Ismael Khan, where they dispose of some of their property; others proceed lower down the Indus to Dera Ghazee Khan, or cross to Mooltan and Bhawulpoor, where their wants in a return supply of goods, are sometimes to be procured. Failing this, the Lohanees pass into India, and even to Calcutta and Bombay. The Lohanee and all other traders descend from Bokhara and Cabool about the month of November, and set out on their return in the end of April. In the Russian Empire, Fairs have been founded in the memory of man, at which business to the amount of 200,000,000 of roubles, or about 10,000,000*l.* sterling is now transacted, and this is even on the increase. The removal of the great fair of Maccaire to Nejnei has only served to give commerce a greater impetus. *Burnes in Papers East India Cabul and Affghanistan, pp.* 103 *to* 109.

FAIRY HAIR. Eng. Adiantum capillus Veneris. The Persians give the name of Mu-i-Pari or Hair of the Fairy, to Saxifraga stenophylla, *Royle*. See Ferns.

FAIZABAD. Hind. The capital of Badakhshan.. The people are purer Iranians than the Tajik.

FAKHTAI. A grey color, probably from "Fakhtah," *Hind.* a dove.

FAKIR. Hind. from Fukr, Arab, a mahomedan religious mendicant. Their Persian name is Darvesh, from Dar, a door and vihtan to beg, but the Persian Darvesh is synonymous with the Arabic Fakir. Originally there were 12 orders,

Rafai.	Maulavi.	Jalwati.
Sadi.	Kadiri.	Khalwati.
Suhravardi.	Nakshbandi.	Bedawi.
Shibari	Vaisi.	Dassuki.

There have been many branches or orders. Jalal ud Din, Rumi, author of the Masnavi-i-sharif, founded the Maulavi order. In European Turkey, they have formed somewhat permanent communities, and about sixty different orders, each named after its founder, are supposed to exist there. The Bahtashi of Constantinople, are said to be quite atheistic, not attached to the principles of the Koran nor firm believers in Mahomed as a prophet. They are generally of the sect of Ali, therefore Sufi, or mahomedan spiritualists. The Rafai Darvesh, so common in Turkey, inflict on themselves great self-torture. Some of the wandering Indian fakirs travel so far west as Hungary, to visit the shrine of a Santon, Gul-bava, and travel into Tenasserim and Burmah. One whom we recently met near Hingolee, in the Dekhan, was a native of the Punjab, but had been to Ceylon, Mergui, Tavoy, Rangoon and Moulmein. As a general rule, in India, the fakirs are now a low, profligate set of men, held in great disesteem by all classes of the community and some of them are utterly degraded in habits and mode of life. The bulk of them are Be-Sharra literally, without law, i. e., do not act up to the precepts of Mahomed, but are latitudinarians, a few are Ba-Sharra, or with law, following mahomedanism. The latter are the Salik, the Be-Sharra are the Majzub, Azad, Russool shahi, Emam shahi. Kalandar are of both sects. *Herklots Kanoon-i-Islam.* See Darvesh. Sufi.

FAL. Mahr. Fruit of any tree.

FALASHA. A Semitic race in Africa.

FALCO. The falcon, a genus of birds several species of which occur in India. With five or six exceptions only, the whole of the European diurnal birds of prey are met with in India, many of them being much commoner in this country, and they are associated with numerous other species unknown in Europe. The Entolmaetos fasciatus. (Falco Bonellii of de la Marmora) inhabits the southern parts of Europe, with Asia and N. Africa; being replaced in S. Africa by Eu. bellicosus: In India and Ceylon is far from rare but confined to the hilly parts. Hieraetus pennatus, inhabits E. Europe, Asia, Africa, India generally, and Ceylon: differing very little (if at all) from H. morphnoides of Australia, a rare species in Europe. Prof. Schlegel doubts the proper habitat of this bird: it is not uncommon in India, preying much on domestic Pigeons. The true Falco peregrinus is common in India, together with F. peregrinator, which would otherwise be regarded its Indian counterpart. Such races as those of the Crossbills, the Bauri and Shahin Falcons of India, the British Phylloscopus trochilus and Ph. rufus, and the different European sparrows, maintain themselves persistently distinct.

FALCO CANDICANS. (Falco gyrfalco; 'Gyr Falcon.') An Arctic species, very rare in temperate regions: the Shangar of Indian falconry seems to denote it, as a bird of excessively rare occurrence in the Punjab. Some writers separate from it an Icelandic race, either as a distinct species or variety, respecting which there is much difference of opinion.

FALCO LANARIUS. *Schlegel*, an inhabitant of the South East of Europe, differs very slightly from the Indian F. juggur, *Gray*.

FALCO MELANOPTERUS. See Elanet.

FALCO PERIGRINATOR. The Shahin, a favorite Indian falcon, does not inhabit Europe, but is clearly the Falco ruber indicus of Aldrovand, rather than the small hobby-like Indian species (F. severus), on which Timminck bestowed the name Falco peregrinus ('Peregrine Falcon.') It inhabits Europe, Asia, North Africa, if not also North and South America: the South African race smaller; and Australian F. macropus (melanogenys of Gould) very nearly affined. Common in India; also a nearly affined species, F. peregrinator, which resorts more to the hills, and is the F. ruber Indicus of Aldrovand. Although the Indian and also the north American races are considered different from the European by some, we doubt the existence of any permanent distinction whatsoever. For the Bauri or Peregrine Falcon of India, Mr. Gould adopts Latham's name, F. calidus, thereby implying a distinction from true peregrinus. It may be doubted exceedingly if any one difference could be detected. It is true, that many highly approximate races (considered, therefore, as species) do maintain their distinctness, even in the same region and vicinity; as Falco peregrinus and F. peregrinator, Hypotriorchis subbuteo and H. severus, Circus cyaneus and C. Swainsonii in India.

FALCO SACER. *Schlegel* (F. lanarius apud Temminck and Gould), a very rare species in East Europe, seems to belong properly to Middle Asia, and occurs rarely in the Himalaya. *Cal. Rev. April* 1857.

FALCO NOBILIS, the sign of the Egyptian god Horus.

FALCONRY. The sport of falconry is widely diffused over Asia, even to Malaya-Asia; but whether extending to China and Japan, we are unaware. The "quarry" hawked by Dr. Layard's Bedouin companions on the great plain of Mesopotamia, is the Houbara "Bustard" (*Houbara Macqueenii*) of Sindh and Afghanistan; being a different species from that of Spain and North Africa (H. undulata;) it appears that the former has most unexpectedly turned up, of late years, in England and Belgium, if not also in Denmark. Dr. Francis Buchanan Hamilton, remarking upon the hawking or falconry observed by him in the Shahabad district, mentions that "the only pursuit worth notice that he saw in several days' hawking was from a large bird of prey named Jimach, which attacked a very strong Falcon as it was hovering over a bush into which it had driven a Partridge. The moment the Falcon spied the Jimach it gave a scream and flew off with the utmost velocity, while the Jimach eagerly pursued. They were instantly followed by the whole party, foot, horse, and elephants, perhaps 200 persons, shouting and firing with all their might; and the Falcon was saved, but not without severe wounds, the Jimach having struck her to the ground; but a horseman came up in time to prevent her from being devoured." The Wokhab or Ukab, as it is also termed, is a small Eagle, very abundant in the plains of Upper India, the Dukhun, &c., bearing many systematic names, the earliest of which is Aquila fulvescens; for it is a different bird, not quite so large and robust, as the Aq: nœvioides of Africa, with which it has been supposed identical. Mr. (now sir) Walter Elliot, of the Madras C. S., remarks that—"the Wokhab is very troublesome in hawking, after the sun becomes hot, mistaking the jesses for some kind of prey, and pouncing on the Falcon to seize it. He had once or twice nearly lost 'Shahins' (Falco peregrinator) in consequence, they flying to great distances for fear of the "Wokhab" i. e. the Jimach. The principal species employed in Indian falconry are identical with those of Europe; namely, the Bauri of India, which is the Peregrine Falcon of the West; and the Baz of India, which is the Gosshawk or 'Gentil Falcon' of Britain. In a curious Persian treatise on the subject, by the head falconer of the Mogul emperor Akbar, the various species used are enumerated, and may be recognised with precision: among them is the Shangar, which is clearly the Jer Falcon of the north; represented as extremely rare and valuable, taken perhaps once or twice only in a century, and then generally in the Punjab. The Shahin (Falcon peregrinator), another favourite Indian Falcon does not inhabit Europe, but is clearly the Falco ruber indicus of Aldrovand, rather than the small hobby-like Indian species (F. severus), on which Temminck bestowed the name F. Aldrovandi. *Cal. Rev. April* 1857.

FALCONER, Dr. Hugh, a Bengal Medical Officer, a distinguished Palæontologist. He was born at Forres in 1808 and went to India in 1829. He was Superintendent of the Botanic gardens of Saharunpore and Calcutta. He returned to England in 1856 or 1857, and died 31st January 1865. In the last half of his life, he devoted his time to the study of Mammalian Palæontology, and after his death, two volumes of Palæontological Memoirs and Notes were published by Dr. Murchison, entitled "Palæontological Memoirs and Notes of the late Hugh Falconer, A. M., M. D., V. P. R. S.; with a Biographical Sketch of the Author," Compiled and

edited by Charles Murchison, M. D., F. R. S. (London: Hardwicke, 1868.) He and Sir. T.P. Cautley devoted much time to examine the fossils of the Sewalik hills. He was the author of an Account of fossil bones at Hurdwar in Bl. As. Trans. 1837, vol. vi. 233:—On elastic sandstone, ibid, 240:—On the geology of Perim island, Gulf of Cambay in Lond. Geol. Trans. 1845, vol. i. 365;—Fauna Sivalensis, or the fossil fauna of the Sivalik hills, Cautley and Falconer, Lond. 1846, folio. Of the many varied subjects treated of in the palæontological memoirs there are several of great interest even to the general reader. One of these relates to the form and structure of the Sewalik Hills and his investigations have shown that at a period geologically recent the present peninsula of India was a triangular island, bounded on each side by the eastern and western ghauts converging to Cape Comorin, while the base of of the triangle was formed by the Vindhya mountain range, from which an irregular spur (forming the Aravalli Mountains) extended northwards; while between the northern shore of this island and a hilly country which is now the Himalaya Mountains ran a narrow ocean strait. The bed of this strait became covered with débris from the adjacent Himalaya on its northern shore, and with this débris became entombed and preserved many and various animal remains. The present condition of the country has been produced by an upheaval of the land, so that what was the ocean strait, forms now the plains of India—the long, nearly level valleys in which flow the Ganges and the Indus. Besides this a great upheavement along the line of the Himalaya has elevated a narrow belt of the plains into the Sewalik Hills (determined to be but of tertiary age) and added many thousand feet to the height of the Himalaya. For a knowledge of curious and striking forms, the world is indebted to the Sewalik explorations by Dr. Falconer and Sir T. P. Cautley. Amongst the discoveries was that of the *Sivatherium*, a gigantic four-horned ruminant-like animal, considered by Dr. Falconer to have been furnished with a trunk like the tapir, and certain fossil apes, the first ever discovered. But one of the most curious and interesting forms is a gigantic tortoise, *Colossochelys atlas*, a description of which was communicated to the Zoological Society in the year 1844. It is well known that an ancient mythological conception represents the world as supported on the back of an elephant, itself sustained upon a tortoise. This ancient wide-spread notion (common to the ancient Pythagoreans and the modern Hindoos) had in it, before Falconer, an obvious incongruity in that the greatest land animal of the world was figured as supported on the back of an animal of a size comparatively insignificant. His discovery of the immense *Colossochelys*, tortoise, however, removed this incongruity, if only it could be shown that there was a probability of its having been a contemporary of earlier races of man, from whom the tradition of its existence might have been derived. In the very same formations in which this great tortoise was discovered the relics of a small one were also found, which latter has turned out to be identical with the existing *Emys tecta*, and on this ground, Dr. Falconer conjectured that human eyes might have witnessed the Chelonian monster alive, and watched its toilsome march. This association together of fossil animals and man as contemporaries was indeed remarkable, as it took place at a time so long anterior to that in which the antiquity of man began to receive an attention from men of science generally. One of the conclusions at which Dr. Falconer arrived concerning the more recent geological conditions of India is as follows:—

Conditions in India during the tertiary period were precisely the reverse of what have held in Europe. Instead of a succession of periods, with successive decrease of temperature, India has now as high a temperature, if not higher, than it ever had during the tertiary period. The upheavements have operated to increase the heat. In latitude 30° at 7,000 feet above the sea the mean temperature, making the compensation for the elevation and reducing it to the level of the sea, is 81·2° Fahrenheit, or equal to that of the equator. The same excess of temperature holds generally over the continent, as contrasted with the eastern side of the continent of Asia. Instead of numerous subdivisions of the tertiary period with successive faunas, facts tend to the conclusion that India had one long term and one protracted fauna, which lived through a period corresponding to several terms of the tertiary period in Europe.

The discovery of all these various tertiary Indian fossils affords an interesting connecting link between two zoological faunas now remarkably distinct. In Africa of the present day, but in no other part of the world, we find both the giraffe and the hippopotamus, together with many other peculiar animals. On the other hand, there are many mammalian forms which are as exclusively Asiatic. It might have been anticipated that, in India, as in South America

and in Australia, the forms of life which preceeded those now existing would have resembled the existing ones only, and not others which now inhabit a distant geographical region. But Dr. Falconer has shown that this was not the case; hippopotami and even giraffes having been proved by him to have been inhabitants of (historically speaking ancient but geologically speaking modern) India. The outcome of these investigations is the establishment of the essential unity, as regards mammalian animals, of the faunas of Europe, Asia, Africa, and North America, and the establishment of the fact that these great continents together form one vast zoological province widely distinguished from the fauna of South America on the one hand and from that of Australia on the other.

In exploring the fossil remains of Europe and of Asia, we find a mixed African and Indian fauna to have existed down to the miocene period, and it may thence fairly be concluded that the mammalian animals now peopling the great continents before named constitute a fauna of miocene origin, and in that case we must expect to have to descend to deeper deposits to find in northern latitudes the representatives of Australian or of South American forms. Such, indeed, is the case; it is only in the eocene strata that marsupials have been found in France, and only in strata much more ancient that they have been discovered in England. It is true that edentate animals (whose headquarters are now in South America) have been found in European strata of miocene age, but it must be recollected that certain animals belonging to that group (the pangolins and Cape ant-eater) are now found in Asia or Africa. So that the presence of one or two edentata is in no way inconsistent with the homogeneous nature of the great miocene fauna, which has with the lapse of ages become differentiated into those zoologically distinct provinces of the present day—the (1) Palæarctic, (2) Nearctic, (3) Ethiopian, and (4) Indian regions; the first including Europe, Africa north of the Sahara and Asia (exclusive of Arabia) north of the Himalaya; the second, North America down to Mexico; the third, Africa south of the Sahara and Arabia; and the fourth, Asia south and south-west of the Himalaya Mountains. The noble labours and many estimable qualities of Dr. Falconer will be perpetuated in a way worthy of him, and after his own heart; for a Falconer Fellowship is to be founded in the University of Edinburgh. None the less, however, are all interested in his fame indebted to Dr. Murchison for the painstaking and conscientious way in which he has performed his labour of love, and for the rapidity with which he has executed his arduous task. *Pall Mall Gazette, quoted in Friend of India.*

FALCONERIA INSIGNIS, a plant of Kussowlee.

FALEZ. HIND, a field of melons.

FALLOW-DEER, of Deut. xiv, 5, 1 Kings iv, 23 called in Hebrew "yachmar" or "red" is supposed to be the "Bakkar-ul-Wash" of the modern Arabs, a kind of antelope.

FALITA. HIND., a slow match; also, amongst mahomedans, a lamp charm.

FALLI. HIND., a kind of iron.

FALODEH, Pushtu. A white jelly strained from wheat, and, in spring time, in Kabul, drank with sherbet and snow.

FALSA. HIND. Grewia Asiatica: also the acid berry of Grewia Asiatica, much used to make a sherbet.

FALSAR. HIND. of Kotah. Fibrous ginger, the inferior sort.

FALSCHMEA. RUS. Barley.

FALSE POINT, a cape in Orissa. It is a low and wooded head land, and has a lighthouse, 120 feet above the water.

FALSH or Palach. HIND. of Kashmir, Populus ciliata.

FALUS, also Falus Mahi. ARAB. HIND. PERS. also Khanak-ul-Kalb, ARAB. Nux vomica.

FALWA. HIND. also Farri. HIND. of Salt Range, Grewia elastica.

FAMINES have repeatedly occurred in India, chiefly owing to the failure of rain, but occasionally, also, occasioned by wars necessitating an interruption to agricultural operations. In the past three hundred years, Bundelkund has been three times devastated by famine. The subject of famines has latterly been much investigated and it has been laid down as a sign of coming famine that food at three times its ordinary price, at a season when some months must elapse without relief, means famine in the great majority of cases; while in some cases famine comes long before that rate is reached. When the rate rises to four times the ordinary standard, it is probably accompanied by famine of a very severe description. In 1769, the prices of grain, in Lower Bengal, became unusually high. At that time, the executive civil administration was conducted by native officials, who temporally remitted £8,000 of rent. But, by the 4th January 1770, the daily deaths, from starvation in Patna, were up to fifty; and before the end of May, 150. The tanks were dried up, and the springs had ceased to reach the surface, and, within the first nine months of 1770, one-third of the entire population of

Lower Bengal, were carried off for want of food. The following is a partial summary of famines that have occurred in India. One occurred in 1833, and was described in As. Jl. new series, vol. xiii. part 2, 21, 26, 96, 98, 100, 146, 167, 239, 273. Another at Lucknow, in September, where 50,000 persons perished of famine and cholera in a few days; at Hydrabad, Malwa, Bahawulpore, Indapore, and Oodipore, the whole crops were destroyed by locusts; in Cashmere, 25,000 people perished.

In one famine, many people are said to have perished; and at Lahore, mothers eat their children.

Gerrard gave an account of a famine at Herat, in 1832, when 25,000 persons perished in As. Jl. new series, vol. xiii. part 2, 165.

In a famine in Bundlecund, in 1834, 600 persons died. *Ibid*, vol. xvi. That, of 1837, was noticed, vol. xxvi. part I, 1, 89, 177, 266, and that in 1838, in vol. xxvii. part I, 12, 180.

For a famine at Cawnpore, a million-and-a-half sterling of subscriptions was realized and distributed; 1,200 persons died; 1,300 were fed daily. *Ibid*, 273.

A famine occurred in Guntoor, in 1833, and was described by Capt. Best. In this famine, 150,000 human beings died of starvation, also 74,000 bullocks, 159,000 milk cattle, and 300,000 sheep and goats. The loss of revenue occasioned to Government during the fifteen following years exceeded two and a half millions sterling. Mad. Lit. Trans. 1844, No. xxx. 186.

In a famine in Nagpore, in 1819, the price of Jowarry rose from Rs. 5 to Rs. 30 per candy. *As. Jl.* 1820, vol. ix. 79.

A famine, in Cashmere. *Ibid*, 1834, new series, vol. xiv. part 2.

A famine in Cutch, horrible effects of. *Ibid*, 262.

A famine in Marwar, 50,000 people perished. *Ibid*, No. xxxvi. 106.

A famine at Ajmeer. *Ibid*, vol, xv. part 2,198.

A famine in Midnapore district. Ibid, 202.

A famine in Cuttack. *Ibid*, 1837, vol. xxiv. part 2,247.

A famine at Futteghur, Shahjehanpore, Calpee, and Singbhoom. *Ibid*, 285.

A famine in the Upper Provinces. *Ibid*, 1838, vols. xxvi. part 2, 20, 69, 78, 144, 184, 212—214, 237; xxvii. part 2, 88, 93, 148, 154, 190, 195, 280, 281, 327. Meeting at Calcutta respecting. *Ibid*, vol. xxvii. part 2, 70, 185. 500,000 lives lost.

A famine in the Doab. *Ibid*, 188.

A famine in Kattiwar. *Ibid*, 1839, vol. xxx. part 2, 67, 119, 123.

A famine in Cutch. *Ibid*, 1839, vol. xxviii. part 2, 200, 226.

A famine Meeting was held at Glasgow respecting the famine in India. Government assistance during the famine at Agra. Relief Fund, Bengal. *Ibid*, 1840, vol. xxxi. part 2, 28.

Famine in India. *Ibid*, 1840, vol. xxxii. part 2, 100, 315; xxxiii. part 2, 204, 277.

Famine, Chronology of, 1841. Montgomery Martin on, 1640—1655, 1661, 1764—1766, 1770, 1782, 1792, 1803, 1804, 1819, 1820, 1824, 1832, 1833, 1836, 1837, 1838. *Ibid*, vol. xxxvi. 105.

Famine anticipated in the Upper and Lower Provinces of Bengal. *As. Jl.* 1842, *vol.* xxxix. 103.

Remarks on the famine by the Rev. Robert Everest published in the Statistical Journal, in which are adduced facts to show that unfavourable seasons in India are periodical. *Ibid*, 1843, *vol.* i. *3rd series*, 468.

Famine in Cashmere. *As. Res.* vol.

In 1860-61, there was a great famine on which Colonel Baird Smith reported in 1861, and recommended irrigation. Colonel Baird Smith has remarked on the rough periodicity of famines, and it may be said that these local famines recur in one part of the country or other every 5, 10, or 15 years. The greater famines occur in successive centuries; instead of 5, 10, or 15 we may say at intervals of 50, 100, and 150 years. There is vague mention of great famines in the 13th, 14th and 15th centuries, notably one in 1471; and without going beyond the more recent centuries, there seems to be no doubt that one of the great historical famines affected India about the year 1631, in the reign of Shah Jehan. Another mention is made of terrible famine in the year 1661. In the 18th century, we do not find mention of any famine on the greater scale till that of 1770 swept all the lower parts of the Gangetic countries, and we know not how much besides. The famine in 1783-84 was undoubtedly one of the greater famines. There have been four famines in Ganjam within historical recollection; the first 1789 to 1792, second 1799 to 1801, third in 1836, and the fourth in 1866. Of these, the first was the most severe, far surpassing in intensity that of 1866. The great famine which desolated Bengal 1770-72 did not extend to Ganjam, and probably the people reaped no small profit from the export of grain. The extent of the famine of 1791-92 is not anywhere exactly given.

Contrasted with 1866, it is worthy of note that the two earlier famines of 1789 and 1800 began in the north of the Ganjam district, and increased in intensity towards the south, whilst that of 1836, as in 1866, was felt with greatest severity in Orissa and parts of the district, adjacent to Bengal. The third period of scarcity in Ganjam, after an interval of 30 years, occurred in 1836. Cholera was very prevalent, and many of the cattle also perished. Again after the lapse of a quarter of a century, Ganjam was visited by a severe drought during the latter part 1865 and the early months of 1866.

The report of the three Commissioners embraces Cuttack, Pooree, and Balasore, the three districts of Orissa, omitting the hill tracts—in which the famine raged with greatest intensity, and continued longest. Manbhoom, Singbhoom, Midnapore, Bancoora, Raneegunge, Burdwan, Hooghly, Howrah, Nuddea; and the extent of the mortality never will be ascertained with any accuracy. Mr. Ravenshaw estimates it at not less than one-fourth of the population.

The Commissioners can give no details of the effect of the famine in the Tributary Mehals. Mohurbhunj is a very large territory covering an area of upwards of 4,000 square miles, and the greater part of this tract must be included in the area of most severe suffering; but the roughest approximate estimate of the mortality cannot be given.

In Chota Nagpore, in which are the districts of Maunbhoom and Singhbhoom, the mortality for the famine of 1866 fell on the population about the same as in Orissa.

Bengal suffered in the year 1770 from famine, more widespread and terrible than any which has ever befallen any other British possession, and which Colonel Baird Smith deemed to have been the most intense that India ever experienced. In the earlier days of British rule in Bengal, famine occupied a place in men's minds at least as prominent as that which it has held in the minds of the present generation in the North-western provinces. It is true that Bengal has not experienced terrible famine for nearly 100 years. In the Ganjam district, nearly 11,000 persons perished, from actual starvation, and in one part of the district upwards of ten per cent.

Sir Arthur Cotton estimates that two acres of rice land will feed seven people for a year, and Mr. Fischer, the manager of the Shevagunga Estate, considers that a family of five will consume under 6 lbs. of grain, per diem. *Ann. Ind. Adm. vol. xii., p.* 11. 244 268, 288, 300 *Hunter's Rural Life in Bengal.*

FANA. See Laquis.

FANAM. A coin of the Carnatic, now uncurrent. The correct value of one Company's rupee was 12 fanams 68·57 cash. Where much nicety was not required, the usual rate of conversion was one fanam = 1 anna 3 pice. It was a small silver coin, the 1-12th of a rupee: no longer coined.

FAN PALMS, the Chamœrops humilis. *Linn.* used for this purpose, grows in considerable abundance on the shores of the Mediterranean. The leaves of many of the palms of southern Asia, the Corypha, the Livistonia, palmyra and Date palms, are similarly employed. That of Ceylon, is the Corypha umbraculifera.—*Linn.*

FANS of China are principally exported to the United States; a few go to India and South America. Those sent abroad are made of palm leaf and paper; feather and silken fans are not so often shipped. Fire-screens are included under this head as well as fans; these are lackered. In 1836-7, 171,143 fans and fire-screens were shipped to America at $\$1\frac{1}{2}$ per thousand, and 2,200 feather fans at 40 cents each. According to the old duty, 100 fans paid $1\frac{1}{4}$ mace duty. The greatest part of the fans sent abroad are those which do not fold up.—*Morrison.*

FAN-TAL, in China, the Superintendent of Finance. See Kwang-tung-chi.

FAN-YAN-MA, the Chinese name of Bamian.

FAQEER, Fakir, or Durvesh, amongst the mahomedans, religious mendicants of whom there are several sects. In India, this class of religious devotees are generally:

1 The Kadriah or Banuwa.
2 The Chistee.
3 The Shootaree.
4 Tubqateea or Mudaree, also called daffalee.
5 Mulling.
6 Rufaee or Goorzmar.
7 Jullallea.
8 Sohageea.
9 Nuqsh-bundeea,
10 Bawa peearay.

The Calendar durvesh is rarely seen in India. *Herklots.* See Darvesh. Fakir.

FARAN, the valley from which the Jabl-Musa range rises. That part of the range, on which the convent of St. Catherine is built, is called Tur Sina. See Jibbel-Musa. Senai.

FARANJ MUSHK, Hind. Calamintha umbrosa; Ocimum basilicum.

FARARI. Pers. Hind., absconding, disappearance, a person who has disappeared. Fauti-o-Farari, Casualties by deaths and disappearance.—*Elliot.*

FARAS. Hind. The tamarisks, Tamarix orientalis and dioica. The Faras plants, in the drier parts of the Doab and in the vicinity of Delhi, are called Asul or Atul, and

the galls or "choti-mai" which are formed on the tree are called Samrat-ul-Asul." in Arabic. *Elliot.*

FĂRĂSH. HIND. PERS. a carpet, hence Farāsh a servant who spreads carpets. Literally "carpet-spreader," but in Persia, Afghanistan, and India, applied to under-servants generally. Amongst the mahomedan armies, the Farāsh was a tent-pitcher, which in the British camps is the duty of the *Elliot, Ed. Ferrier Journ p.* 291.

FARASIUN. HIND. Salvia lanata, and S. Moorcroftiana.

FARAZ. AR. HIND. PERS. In the mahomedan religion, points ordered by God,—God's commands—Sunnut being the ordinances of their prophet. For instance, the Ramzan or Eed-ul-Fitr feast, and the Baqrid feast are both Farz and Sunnut, while the Akhiri Char Shambah, the Maharram, and the Shab-i-barāt are only Sunnut. Thus, also, Captain Burton says, the afternoon prayers, being Farz, or obligatory, were recited, because we feared that evening might come on before the ceremony of Ziyarat "visitation" concluded. Throughout India, the Farz or commands of God, are almost obscured by the quantity of the Sunnut and the traditions and there are frequent reformations attempted, but these speedily assume political features. A sect, styled "Farazi" was formed at Dacca in 1828, but it died out. *Elliot. Wilson. Burton's pilgrimage to Meccah, Vol.* ii. *p.* 66.

FARBE-ROTHE. GER. Madder.

FARD, AR. in accounting, a slip of paper, a list, a sheet, or statement, a slip in an account book. *Elliot.*

FARDUSI, a celebrated Persian poet. He wrote the Shahnamah in A. D. 1,000, containing three heroes, Jamshid, Faridun and Garshasp as the three earliest representatives of the generations of mankind. A little way from the gate of the entrance of Toos there stands a dome ornamented with lacquered tiles, so small as seemingly to form a part of some private house; this dome covers the dust of this celebrated poet who after the unworthy treatment he received from shah Mahmood, Ghaznavi, retired there to die. *Fraser's Journey into Khorasan p.* 519.

FARFEYUN. HIND. Euphorbium; gum of Euphorbia Royleana.

FARFUGIUM GRANDE. Mr. Fortune says that at Ningpo, in the garden of an old Chinese gentleman there, he met with a beautiful new herbaceous plant, having rich blotched or variegated leaves which has since been named as above by Dr. Lindley. It was growing in a neat flower-pot, and was evidently much prized by its possessor, and well it might for it was the most striking looking plant in his garden. He informed Mr. Fortune that he had received it from Pekin the year before, and that at present it was very rare in Ningpo, but he thought, his visitor might be able to procure a plant or two from a nursery-man in the town, to whom he had given a few roots. He lost no time in paying a visit to the nursery indicated and secured the prize. It reached England in safety.—*A. Res. among the Chinese p.* 420.

FARGARD, Persian, a section of the Vendidad, the book of the ancient Zoroastrians. See Arian, Parsi, Vendidad.

FARGHANA the native territory of the father of Baber, it lies on both sides of the Jaxartes, a portion of ancient Scythia.

FARIA, MANUEL DE. Author of the History of the Discovery and Conquest of India by the Portuguese; written in Spanish, and translated into English by John Stevens. —*Playfair's Aden.*

FARID BUTI, HIND. Farsetia Hamiltonii and. F. Edgeworthii, Cocculus villosus.—*D. C.*

FARIGH, AR. Release, free. F. Namah or F. Khatti deed of release. From this word also, is the word Farāghat, leisure, enjoyment, repose, affluence, also Farigh-Khatana a fee to the writer of a farigh khatti. *Elliot.*

FARINA. ENG. LAT. SP. Flour, meal; any flour, used as food, either from wheat, rice, Janipha, potato, Jatropha, Maranta, Curcuma, Canna. Every now and then some one of the farinæ is prominently put before the public. When Dr. Hassall wrote in the middle of the 19th century, the farinaceous foods, sold in London and their composition, &ca. were.—*Gardiner's Alimentary Preparation* was entirely of rice, reduced to the state of an extremely fine powder which crepitated, under pressure, in the same manner as do most of the arrowroots.

Leath's Alimentary Farina, or Homœopathic Farinaceous Food.—Consisted principally of wheat flour, slightly baked, and sweetened with sugar, together with potato-flour, and a very small quantity of Indian-corn meal and tapioca.

Semolina.—Consists of the gluten of wheat, with a certain proportion of the starch, part of this having been removed. Semolina resembles in appearance sago, but the little granules of which it is composed in place of being round as in sago are angular. When moistened, the water is rendered perceptibly opaque and milky by the starch still present and the fragments swell up and become soft and glutinous.

Prince Arthur's Farinaceous Food—was entirely Wheat Flour slightly baked.

Prince of Wales' Food—Consists entirely of potato flour.

Hard's Farinaceous Food.—Consists entirely of wheat-flour baked.

Maidman's Nutritious Farina—Consists of potato flour artificially coloured of a pink or rosy hue, the colouring matter probably being Rose Pink.

Bradens Farinaceous Food—Consists of wheat-flour baked.

Jones's Patent Flour—Consists of wheat-flour with Tartaric Acid and Carbonate of soda.

Soojee—Consists of wheat flour sweetened with sugar. *Buxter's Compounded Farina* consists of wheat-flour sweetened with sugar.

Plumbe's Improved Farinaceous Food consists principally of Bean or Pea-Flour, most probably the former, with a little Tacca Arrow-root, some Potato-Flour and a very little Maranta Arrow-Root.

Vita Roborant.—Consists of a mixture sweetened with sugar of the Red or Arabian Lentil and Wheat-Flour, the latter in considerable amount. Vita Roborant bears considerable resemblance to Du Barry's Revalenta and is sold at 2s. per pound.—

Captain Ripley states that a substance like arrow-root is obtained from a plant called "Pembwaoo;" and the tapioca from the root of a tree called by the Burmese "Kapalee Myoukoo." *Food and its adulterations p.* 250. See Farina. Fr. It. Meal.

FARINGH MUSHK. Hind, Ocimum incerta.

FARING. Hind, Per, Europe, from the old term Frank. Hence Faringi, a European or relating to Europe, such as,

FARINGI DATURA. Hind. Argemone mexicana.

FARINGI DATURA KA TEL. Hind, Oil of Argemone mexicana. See Oil, Brumadundu or Curuku oil.

FARIAD. Arab, Hind, Pers. A complaint: Fariadi, a complainant, a plaintive.

FARH. Ar. Enjoyment; hence. Farh-Bagh. Hind, Pers. Pleasure-Garden.

FAROKH SIR, or Mahomed Farokh Sir, emperor of Delhi. He was deposed and murdered on the 16th Feby 1719, by Abdullah Khan and Hussain Khan.

FARMAN. Pers, Hind. A royal mandate, an order from a king or other superior, which the British write Firman.—*Elliot.*

FARQAH. Ar. Pers. A tribe, from Ar. Farq, separation. Hence also—Farāqat, separation, Faraqat behtar az maludat, absence is preferable to quarrelling; also Farq, the part on the crown of the head where the hair parts.

FARRAKHABAD, a town of the Agra district in Hindustan. It was taken by Sir Colin Campbell on the 2nd Jany. 1858.

FARRA-RUD, a river on the eastern part of Persia.

FARRI. Hind. Grewia elastica.

FARROPOS. Port. or FRAPOS. Port. Rags.

FARS. According to the Jehan Numa, one of the earlier divisions of the province of Fars was into the five circles or departments called "Kurre" and named Istakhr, Darabjird, Shapur, Ardashir and Kobad. At present, it consists of three principal parts, viz 1. Fars proper (Persis Proper.) 2. Laristan near the Persian Gulf; and 3 Behbehan, or the country of the Khogilu, which represents the circle of Kobad. Behbehan is bounded, on the north by the great belt of mountains which separate Irak Ajem from the southern provinces of Persia: the northern and north-eastern shores of the Persian Gulf form its boundary to the south, Ram-Hormuz and the Ka'b country lie to the west, while Shulistan separates Behbehan on the east from the direct dependencies of Fars. On the east and south-east, Behbehan is surrounded by the Mamaseni tribe: on the north and north-west by the Bakhtiyari, and on the west and south by the Ka'b Arabs. Also, the mountainous region to the north and north-east of the plain of Behbehan is occupied by the Khogilu tribes,—and the districts of Lirani and Zeitun, near the Persian Gulf, together with the fortresses of Gul-i-gulab, all come under the control of the governor of Behbehan. Fars, Pars or Farsistan, is the province of the kingdom of Persia, which gives its name to the country. It lies between 27° 20′ and 31° 42′ N. lat., and 49° 20′ and 54 E. long, being nearly square and about 220 miles in length and breadth. It has Kirman and Laristan on the east; the Persian Gulf on the south, Khuzistan on the west, and Irak-Ajem on the north, with a superficies of about 44,335 geographical square miles, or nearly one-third of France. It has many rich and picturesque tracts, and is less desert than other parts of Persia. This province of Persia contains the salt lakes of Bakhtegan (also called Niriz) and Dereachte, which are in the neighbourhood of Shiraz; and there is a fresh water lake in the plain of Zerdan. The principal streams are the Bendamir or Araxes, which receives the Kur-ab or Cyrus river, as it falls into lake Bakhtegan: and the Nabon, whose course is from Firozabad southward to the Persian Gulf. In this country are also the higher parts of the two

branches of the Tab. Towards the north (according to Mr. Morier), Mader-i-Suliman marks the tomb of Cyrus (son of Cambyses); to the west are the ruins of Kizla Safed, and, nearly in the centre, are those of the ancient capital, Persepolis. This territory represents ancient Persis, which was watered by the Araxes, Gyndes, Oroatis, Arasis, Pelevar and Bagrad. Its cities were Corna, Axima, Arbrea, and Artacana; besides many others whose sites are unknown. Persepolis was the capital in the time of Alexander: more anciently, the seat of the government was at Pasargada, (*Strabo lib.* xv. *p.* 729,) the Persagadis of Quintus Curtius (*Lib.* v. *cap.* vi.) but as this historian speaks of the fortress of Persepolis, and the city of Persagadis (qu. Farsa-Gerd?) it is possible that the extensive ruins in the plain, near the former, may be the Pasargada of Pliny. (*Lib.* vi. *cap.* xxvi.,) *Euphrates and Tigris, Col. Chesney, p.* 210.

The entire southern region of Fars, bordering on the Persian Gulf, is called the Germsair or "hot region." It extends from the sea to the latitude of Kazeroon, and runs parallel with the Persian Gulf, from the banks of the Tab to the confines of Laristan from Bushire, eastward, as far as Cangoon, the tract is named the Dushtistan or "land of plains." The Tungistan, commonly pronounced Tungistoon, or "narrow land," is a small tract of land east of Bushire. The greater portion of the people of the whole Germsair, consists of an independent lawless set, many of the tribes being robbers by profession.

A huge wall of mountains separates the Germsair, or low region, from the Sardsair, or high table land of Persia. One of the most conspicuous of these, is an abrupt lofty hill, named Hormooj; where, specimens of coal were found. Sardsair signifies "cold region." It is also termed the sarhada, a word literally signifying "boundary or frontier," but, there, is generally applied to any high land were the climate is cold.

The Sea of Oman, or Persian gulf, called also the Persian Sea, and Erythrean Sea, also the Sea of Fars has several islands, the Jazirah-i-Lafet called also Jazirah-i-daraz, or Long-Island, known on maps as Kishm. Also Khareg island, on maps Karrack, a small island but well watered, not very far from Busheer, which once belonged to the Dutch, and was held in 1838 to 1846 by the British. *Ouseley's Travels. Vol.* i. *p.* 334. *Kinneir's Geographical Memoir of the Persian Empire p.* 54. *Colonel Chesney's Euphrates and Tigris p.* 210. *Porter's Travels. Vol.* i. *p.* 458. See Aras. Ardea, Ardekan, Irak, Iran, Kashgoi, Kab, Kirman, Lar, Laristan, Oman. Erythrean Sea.

FARSAKH. PERS., by the old Greek historians παρασαγγης. It is the Persian league, about 18,000 feet in length and is known to Europe, as the Farsang or Parasang. It is usually reckoned at $3\frac{3}{4}$ British miles, but like the "kos" of India it varies greatly. According to Major Rennell, the farsakh is little short of $3\frac{1}{2}$ British miles. (See "Illustrations of the Retreat of the Ten Thousand," p. 4.) Mr. Fraser (Journey into Khorassan p. 367) says, "The Khorassance farsakh is rather more than that of Irak;" rather less than 4 British miles. A farsang, is also said, to be a distance within which a long sighted man can see a camel, and distinguish whether it be white or black. (Bundehesch, cap. xxvi.) It is also described as one hours travel or journey or four miles. *Baron C. A. De. Bode's Travels in Luristan and Arabistan. p.* 57. *Rich's residence in Koordistan. Vol.* i. *p.* 197 *Porter's Travels. Vol.* i. p. 255.

FARSAN, an island off the coast of Yemen about three miles from the sea port of Jezan. The sea-faring population there, are largely occupied in the pearl fishery.

FARSH. HIND. PERS. A Carpet. See Farăsh.

FARSH, HIND. Populus nigra.

FARUD. AR. HIND. PERS, literally descent or alighting: in the customs department, delivery in of goods. *Ell.*

FARW. HIND. Digitaria sanguinalis.

FARWA. HIND. Tamarix orientalis, the tamarisk.

FASCIOLARIA FILAMENTOSA and F. Trapezium. See Siphonostomata.

FASL. AR. HIND. PERS., a season, a crop, a harvest.

FASLI OR HARVEST ERA. The origin of this era, the harvest year of northern India derived from that of the Hijra, has been traced to the year of Akbar's accession to the throne, or the 2nd Rabi-us-Sani A. H. 963 (14 February 1556) when a solar year for financial and other civil transactions was engrafted on the current lunar year of the Hijra and subsequently adjusted to the first year of Akbar's reign. In the Dekhan, however, the Fasli year, differs from the preceding, being apparently in advance of them. The Fasli year of the Dekhan owes its origin to the emperor Shah Jahan, who after bringing his wars in Maharashtra to a close in 1636, endeavoured to settle the country, and introduce the revenue system of Tudor Mul, the celebrated minister of Akbar, and thus naturally came

the revenue or harvest year. It differs from the Fasli of Bengal by seven years, from the acceleration of the lunar year. The year is or ought to be sidereal, but the Madras Government have now fixed its commencement to the 12th July, and applied it solely to revenue matters. The harvest years of northern India, however, have their origin from the year of Akbar's accession to the throne; on the 2nd Rabi-us-sani A H. 963 = 14th February 1556: the object of Akbar, introducing the Fasli or harvest year, was merely to equalize the name or number of the year all over his vast empire without interfering with the modes of subdivision practised in different localities, but from this sprang the four existing harvest years. The Bengali san, the Vilayati san, and the Tamil Fasli year, may be always considered identical with the Saka solar year, while the Fasli of the western provinces, may in like manner be classed with the luni-solar Samvat there current. The Hijra year, began on the 26th November 1555, N. S. The concurrent Fasli year, 963, began on the 1st of the lunar month *Asan*, (Aswina) which fell on the 10th September 1555. The Vilayati year 963, on the 1st of the solar month Asan, which occurred on the 8th September 1555. But the Bengali san 963, began on the 1st Baisakh falling within the same Hijra year, which was necessarily that of the 11th April 1556. The number 592 must be added to convert the two first eras into Christian account, if less than four of these months have transpired, and 593 years, if more: also 593 years for the first nine months of the Bengali san, and 594 for the rest.—*Prinsep's Antiquities by Thomas, p.* 170. *Elliot, p.* 367.

FASTIKI. Hind., a kind of emerald.

FATAH-UL-BALDAN, a historical work on mahomedan countries from Spain to Sind, by Ahmad, son of Yahya son of Jabir, styled Al-Biladuri. He was tutor to one of the princes of the family of the khalif Al Mutawakkal, and died A. D. 829-3 (A.H. 279.) *Elliot Hist. of India.*

FATAHAH, Ar., also al-fatahat, also Fatahat the name of the opening chapter of the Koran. It is a prayer, and is held in great veneration by mahomedans who give it several honorable titles, such as the chapter of praise, of prayer, of thanksgiving or treasure. They esteem it the quintessence of the whole Koran, and often repeat it in their devotions both public and private, as christians repeat the Lord's prayer. Most Turkish epitaphs end by the words "Fatihah ruhun ichun" say a Fatihah for his soul. The Fatahah is entitled the Preface, of the Koran or Introduction, and was revealed at Mecca, and is as follows commencing with the words "Bismillah-Ir-Rahman-ur-Rahim, "In the name of the most merciful God, Praise be to God, the Lord of all creatures, the most merciful, the King of the day of Judgment, Thee do we worship and of thee do we beg assistance. Direct us in the right way, in the way of those to whom thou hast been gracious; not of those against whom thou art incensed, nor of those who go astray." This Prayer is offered with upraised hands which are afterwards drawn down over the face. The hands are raised in order to catch the blessing that is supposed to descend from heaven upon the devotee; and the meaning of drawing the palms down the face, is symbolically to transfer the benediction to every part of the body. It is said on many religious occasions. *Sales Koran, Burton's Pilgrimage to Meccah. Vol.* i. *p.* 286. *Ferrier's Journey, p.* 502.

FATEH ALI SHAH, was king of Persia up to the year 18 . His life illustrates Persian customs. He was an eminently handsome man. He possessed one of the largest families on record, in ancient or modern times. Besides the four "akad" or lawful wives, permitted to every mahomedan, he had more than 800 "mutea" or inferior spouses. He continually changed his women, as he was tired of them and lacked novelty; but he never parted with any who had borne him male children. He had upwards of one hundred and thirty sons; and one hundred and sixty or seventy daughters. At the time of his demise, his children, grand children and great grand-children amounted to about five thousand souls! These princes Shahzadé were, long, a heavy burthen to the country. Scarcely a village of any size in Persia but had some prince resident at it to oppress and impoverish the people, while he devoted his time and energies to all manner of mischief and profligacy. Some became comparatively well off, but many fell into great poverty, there, and some of his descendants soon had to earn their living as mechanics, and tradesmen in the different cities. This state of things was surpassed by Augustus XI. of Poland who is said to have had 354 children by his numerous concubines. He also had one of his own daughters for his mistress, a piece of depravity of which Fateh Ali Shah was never accused.

FATHAH. Arab. Hind. Pers. Victory.

FATHER and MOTHER,

Ma Bap, Hind. | Tilli Tandri, Tel.
Taya-Tya pan, Tam.

Among the people of India, and amongst the Chinese, an honorific appellation to people of rank or to a person from whom a kindness is received or expected. In China it is a title by which the representatives of authority are designated. *Huc, Chinese Empire, Vol.* i. *p.* 22.

FATHOM. ENG.

Lan,	BURM.	Bam,	HIND.
Toise,	FR.	Tesa,	LAT.

This is a natural measure, from point to point of an outstretched hand. It was common to Greek, Roman, and Indian, and is four cubits in length. The Greeks and Romans had also the foot (pes) the hand (palm) the palm (παλαιστη) and the finger (digitus). The Romans also had the military pace, the Greeks, and Romans also had the cubit, (cūbitus.) The ancient inhabitants of Asia had, as a unit measure, the cubit or ell, from the elbow to the point of the little finger. All of these digit (angul) palm, ell (hath) and span (bilish) are in use in India.

FATIHGANJ in L: 28° 27′. 4 N.; L. 79° 17′. 7 E. a town in Hindoostan, 10 miles N. W. of Bareli. At the Tower Station it is 628 ft. above the sea. *G. T. S.*

FATIHGARH, or Farakhabad in L 27° 23′. 3 N.; L. 79° 37′ E. in Hindostan, a large town on the right side of the Ganges, 90 miles E. of Agra. The Dâk bangalow is 635 feet above the sea. *Schl. Rob.*

FATIMAH, daughter of Mahomed and wife of her cousin Ali. Her tomb at Loms, Armenia, is held by shiah mahomedans in the highest reverence. The Koran is read there night and day, and nearly the same privileges are offered to the pilgrims, as at Mecca, that of having paradise for their portion. *Chatfield's Hindoostan p.* 209. See Tavernier. B. I. Ch. vi. and B. J. J. Ch. iii.

FATSIZO, OR INACCESSIBLE ISLAND, in lat. 33° 6. N. and long. 140° E. a penal settlement of Japan.

FATTEH MAHOMED. A mahomedan of Sind, who in 1788, dethroned Rahiden, then Rao of Cutch, who had embraced mahomedanism. Ob. 1813. *Burnes' Sind.*

FATTEHPUR, A town of the Allahabad district.

FAUCHE, HIPPOLYTE, translator of the Mahabharata, 7 Vols, Paris 1863—1867.

FAULAD. HIND. Steel.

FAULKNER, ALEXANDER;—an officer in the Civil Service of H. M. Government, at Bombay, in the middle of the 19th century, Author of "Commercial Dictionary," a work of great practical utility containing in a small bulk a vast amount of useful information relating to the articles of commerce and the economic products of India.

FAYENCE UNACHTES PORZELLAN. GER. Delft.

FAYRER J, C. S. I. a medical officer of the Indian Army of Bengal, author of several contributions to medical literature.

FAZZEH. ARAB. Silver.

FEASTS, are often mentioned in the Old and New Testaments and the texts find many illustrations in India, Genesis xlv. 22 says 'To all of them he gave changes of raiment,' and at the close of a FEAST, hindoos among other presents to the guests, commonly give new garments. A hindoo garment is merely a piece of cloth, requiring no work of the tailor. Deuteronomy, xxiii 10 says 'He shall not come within the camp,' and hindoos, in a state of uncleanness, are interdicted from feasts &c. Mark xiv 20 says 'It is one of the twelve that dippeth with me in the dish'. In the east, hindoos never eat together from one dish, except where a strong attachment subsists between two or more persons of the same caste: in such a case, one person sometimes invites another to come and sit by him, and eat from the same dish. It is highly probable, that the same custom existed among the Jews, and that the sacred historian mentions this notice of our Lord's, 'It is one of the twelve, that dippeth with me in the dish,' to mark more strongly the perfidy of the character of Judas. John ii 8. says 'Bear unto the governor of the feast.' It is very common both with the hindoos and the mahomedans to appoint a person who is expert in conducting the ceremonies of a feast, to manage as governor of the feast. This person is rarely the master of the house. The numbers invited amount occasionally to hundreds, sometimes thousands and a person to secure regularity is indispensable. *Ward's View of the Hindoos.*

FEATHERS.

Pluimen,	DUT.	Păr,	GUZ.
Bedveern,	,,	Piume,	IT.
Plumes a lit,	FR.	Bulu,	MALAY.
Plumes,	,,	Plumas,	SP.
Bettfedern,	GER.	Rakaigal,	TAM.
Federn,	,,	Rekkalu,	TEL.

In Asia, feathers are rarely used for stuffing beds or pillows. In the south and east of Asia, as in Europe, feathers are largely used for personal ornament, and those of the ostrich, the Indian roller, the green king fisher, and the egret are most frequently employed. The feathers of the ostrich are imported from Africa and the west of Europe is chiefly supplied from the northern margin of the Great Desert of Arabia. Those plucked from the living animal or recently killed birds are more beautiful and more durable than if taken from the animal some time after death, or

than cast or dropped feathers. The plumage of the male bird, is very superior to that of the female, the fine drooping plumes on the back and near the tail being of the purest white, while those of the female are never free from a tinge of grey near the tip. Commercolly in Bengal says *Mr. Taylor* is celebrated for its feathers. They are either prepared singly for head-dresses, or made into tippets, boas, and muffs, some of them are exceedingly beautiful, and apparently not inferior in quality to those imported into Great Britain from Africa. The down of the young Adjutant Crane (Ciconia Argala) and of other cranes, are made into ladies boas and victorines. The Adjutant is very rarely found in Southern India, but a kindred species the Ciconia alba, (Jerdon), is pretty common. Of this the under tail coverts are collected and sold in considerable quantity. Many are procured at Trichoor in Malabar. In the Punjab the narrow black wing feathers of the "Onkar" are used to make the "kalgi," or plumes for the "khod," or helmet. These plumes have a very elegant appearance, they stand about 6 or 8 inches above the helmet. The feathers of the Houbara macqueenii are similarly used. In Madras, dealers in bird's feathers carry on this trade on an extensive scale: one dealer had nearly 100 sets of hunters each composed of 4 or 5 shikarees and one cook—most of these people are koravah (basket makers) who live in and about Madras. Each set has its head man who is responsible for the others. These sets are sent out once a year, each receiving from 20 to 100 Rupees together with a certain number of nets, a knife &c.—they traverse various countries between Bombay, Delhi, Benares, Calcutta and all over the Deccan, collecting the feathers of king-fishers and return after 6 or 8 months to Madras, each set bringing from 1000 to 6000 feathers which are taken by the dealer at Rs. 14 per 100, and shipped to Burmah, Penang, Singapore and Malacca bringing ten to thirteen dollars the hundred. Feathers form a considerable export from India. In the four years 1857-8 to 1860-1, to the value of £27,570 were exported, about $\frac{1}{3}$rd of which went to Britain, France and China. The wings of a king fisher are imported into Burmah from India through Aracan. *M. E. J. R. Dr. Taylor in Ex.* 1851. See Bird's Feathers.

FECHADURAS. Port. Locks.

FEDERHARZ. Ger. Caoutchouc.

FEDERN. Ger. also BETT-FEDERN. Ger. Feathers.

FEDERMESSER. Ger. Penknives.

FEGHAN, a word supposed by some to be the source of the term Affghan. See Afghanistan.

FEEJEE ISLANDS in the Pacific. See Fiji.

FEET WASHING, alike amongst hindus and mahomedans, is a purification strictly attended to before meals. With hindus, so soon as a guest enters, to present him with water to wash his feet is one of the first civilities.

FEIGEN. Ger. Figs.

FEILI or FAILI, a name of the Bakhtiari tribe; See Bakhtiari, Faili, Kurdistan.

FEINES MEHL. Ger. Flour.

FEL. Pers. Elephant, hence fel khana elephant shed: fel pai, elephantiasis. It is from this word "Fel," with the Arabic "al" that the words Elephas and Elephant come.

FELAMORZ, the son of Roostum, the hero of Persian romance, was defeated by Behram near the fort of Fessa, between Shiraz and Darab. Behram caused Felamorz to be hanged, and his tomb existed in the village, until, it is said, a European traveller removed it away, as a relic.

FELIS, a genus of mammal animals, of the cat kind, of the Natural Order Feræ, the family, Felidæ, and tribe Felinæ. Amongst naturalists, the notices of them are usually limited to the larger, wild animals of this genus, of which may be mentioned,

Felis Leo, the lion.

Felis Caracal, the Caracal.

Felis Tigris, Linn. the tiger or royal tiger.

Felis Leopardus. Schreb, the leopard or Cheeta of India:

Felis Pardus, the panther or Gorbacha of the Dekhan;

Felis Jubata the maned leopard, the hunting leopard.

Felis Melas, Peron. The black Cheetah.

Felis Pardochrous, Hodgs.

Felis Horsfieldii, Gray;

Felis Javanensis, Desm.

Felis Sumatranus, Horsf.

Felis Bengalensis, Desm.

Felis Torquatus, Fred. Cuv.

Felis Murmensis. Hodgs.

Felis Viverrinus, Bennett.

Felis Chaus, Gulden. The marsh cat.

Felis Macrocelis of Java.

Felis Cervaria the lynx.

Besides these are several of the smaller feline animals, usually termed cats. But, in the catalogue of animals in the India House Museum it is remarked that several of the smaller species of Felis have a very close family resemblance, and zoological writers are not agreed as to their specific distinctions. F. Javanensis Cuv. and Dum.

and F. Sumatrana, Horsfield, were classed under F. minuta, by M. Temminck. who is said to have, in despair, given up the attempt to distinguish them. Likewise F. Bengalensis, Desm. F. torquata, F. Cuv. and F. (Leopardus) inconspicuus, Gray, are by no means well defined. Similarly, amongst sportsmen in India, there is a continuous attempt to distinguish the various kinds of the Cheetah. The word is of Hindi or Mahrattah origin and means spotted and amongst the spotted feline animals, sportsmen speak of the Leopard, the Panther, the Black Leopard, the Cheetah, the Hunting Cheetah, and the maned Cheetah, and Cheetah is generally applied as a suffix to all of these. There would seem to be at least four varieties of spotted cats, besides such rare animals as the snow-leopard of the Himalaya and the black panther.

The two larger animals which are confusingly called Cheetah, panther, leopard, differ so much in marking and appearance as to make them, to the unscientific eye, appear distinct species. The lighter coloured of the two, has the ground of a light tawny yellow, shaded into white at the belly and inside of the legs, neck, and chest.

Besides these, there is a small spotted cat also called "cheeta" which preys on dogs and small animals, but is quite unequal to cope with a bullock. The spots on its body are nearly complete spots, and not rings as in the panther.

The hunting leopard (Felis jubata, Leopardo jubata) the fourth on the list, is quite distinct and it has a mane. Its claws are only partially retractile. Many of the native princes keep these animals and train them for the purpose of hunting antilopes. *Bona fide* cats of the genus Felis, are very numerous in species, are of all sizes, from the lion and tiger downwards, and are nowhere more abundant in species than in India and its environs from the snow-capped Himalaya to Ceylon inclusive, and along the eastern side of the Bay of Bengal and Malacca Straits. Throughout this range of territory they occur of all sizes, from the largest to the smallest; and appertaining to various sub-divisions of the great genus Felis. These sub-divisions or minor groups, however, have not been satisfactorily established: and one great authority, Professor Temminck of Leyden, gave up in despair the attempt to classify the long series of feline animals otherwise than in order of size. It needs no extraordinary acumen to recognise the type of one sub-group in the lion, of another in the tiger, of a third in the lynxes of a fourth (most distinct of any) in the hunting leopards or Cheetas of books on natural history, and so on; but there are various species which do not conform to any such division, nor possess sufficiently marked characters to stand as the types of peculiar divisions: again, there are local groups; thus, among the animals generally classed as Leopards, there is the South American type, with large bull-dog head and comparatively short tail, to which the Jaguar and Ocelots belong,—and also the Asiatic type with very long and thickly clad tail, large body-markings, &c., to which the Ounce or ('Snow Leopard') and several other and smaller animals appertain.

The various feline animals which may happen to fall under the notice of an Indian sportsman, are however, as under :—

FELIS LEO. Linn. The Lion. It is generally recognised that there is only one species, with several varieties, the lion of Senegal, the lion of Barbary, and the lion of Persia; and sportsmen are inclined to distinguish varieties in the lion of Guzerat and Kattywar, and the lion of Gwalior and Harrianah. The lion, is the desert king; as the tiger is monarch of the jungles. It is found in Guzerat, Kattywar, along the Runn of Cutch, in Rajputanah, Gwalior and Harrianah. It is tolerably plentiful at Gwalior and also about Goonah, and lions have been killed 20 miles from Sagur, wretched mangy looking things. In those met with, generally, the male is nearly maneless, and usually inferior in size and appearance to its African brothers. Tigers are said to avoid the lions and desert those jungles in which any roving lion may make its appearance. In Kattywar, the district the lions most affect, tigers are said to be unknown, though panthers are common. It has been supposed, also, that the lion avoids the tiger. And since the "Fifty Rs. reward" came out in the Central provinces, for tigers, and they have been shot off, lions have begun to appear in the northern-most parts. It is moreover unlikely that an Indian lion could contend with a tiger as the lion is much inferior in size and strength. In the Honorable Mountstuart Elphinstone's *Account of the kingdom of Cabul*, which was published in 1815, it is remarked, that—"the lion, though so common in Persia, and lately found in such numbers in Guzerat and in Hurrianah North West of Delhi, is very rare in Afghanistan." As regards the latter country, he adds,—"the only place where I have heard of lions, is in the hilly country about Cabul, and there they are small and weak, compared to the African lion. I even doubt whether they are lions." Lieut.

Irwin, who accompanied Mr. Elphinstone in his mission to Cabul, states, in his admirable *Memoir on Affyhanistan*, published by the Asiatic Society in 1839, that—"the lion is a native of Persia, and some are found as far as Tashkend, in a northerly direction and an easterly. There remains no doubt of lions being found in Harrianah; but in many of the intermediate countries these animals are very rare." These notices are contemporaneous; and one certainly conveys the idea of the lion being then a commoner animal in the great Harrianah desert than the other does: but so far back as in 1837, the late well known sportsman Major Brown, ('Gunga' of the *Bengal Sporting Magazine*) remarked, that—"only twenty-three years elapsed from the occupation of the country, when the Lions, which were at one time numerous in the dry and sandy deserts of the Harrianah, became extinct south of the Cuggar, through the ardour of British sportsmen, and, it is supposed, none are now to be found nearer than the Sutlej. Having no inaccessible dens to retire to during the hot weather, the lions, from necessity, took up their abode where water could be found; and as places of this description were rare, and generally near villages, their retreat was easily beaten up, and their entire destruction speedily effected. In the month of May, the lion-shooting party had only to ask one question from the people of the country, to know where they might expect sport?" viz: where water was still to be found. The largest lion seen in England was caught, when very young, in Harrianah, by Genl. Watson, and was presented to King Geo. IV. In Vol. 1 of the *Sporting Review*, the lion is cursorily mentioned as an inhabitant of the territories south of Gwalior in 1845: About 1843 there was seen in Calcutta a fine living lioness, more than two-thirds grown, which had been captured as a small cub in Sindh. She appeared healthy and vigorous; but died in the course of her passage to England. There were also then, in the London Zoological Gardens, a young lion and lioness from Guzerat; which is the stronghold of lions in India. From the accounts of Asiatic lions, there seem two varieties of them: one comparatively maneless; the other heavily maned, scarcely if at all less so than the African lion. Of the latter, again, some naturalists distinguish apart the lions of Barbary, Senegal, and South Africa. The lion seems to traverse great tracts of country and there is no doubt that those of Persia and Mesopotamia, possibly of distinct varieties or rearing, come to the west of India, along the line of the Indus to Sindh into Harrianah, Rajputanah, towards Gwalior, Kattywar and Guzerat, and that this is the explanation of the varied opinions put forward by sportsmen as to the appearance of the lions of India. The ordinary Persian lion is well maned; and this race is said to be identical with the Arabian. A fine Persian lion and lioness were long exhibited in the Surray Zoological Gardens, with a fine S. African lion and lioness in an adjoining den; and Mr. Blyth says there was not much difference in the development of the mane of those two lions; but the Persian was a much paler animal than the other." According to Mr. Warwick, the pair were brought as a present to King George IV., from Bussora, in the Boyne, man-of-war, Captain Campbell, and the King presented them to the Menagerie then at Exeter Change. The Asiatic," he adds, "differs from the South African lion in being rather less in size, with mane much more scanty, and of a light yellow colour, tipped with grey, the whole body being of an uniform fawn colour. The head wants the width and nobleness of countenance so apparent in the African lion. The tail is not so delicately tapering, and the tuft at the end of it is much larger in proportion." (*Naturalist's Library,—Felinæ*). Major, Sir W. Cornwallis Harris, however, had no faith in the existence of an Asiatic race of maneless or scantily-maned lions: and he was as familiar with the lion of Guzerat as with that of South Africa. He says that in point of size and complexion the South African lion differs in no respect from that found so abundantly in Guzerat—one of the only two provinces of India wherein the species exists—measuring usually between ten and eleven feet in extreme length (i. e. the stretched skin!), "and varying in hue betwixt ash-colour and tawny-dun; but generally possessing a more elaborate and matted mane; which peculiarity is attributable, in a great measure, to the less jungly character of the country that he infests, and to the more advanced age to which, from the comparatively small number of his mortal foes, he is suffered to attain. In India the lion is often compelled to establish himself in heavy jungles, which comb out a considerable portion of the long loose silky hairs about his head and neck; but this is seldom the case in the arid plains of Africa, where the covert being chiefly restricted to the banks of rivers, or to isolated springs, he rests satisfied with a less impervious shade, and is often disturbed from a clump of rushes, barely large enough to conceal his portly figure." Elsewhere,

Major Harris remarks, that—"amongst the Cape colonists it is a fashionable belief, that there are two distinct species of the African lion, which they designate the vaal and the zwart, or the "yellow" and the "black," maintaining stoutly that the one is very much less ferocious than the other: but colour and size depend chiefly on age; the development of the physical powers, and of the mane also, being principally influenced by a like contingency. That which has been designated the "maneless Lion of Guzerat" is, he says nothing more than a young lion whose mane has not shot forth; and I, he adds, give this opinion with less hesitation, having slain the king of beasts in every stage from whelphood to imbecility."

The so called maneless lion of Guzerat was brought to the notice of the London Zoological Society by Capt. Walter Smee of the Bombay Army, in 1833; and an excellent description and coloured figure of it are published in the first volume of the Society's transactions, contributed by that officer. A correspondent of the *B. S. M.* (for 1841), however, thus writes of the lions of Kattywar;—"Glad as I should be to agree with so accomplished a sportsman as Capt. Harris, and knowing at the time I write this, that he has killed more lions than any man on the Western side of India, yet having nearly accomplished fifty-head myself, I wish to observe that three years ago, in Kattywar there were lions with very dark skins, and which in fact were called by the natives Kalphoota, which means in these parts 'black skins,' or 'black stripe.' These lions, thirteen in number, charged most desperately; and I think they made good some seven or eight charges upon the head of Capt. Harris's quondam elephant, 'Mowlah' by name. Since this batch I have killed many, but none in colour or courage like them. Out of all the lions I have killed, 9 feet 2 inches is the longest I have seen, before taking the skins off for curing, they are stretched to 11 feet frequently.

"These lions," continues Capt. Smee, "are found in Guzerat along the banks of the Sombermuttee, near Ahmedabad. During the hot months, they inhabit the low bushy wooded plains that skirt the Bhardar and Sombermuttee rivers from Ahmedabad to the borders of Cutch, being driven out of the large adjoining tracts of high grass jungle (Bhir) by the practice annually resorted to, by the natives of setting fire to the grass in order to clear it and ensure a succession of young shoots for the food of the cattle upon the first fall of the rains. They extend through a range of country about forty miles in length, including various villages, and among others those of Booroo and Goliana, near which my finest specimens were killed. They are so common in this district, that I killed no fewer than eleven during a residence of about a month; yet scarcely any of the natives, except the cattle-keepers, had seen them previously to my coming among them. The cattle were frequently carried off or destroyed, but this they attributed to tigers: the tiger, however, does not exist in that part of the country. Those natives to whom they were known gave them the name of Ontiah Bagh, or 'Camel tiger,' an appellation derived from their resemblance in colour to the camel. They appear to be very destructive to domestic cattle, and the remains of a considerable number of carcases of bullocks were found near the place at which my specimens were killed: about ten days previously, four donkeys had been destroyed at the village of Cashwa. I could not learn that men had ever been attacked by them. When struck by a ball, they exhibited great boldness, standing as if preparing to resist their pursuers, and then going off slowly and in a very sullen manner; unlike the tiger, which, on such occasions, retreats springing and snarling. "In addition to the district in which I have met with them, these lions are also found on the Runn near Rhunpore, and near Puttun in Guzerat. Some persons who saw them in Bombay stated that they also occur in Sind and in Persia. How far this latter statement may be correct I cannot determine; but I may remark that the Persian lion which is at present exhibited at the Surrey Zoological Garden, has none of the characteristics of the maneless lion of Guzerat, and seems to me to differ but little from individuals known to have been brought from Africa."

In the days of Lord Hastings' rule, it would appear that lions were still common in the great Harrianah plain. A contributor to the *B. S. M.*, in 1833, remarks that "Hansi was then in its 'high and palmy state,' and considered the best sporting country in India. Lions were found in considerable numbers, although lately they have become exceedingly rare. * * * The first Lion-hunt I ever was present at was the most beautiful sight I have witnessed. The party assembled at Hissar, where some of the sporting elephants of the Marquis of Hastings' retinue were stationed. A duffedar's party, of Skinner's Horse, accompanied us. The presence of sowars in Lion-hunting is very necessary; the plains being extensive, the animal is liable to be lost after the first on-

set, unless sowars are at hand to go out on the flanks, or to push on ahead to mark the jungle the lion retires into. In general, when a lion is pursued, he will either endeavour to get away by sneaking off, or take to the open country, and there await the attack: the latter, a tiger is never known to do, and I consider it to form the only peculiar difference of the two kinds of sport. A lion that takes to this open fighting gives more exciting sport by far than anything I have seen in tiger-hunting, and is the most trying for the elephants. * * * One killed was a young but nearly full-grown male stood exactly 3 ft. high, and was 9 ft. long; his mane was 9 inches in length." The famous lion 'King George,' formerly in the Tower menagerie, and procured in Harrianah when a small cub by the late Genl. Watson, was even renowned for the superb development of his mane. Mr. Bennett (in his *Tower Menagerie*) relates that in the commencement of year 1823, the late "General Watson, then in Harrianah, being out one morning on horseback, armed with a double-barrelled rifle, was suddenly surprised by a large lion, which bounded out upon him from the thick jungle at the distance of only a few yards. He instantly fired, and the shot taking complete effect, the animal fell dead almost at his feet. No sooner had the lion fallen than the lioness rushed out, which the General also shot at, and wounded severely, so that she retired into the thicket. Thinking that the den could not be far distant, he traced her to her retreat, and there despatched her; and in the den were found two beautiful cubs, a male and female, apparently not more than three days old. These the General brought away: they were suckled by a goat and sent to England, where they arrived in September, 1823, as a present to George IV., and were lodged in the Tower." The male was the animal from which Mr. Bennet gives his figure and description of the so-called "Bengal Lion;" and it was remarkable for the superb development of its mane, when little more than five years old, at which age the wood-cut of him was executed by Hervey. The sum of our present evidence seems decidedly adverse to the belief that a maneless (or comparatively maneless) race of lions exists in Guzerat: but that such a race inhabits Mesopotamia is considerably more probable. No lion, even in Africa, attains to the magnitude of the largest male tigers of India. The lion is shorter in the vertebral column, and much deeper in the chest; indicative of its capacity for running in pursuit: this the tiger never does; and its structure is more emphatically that of an animal which springs upon its prey. Nevertheless, the resemblance of the skulls is so great, that there is only one certain mode of distinguishing them, viz., that the nasal bones pass back beyond the maxillaries in the tiger-skull and fall short of the maxillary suture in the lion-skull: besides which the profile of the latter is generally much straighter, while that of the former is more tom-cat like, showing a strongly marked obtuse angle. The close affinity of the two animals is demonstrated by the fact of their having interbred and produced hybrids when in captivity; and it is curious that a newly-born lion-cub is far from being so utterly unlike a tiger cub as might have been expected. "They are at first obscurely striped or brindled, and somewhat tiger-like in the coat. There is generally a blackish stripe extending along the back, from which numerous other bands of the same colour branch off, nearly parallel to each other, on the sides to the tail. The head and limbs are generally obscurely spotted. When young they mew like a cat; as they advance, the uniform colour is gradually assumed; and at the age of ten or twelve months the mane begins to appear in the males; at the age of eighteen months this appendage is considerably developed, and they begin to roar." (Bennett's '*Tower Menagerie.*') Monsr. F. Cuvier, however, states that it is nearly the third year before the mane and the tuft on the tail appear, and that they are not fully developed before the seventh or eighth year. The eminent French naturalist was, however, misinformed. The so-called Bengal lion (from Harrianah) figured by Mr. Bennet was magnificently maned, though little more than five years old. It has been noticed, too, that in lionesses the markings of the young are often more or less obscurely retained till they are full-grown or nearly so. They were conspicuously visible in the Sindh lioness, about two-thirds grown, which was seen in Calcutta. Lion and tiger-cubs are, in confinement, apt to suffer much at the time of developing their huge permanent canine-teeth; and perhaps many die at this age when wild. *Mr. Blyth in B. As. S. Trans.*

FELIS TIGRIS. Linn. The Royal Tiger.

Striped tiger,	Eng.	Rimass,	Sumat.
Bagh,	Hind.	Ha-riman,	"
Machan,	Javan.	Pilli, Tam.	Tel.
Putte Wagh,	Mahr.		

The Royal Tiger is found throughout India, to the S. E. boundary of China, through the Malay Peninsula, in Java and Sumatra. They are numerous in the centre of the

FELIS PARDUS.

Peninsula of India, and very numerous in Singapore. Full grown specimens vary considerably in size, colour, and markings, but are considered to be of one species. They feed on cattle, on the Sambur or Rusa hippelaphus, and more rarely on the Axis maculata or spotted deer, but frogs, also, hog, porcupine, and other creatures are eaten by them. The tiger is not brave, retires before opposition, unless wounded. The buffaloes in herds charge at a tiger and beat it off. The wild dogs hunt it down and destroy it: and one was found evidently killed by a boar's tusk. On one occasion, a herd boy being carried off, the buffaloes charged the tiger and made it drop the lad. *Mr. Blyth.*

FELIS JUBATA. The hunting Cheeta or Hunting Leopard is common, though not plentiful, throughout Southern India. They can be quite tamed, and handled with freedom. One let loose in the stables, played about with the dogs, and suffered itself to be tied up again without difficulty.—*Mr. Blyth's Report.* See Felidæ. Mammalia.

FELIS LEOPARDUS, *Schreb. Temm.*

The Cheeta,	ENG.	Ha-Riman Bintang,	MALAY.
The Leopard,	„		

The word Cheeta is Hindi and signifies spotted and the people of India apply the same term to the Felix jubata or Hunting Leopard. Felis leopardus is common all over India, and the Malay Peninsula, but Dr. Muller says it does not occur in the Eastern Archipelago. It is said also to occur in many parts of Africa. The Leopard, says Colonel Sykes, is taller than the panther, longer, and slighter built, more of the ground colour is seen, and the spots are more broken. A black variety of this is said to occur.

FELIS PARDUS. LINN. *Temm. Sykes.*

Var. α. The Panther.

Honega, (var)	CAN.	Machan,	MALAY of JAV.
Kerkal, „	„	Meeong Tootool,	MALAY. of JAV.
Gor-bacha,	DUKH.		
Cheeta,	HIND.	Machan Batchl,	„ „
Beebeea Bagh,	MAHR.	Bawn, Pushtu.	

Mr. (sir) Walter Elliot distinguishes two varieties by the Canarese names, Honega and Kerkal, the latter being the Gor-bacha. Of this M. Temminck gives the following character:—when adult, less than the Leopard. Tail as long as the body and the head, its extremity when turned back reaching to the tip of the nose; colour of the fur deep-yellowish fulvous, its internal parts marked with rose-like spots of the same hue as the ground-colour of the fur; the numerous spots closely approximate; the rose-like spots from 12 to 14 lines at the utmost in diameter; caudal vertebræ 28.—

FELIS (LEOPARDUS) SUMATRANUS.

The number of caudal vertebræ assigned to the leopard by M. Temminck is 22. It is found throughout India, in Java, and Sumatra. But, though there no doubt are differences in size and colour and markings and in the breadth of the head and temper between the feline animal or animals to which the terms leopard and panther are applied sportsmen of India best acquainted with them in their haunts and who in examining the skins and skulls have devoted a great knowledge of them, are often not able to distinguish the one from the other.

FELIS PARDUS. LINN. Syn.

Var. β Felis melas, *Desm Peron and Le. Dœur.*

Black Cheeta,	ENG.	Black Panther,	ENG. MAHR.
Machan Koombang,	JAV.	Ha-Riman Koombang,	SUM.

This is supposed to be a black variety of the Felis pardus, and both varieties are said to have been found in the same den. When the editor was forming the Government Central Museum Madras, a black one, when put with the others evinced intense terror, and they ultimately killed it. We believe this black cheeta to be a permanently distinct species.

FELIS PARDOCHROUS, HODGS.

Felis Nipalensis, HODGS.	Leopardus Ellioti, GRAY.
Leopardus pardochrous HODGS.	

Inhabits Nepal and Tibet.

FELIS (LEOPARDUS) HORSFIELDII GRAY. Leopardus Horsfieldii.

Inhabits Dargeling.

FELIS (LEOPARDUS) JAVANENSIS, DESM.

Felis Javanensis,	HORSF.	Felis diardi,	GRIFF.
Leopardus „	GRAY.	*Var.* α.	
Felis undata,	DESM.	Felis Wagati,	MAHR, ELL.
„ minuta,	TEMM.	Kuwuk,	JAV.

Inhabits Java, and, according to Dr. S. Muller, Sumatra also. In Java it is found in large forests all over Java, occupying the low trees during the day but roaming about at night for food, often visiting villages and robs the hen roosts. It feeds chiefly on fowls, birds and small game. The Javanese ascribe to it great sagacity and say that, in order to approach the fowls unsuspected, it imitates their voices. It is perfectly untameable, its natural fierceness is never subdued by confinement.

FELIS (LEOPARDUS) SUMATRANUS HORSF.

Felis Sumatrana,	HORSF.	Leopardus Sumatranus,	GRAY.
„ minuta,	TEMM.	Rimau Bulu,	MALAY.
„ undata,	DESM.		

Inhabits Sumatra.

FELIS (LEOPARDUS) BENGALENSIS. DESM.

Felis Bengalensis, DESM.		Bengal Cat.	PENN.
Leopardus inconspicuus, GRAY.		Ban-Biral,	BENG.
		Khuppya Bag,	„

Occupies Bengal.

FELIS (LEOPARDUS) MURMENSIS, HODGS.

Felis murmensis, HODGS.

The Murmi Cat inhabits the central hilly regions of Nepaul.

FELIS (LEOPARDUS) VIVERRINUS BENNETT.

Felis viverrinus, BENNETT	Felis viverriceps, HODGS.
Leopardus „ GRAY.	Felis celidogaster, TEMM.

Inhabits the open lower regions of Nepal and Terai.

Sub genus Lynx., auctorum.

FELIS CHAUS, GULDENS.

Felis kutas, PEARSON.
„ affinis, GRAY AND HARDW.
Chaus Lybicus, GRAY.
Chaus, SHAW.
Lynchus erythroltus HODGS.
Mota Ran Manjur Mahr lesser? wild Cat. Mahr.

Inhabits Egypt, the Caspian, India in the Dekhan, Bangalore and frequents bushy, moist places.

FELIS CERVARIA. See Felidæ.

FELIS CRISTATA. A fossil tiger, thus named, was discovered by Sir P. T. Cautley in the Sewalik Hills.

FELIS CATUS. The Cat.

Si mi Bhotia,	SOKPA.	Min-khyeng,	KAMI.
Domestic Cat,	ENG.	Poni,	TAM.
Billi,	HIND.	Pilli,	TEL.
Maida,	PERS.		

The general term cat is applied by naturalists to all the feline tribe, and in ordinary conversation, in India, many animals which naturalists exclude are designated cats: there are, however, a considerable variety of animals, which are called "cats" in all countries, Civet-cats, Genet-cats, Marten-cats, Pole-cats &c.; the Lemur also is the Madagascar cat; the marsupial animals of Australia, are known as "wild cats" and the Shirmindi billi of the people of India means the bashful cat. The "wild cats" of India are a small but savage kind of lynx (the Felis rufa), and therefore a true cat, according to Zoologists. Domesticated cats are found throughout Asia, as, indeed, throughout the world. They are not alluded to in Scripture, but they are mentioned in a Sanscrit writing, 2,000 years old and there are figures of them, on the monuments of Egypt of a much prior age. Mummey cats have been identified with Felis chaus or marsh-cats and with Felis caligulata, and F. bubastes, both still found in Egypt wild and domesticated. Pallas, Temminck and Blyth believe that the domestic cats are descendants of several wild species which readily intermingles. F. sylvestris is wild in Scotland. F. lybica is the wild cat of Algiers and in S. Africa, F. Caffra is wild. In India are four wild species, of which F. chaus has a lynx like tail, F. ornata or torquata occurs at Hansi, and F. manal occurs in central Asia.

Of two supposed wild types of the domestic cats of India, obtained by Mr. Theobald in the Punjab Salt Range, neither of which can be referred to the F. ornata, they have much more the appearance of domestic cats; and so they undoubtedly would have, were they really two aboriginal types which are still strongly indicated by the domestic cats even of Bengal. One is the streaked or spotted type, the colouring and markings of which are not much unlike those of the European wild cat (F. sylvestris, Brisson); only more distinct, and the transverse streaks are more broken into spots, especially towards the hinder part of the body; the fur, however, is short, and the tail slender and of uniform apparent thickness to the end; showing a series of rings and a black tip: ears slightly rufescent externally, but infuscated, passing to black at tip where there is a distinct small pencil tuft of black hairs; paws deep sooty black underneath. Mr Blyth saw, at Allahabad, an exact counterpart of this alleged wild race in a domestic Grimalkin; but, in general, the domestic cats of this type, about Calcutta at least, are greyer, with the spots smaller and more numerous. The other type much resembles F. chaus in colouring but does not at all approximate to that animal in its proportions: it is much smaller than the chaus, with proportionally shorter limbs, smaller ears, and much longer tail, which last distinctly tapers at the extremity, consequently, it exhibits no tendency to the lynx form and character, so conspicuously manifest in the chaus. The body is uniformly grizzled "cat-gray" more or less rusty or fulvescent, without a trace of spot or stripe, such as may generally be discerned faintly in the chaus: but the bands on the limbs are much more distinct than in that animal, those of the tail equally so: and there are the usual marks on the forehead and cheeks (much confused albeit on the former). And a dark band across the chest: lower parts more or less whitish or tinged with fulvous, and marked with blackish or brown-black spots: ears dull, rufous behind, with a slight blackish tip and

no pencil-tuft of hairs: the paws more or less sooty underneath. Domestic cats of this type abound in Bengal, if not generally over India: but such a coloration is utterly unknown among those of Europe: and the proper tabby markings (pale streaks on a black ground, peculiarily and symmetrically disposed, so very common in English cats.) are never seen in those of India! The tabby may be a modification (and a very remarkable one) of the markings of the wild F. sylvestris of Europe, a result of domestication but most assuredly the chaus coloured cats of India would seem to indicate an aboriginally wild stock of that colour, no doubt inhabiting the country somewhere: but if a truly and aboriginally wild specimen were to turn up, it would merely be regarded as a stray member of the domestic race, and so an end to all enquiry. The only guide to a probably correct result would be the fact, that such animal might inhabit a vast range of country, away from human haunts, without exhibiting the variation of colour everywhere observable in the domestic races; unless in neighbourhoods where it might interbreed with the latter which would pass for nothing: though to such neighbourhoods it would doubtless be attracted, just as the chaus is! The question then remains—Do two such feline types exist, or either of them, in an aboriginally wild state, in any part of India, as have just been described, and both of which are said to be found wild in the Punjab Salt Range? The difficulty of tracing the origin of many of our domestic animals is well known.

In the Isle of Man, cats are tail-less, and have long hind legs. The domestic creole cat of Antigua is small, with an elongated head, and that of Paraguay, also, small, has a lanky body. In the Malayan Archipelago, Siam, Pegu, Burmah, all the cats have truncated tails with a joint at the end, in China a breed has drooping ears, the large Angora or Persian cat, is supposed to be the descendant of the Felis manul of middle Asia it breeds freely with Indian cats.

Whittington, so long the hero of a favourite nursery-tale of England, is rivalled by the story of the Florentine Messer Ansaldo Degli Ormanni—in a letter of "Conte Lorenzo Magalotti" in the "Scelta di Lettere Familiari," published by Nardini, Lond. 1802 (p. 139), his two cats, "due bellissimi gatti, un maschio "una feminina," soon relieved the king of an island (Canaria) on which he had been cast by a violent tempest, from the plague of mice, and he was recompensed "con richissimi doni." *Earl p.* 333, *Darwin's Animals and plants. Ouseley's Travels Vol.* I. *p.* 171. *Jour. As. Soc. of Beng. No. V.* 1856, *page* 441-3.

FELIS ORNATA, Gray, (founded on an exceedingly bad coloured drawing, obviously by a native artist, published in Hardwicke's Illustrations of Indian Zoology; F. servalina apud Jardine, (Nat. Libr, Felinæ nec F. servalina, Ogilby,) F. ad Oxam, Pallas (apud Gray,) F. Huttoni, Bligh (founded on a skin from the Hazara hills), Chaus servalina, Gray, Brit. Mus. Catal.

This wild species approximates very nearly to the domestic cat. The ground colour of the fur is a "Cat Gray," more or less fulvescent or better described as pale greyish-fulvous in some specimens, with numerous roundish black spots, which tend to unite into transverse bands on the sides: on the head, nape and shoulders, the spots are smaller and less distinct, and tend to form longitudinal lines on the occiput and nape, but not upon the back: on the limbs there are distinct cross bands, with one or two broad black streaks within the arm, as in the chaus and commonly in domestic cats; the paws blackish underneath: cheeks-stripes as usual, breast spotted, but the belly almost free from spots: tail tapering more or less distinctly and marked with a series of well defined rings and a black tip: ears externally dull rufous, with a slight but distinct duskyish pencil tuft at tip, not black tipped as in the chaus, nor is the rufous colour nearly so bright as in that animal, differing little from the general hue of the body: the fur according to locality or perhaps season is more or less dense or full; and the markings are much brighter and more distinct in some individuals than in others.

FELIS MACROCELIS. See Felidæ. Mammalia.

FELIS MANICULATA. See Felidæ. Mammalia.

FELIS MINUTA. See Felidæ. Mammalia.

FELIS MOORMENSIS, Hodgson.

FELLAH, in Egypt a cultivator, a farmer, but, applied to an Egyptian, is deemed derogative.

FELLE. Ger. Skins.

FELSPAR, a mineral entering largely, into the composition of hypogene rocks; granite is composed of felspar, quartz and mica.

FELUJAH. On the Euphrates, about 70 miles below Hit is the modern castle of Felujah, situated 29¾ miles W. 2° N. of Baghdad. The average width in this part of the river decreases a little, being only about 250 yards, with an ordinary depth of 20 feet;

and there is a current of less than two and a half miles per hour in the flood season, when the river forms 13 islands, without wood. Above Felujah, at 5¾ miles S. 60° W. from it, the derivation, called the Saklawiyah, takes place; this stream crosses Mesopotamia by a tortuous eastern course on the north side of Akar Kuf, and enters the Tigris at a point five miles below Baghdad, but, until altered by Daud Pasha to avoid the danger of inundations, it joined the Tigris a little above the city. The distance from river to river (by the course of the Euphrates steamer in passing, under Lieut. Lynch, in 1838) is about 45 miles. See Karej.

FEMALE INFANTICIDE. See Infanticide; Jhareja.

FENDUK. Guz. Hind. Pers. Hazel nut, properly Findak.

FENNEL, NIGELLA SATIVA.

The Seed.

Zadianuj,	Ar.	Mayuri,	Guz. Hind.
Razianuj,	,,	Adas,	Jav, Malay.
Nan-nan-ya-wet,	Burm.	Badian, ?	Pers.
Sonf,	Duk.	Madhurika,	Sans.
Fennel seed, sweet,	Eng.	Dowadureo,	Singh.
Fenouil,	Fr.	Perun-Siragam,	Tam.
Wurriali,	Guz. Hind.	Pedda Jillakara,	Tel.

The Flower.

Shuniz,	Ar.	Siah-danch,	Pers.
Kolunjen,	Duk.	Musavi,	Rus.
Kala jira,	Hind.	Carin Sirigam,	Tam.
Adas,	Malay.	Nalla Jilakara,	Tel.

The Oil.

Kulanji Siah-danah,	Hind.	Carin Siragum yenne,	Tam.
Adas Minak,	Malay.	Nalla Jilikarra nuna,	Tel.

A variety is cultivated in the S. and E. of Asia, and the natives regard its black aromatic seeds as stomachic, carminative and as a condiment. Indeed they were formerly used as a pepper. The seeds put amongst linen are supposed to keep away insects. They yield by expression a dark coloured fragrant oil. The Hebrew word, which in Isaiah is rendered fitches, designates this plant; but not that in Ezekiel where the original word for fitches signifies spelt, a species of wheat.—*Mason. Ainslie, Mat. Med. p.* 15.—*Madras Exh. Ju. Rep.*

FENNY, a river near Kairah in Noakally district.

FENOUIL. Fr. Fennel seed.

FENUGREEK. Trigonella fœnum Græcum.

Vendium,	Tam.	Maitee,	Hind.
Menthiloo,	Tel.		

The seed.

Helbeth,	Arab.	Methi,	Duk. Guz. Hind. Sans.
Methe-shak,	Beng.		
Burg-Methi,	,,	Shemlit,	Pers.
Menta-Soppu,	Can.	Aiforvas,	Port.
Mentia,	,,	Vendium,	Tam.
Oolowa,	Cyng.	Mentuloo,	Tel.
Fenugrek,	Fr.		

Cultivated in India. Flowers small and white, seeds deemed tonic and carminative, used as a condiment and in curries. An oil is extracted from them. *Voigt.* 209.

FER. Fr. Iron.

FER-BLANC. Fr. Tin. White iron tinned iron.

FERGHANA. The native province of Baber; one of the most celebrated of eastern monarchs, and the founder of the imperial family of Delhi. *Malcolm's History of Persia. Vol. I. p.* 141. See Farghana.

FERDINAND PINTO. See Pinto.

FEREDUN, a hero in Iranian legend, identical with Thraetaona, the Trita of the Veda. He is fabled to have killed the tyrant Zohak, on the Demavend mountain of the Alborz, South of the Caspian, as Trita slew the demon Vritra, *Bunsen* 348. See Persian Kings.

FERHAD, so conspicuous in Persian romance, contemporary with Khusru Parvez; or Chosroes (at the close of the sixth century,) and that monarch's rival in the affections of fair Shirin, was a native of Kurdistan. He may be almost always recognised by the Tishah or pick-axe, with which, for the sake of his mistress, he fractured or excavated enormous rocks, and according to tradition, reduced the rugged face of Mount Bisutan into those extraordinary sculptures for which it is still remarkable. With his "tishah," says the poet Nizami, "he rendered the hardest stone, as it were, soft like wax." *Ouseley's. Travels. Vol. I. p.* 234.

FERINGI. Hind. Pers. A term employed by mahomedans of India to designate Europeans. It is used derogatorily, but ought not to be so, being derived from Fering, Europe; as Danai-i-Fering o Dowlat-i-Hind,—The wisdom of Europe and pomp of India. See Farang.

FERINGI DATURA. Duk. also Pila-Datura. Argemone mexicana.

FERISH. Hind. also Ferash. Hind. also Jhao. Hind. Tamarix indica.

FERISHTA, a native of the shores of the Caspian who, while still a lad of nine or ten years old, arrived with his father at the court of the Nizam Shahi king of Ahmednuggur. He seems to have accompanied Chand Sultan to Bejapore, where he lived under the Ad'l Shahi kings; and wrote the

Tarikh-i-Ferishta, a history still extant. He also wrote many novels. His death is supposed to have occurred in a period of famine while still only thirty years of age. His great work on the mahomedan kings of Asia was translated by General Briggs of the Madras Army, but the manuscript was burned when the Poonah Residency was destroyed by Baji Rao, and had again to be translated by General Briggs.

FERNS, flowerless plants, the Filicales of Lindley, and Filices of other authors, belonging to the Acrogenæ. They are not of any economic value, but Europeans in India largely cultivate them, as plants reminding them of home. They are nowhere common in the plains of India, but in the table lands they are met with and in the hills and mountains of India, they are abundant. Mr. Edgeworth found seven species in Banda (N. W. Provinces) two occur rarely and locally in the Punjab plains, and not more than three have been found in the west, even in the salt Range, which reaches 5,000, and in the Trans-Indus hills up to 8,000 feet. In the Himalaya, again, seventy kinds of ferns, out of a thousand species of plants collected, were got in the moister climate of Garhwal and Kumaon, while of 870 species of plants collected on the Chenab and Ravi only 30, and of nearly 700 species collected in Hazara only 20, were ferns. Dr. Royle enumerated 80 species. Dr. Wallich's Catalogue, excluding exotics gives 40 genera and 430 species, 95 of which were of the genus Polypodium, 62 aspidium, 58 Asplenium, 34 Pteris and 22 Acrostichum. Captain Beddome in 1863, issued a volume on the Ferns of Southern India containing 84 genera. In the mountains of the Archipelago, they are common, the following occur in India.

Polypodiaceæ.	1 Cheilanthus,
14 Polypodium,	1 Vittaria,
2 Hemionitis,	1 Blechnum,
1 Notholæna,	*Gleicheniaceæ.*
4 Aspidium,	1 Ceratopteris,
4 Asplenium,	1 Gleichenia,
8 Pteris,	1 Hymenophyllum,
1 Cheilanthus,	1 Trichomanes,
1 Lindsæa,	*Osmundaceæ.*
2 Adiantum,	7 Lygodium,
1 Lomaria,	1 Schizæa,
1 Sphæropteris,	*Daneaceæ*
5 Davallia,	3 Daneæ,
2 Acrostichum,	2 Marattia,
1 Autrophyum,	1 Kaulfussia,
1 Moniscium,	*Ophioglossaceæ.*
1 Tœnitis,	4 Ophioglossum,
1 Allantodia,	1 Helminthostachys,

In Dr. Wallich's Catalogue are the genera (12) Grammitis, Cryptogramma.

FEROCULUS. See Sorex.

FEROKI. HIND. of Dera Ghazi Khan, sulphuric acid.

FEROKHSER, king of Dehli, son of Maazzam styled Bahadur Shah succeeded to the throne in 1712 on the demise of his father. He tortured to death Banda, the guru of the Sikhs, the successor of their guru Govind. When the empire began to totter, he furnished the last instance of a Mogul sovereign marrying a hindu princess, the daughter of rajah Ajeet Sing, sovereign of Marwar. To this very marriage the British owe the origin of their power. When the nuptials were preparing, the emperor fell ill. A mission was at that time at Dehli from Surat, where they traded, of which Mr. Hamilton was the surgeon. He cured the king, and the marriage was completed. In the oriental style, he desired the doctor to name his reward; but instead of asking any thing for himself, he demanded a grant of land for a factory on the Hoo[illegible]ne for his employers. It was accorded, and [illegible] the cas the origin of the greatness of the B[illegible]k: oiempire in the East. Such an act deser[illegible]nds, least a column; but neither trophied [illegible]wi[illegible]ur monumental bust marks the spot where his remains are laid. *Tod's Rajasthan, Vol. I p.* 152 153.

FEROHZAD BUKHTYAR, the 29th and last but one of the Sassanian kings, A.D. 631. Under his successor Yezdigird, the kingdom fell to the mahomedans A.D. 632.

FERONIA ELEPHANTUM, *Corr. W. and A. Roxb.* II. 411.

Crataeva vallanga,	KON.	Anisifolius Rumphii.	
Kat bel,	BENG. HIND.	Bhu kupittham,	SANSC.
H'man,	BURM.	Kupittha,	„
Bilva-titha mara,	CAN.	Ma-koit,	SIAM.
Kavita-vriksca,	„	Dewul,	SINGH.
Koit,	DUKH.	Vela maram,	TAM.
Elephant apple tree	ENG.	Villa „	„
Indian „ „	„	Vilam, „	„
Wood „ „	„	Pitta vula, „	„
Koit ka jhar,	HIND.	Vellanga,	„
Bhuin-koit,	„	Velaga chettu	TEL.
Kawtha,	„	Kapitthamu, „	„
Koit,	MAHR.	Parupu velaga, „	„
Kowta,	„	Nela „ „	„
Velanga,	MALEAL.	Puli „ „	„

The Fruit.

Vallam pullam,	TAMIL.	Koet,	HIND.
Kavit,	DUK.	Wood apple,	ENG.
Velagapundoo,	TEL.	Kapitta,	SANS.

Its Gum.

Kath bel ka gond,	HIND.	Vallam Pisin.	TAM

The large and tall wood apple tree, one of the aurantiaceæ or orange tribe, is well known South of the Nerbudda. It is widely diffused in India, being met with in the Northern Circars, generally through the Madras Presidency, in Coimbatore, is very common in the inland jungles of the Bombay Presidency, where it grows well every where; and, in Guzerat, it attains a good

size. In the Nalla Mallai hills the wood apple tree attains a large size, and the wood is rather heavy, light coloured, hard and durable. In Coimbatore the tree attains a large size, and its wood is white, hard and pronounced durable. A specimen which was tried bore 360 lbs. In Vizagapatam, it yields a hard, strong, heavy wood, and is there much used in house building, but said not to be very durable. In Guzerat, it is used in building and could possibly be creosoted so as to withstand exposure. Its spheroidal fruit, when ripe contains a dark brown, agreeable sub-acid pulp. When an incision is made in the trunk, a transparent oily fluid exudes which is used by painters for mixing their colours. Both leaves and flowers have a strong odour of anise, and the young leaves are given in the bowel complaints of children as a stomachic stimulant. It yields a large quantity of a clear white gum (Koit ka gond, *Hind*), much resembling gum Arabic in its sensible properties. It is very abundant, and forms the well known "East India Gum Arabic;" and, from its ready solubility without residue it gives the best mucilage for making black ink. The rather acid pulp contained within the hard shell of the Vullam pullum is eaten with sugar, but is not much prized. The tree is more prized for its valuable gum.—*Ainslie p.* 234. *Roeb Mr. Rohde, M. E. J. R. Dr. Gibson's Report, Dr. O'Shaughnessy, Dr. Wight's Report, English Cyclopœdia.*

FERONIA PELLUCIDA. Roth. Syn. of Ægle marmelos.—*W. and A.*

FEROZ. Pers. Victory, hence Ferozabad, Ferozpur, Feroz-shahr, as names of towns. Feroz, and Feroz-shah, names of persons and kings.

FEROZ KOHI, a no made tribe of Eimak, or Aimak, so called after the town of Feroz Koh, 63 miles from Teheran. Timur, exasperated by the depredations which they had committed, removed the whole of them into the mountains lying between Persia and India. See Aimak, Kabul *p.* 440.

FEROZ SHAH, in the neighbourhood of Ferozepur, in the Punjab. A battle was fought here on the 21st and 22nd December 1845 between the British and the Sikh.

FEROZPOOR. See Kunawer. Sat-dhara.

FEROZPUR, in Lat. 30° 57′ 1 N. Long. 74° 38′ 4,E in the Punjab, on the left bank of the Sutlej. The mean height of the station is 1,120 feet. P.C.

FEROZ SHAH, RUKN-UD DIN, king of Delhi in 1235. He was grand-father of sultan Mahmud, whom Timur conquered. It was this king (A. H. 752 to 790) who removed the lat or pillar,—according to one account, from near Khizrabad, immediately west of the Jumna at the foot of the Siwalik hills, to Delhi, and erected it in the centre of his palace. This column, is alluded to by Chund, as "telling the fame of the Chohan," but he says it was "placed at Nigumbode," a place of pilgrimage on the Jumna, a few miles below Delhi, whence it must have been removed to its present singular position. The name of Beesildeo (Visaladeva) heads the inscription on the pillar. The pillar is now known as one of the Delhi lat, also the golden lat, so called from the gilt kalasa "pinnacle or ball" which Feroz shah placed on its summit. This monolith like the kindred pillar at Allahabad was in the first instance exclusively devoted to the exhibition of a counterpart text of the edicts of Asoka, but succeeding generations have taken advantage of the ready prepared monument to supplement a record of their own prowess. The other stone pillar at Delhi was brought from Mirat. *Tod's Rajasthan vol.* ii *p.* 452. *Orme.* See Lat.

FERQUEH, amongst the Afghans, means a tribe. It is probably from the Arabic "Farq," separation,—Farqah, a tribe or community.

FERRARIA CROCEA. Salis, Rheede. Syn. of Pardanthus Chinensis. *Ker.*

FERREOLA BUXIFOLIA. *Roxb.* iii. 790.

Maba buxifolia, *Pers.*

Eroombala, Anglo-Tam. | Eroombala maram, Tam.
Illumbilli maram, Tam. |

This plant grows among the Circar mountains to the size of a small tree, but, in the low countries, it is only a shrub. The wood is dark colored, remarkably hard and durable; when its size will admit, it is employed for such uses as require the most durable heavy wood. Its small red fruit, containing one seed when ripe, is pleasant to the taste and is well known over India.—*Ainslie, p.* 224, *Mr. Rohde's MSS. Voigt.* 346. *Roxb.* iii. 790.

FERRI SULPHAS, also Ferri-vitriolatum, Sal-Martis. Lat. Green copperas. Sulphate of Iron.

FERRO. It. Rus. Iron.

FERRUM. Lat. Iron.

FERRUM VITRIOLATUM. Sulphate of Iron.

FERRY. The ferries at rivers in India and the S. of Asia are crossed in very various ways, but on the Tigris, Euphrates, the upper Indus and its affluents, the practice of three thousand years still continues.

Xenophon's ten thousand were ferried over on inflated skins, and three slabs in the British Museum show the representation of the king of Assyria, crossing the Euphrates in this mode which on the rivers named still continues. Canoes are of

common use on the ferries; two pieces of the bole of a palmyra tree, scooped out and blocked with clay at the end, and fastened together are used in the Circars: the wicker and leather coracle traverses most of the rivers in the peninsula of India. The ferry men on the Kistnah river in the peninsula are the Koli race, stalwart men. The Kili-Katr or Maddakpore race are also Kabl-gira or ferrymen. See Boat.

FERULA ASSAFŒTIDA. LINN.

Narthex assafœtida, FALC. Hingisch, HIND.
Asafœtida, ENG. Inguva, TEL.
Anguza, HIND. Hingu-patri-chettu, „
Hing, „

This plant grows in all the mountainous countries in the North, the South and the East of Persia, between Persia and Tibet and in Lar, Khorassan, Afghanistan up to India Dr. Cleghorn says the asafœtida plant occurs in Pangi, and in the localities given for daphne and desmodium (as yielding material for making paper in district jails.) Dr. Stewart got this plant in Khagan (Jhelam basin) at about 6,000 feet, and Dr. Cleghorn, he says, mentions specimens of it as being brought to him on the Upper Chenab, at over 8,000 feet. It is he adds also given by Aitchison as growing in Lahaul (10,000 feet,) not much further up the Chenab, but Dr. Stewart was told by Mr. Jaeschke that the Lahoul plant was a Dorema. Dr. Cleghorn also states that Dr. Falconer sent seeds of the plant from Iskardo to Mussooree and England where it thrives in the open air. Dr. Adams states that he saw the plant in Kashmir, and loads of it are taken to Sirinuggur, but Dr. Elmslie assured Dr. Stewart that the plant is not known there. This plant has been conjectured to have produced the "lasser" of the ancients (see Astrantia) which, however, is now ascribed to a Thapsia. The fetid gum-resin asafœtida has a nauseous, somewhat bitter, biting taste, and an excessively strong, fetid, alliaceous smell. It is used in medicine and by all classes of hindus as a condiment with their food. *Dr. J. L. Stewart, M. D. Dr. Hugh Cleghorn M. D. Panjab Report, p.* iii. See Asafœtida.

FERULA FERULAGO.

F. galbanifera, (Nees and Ebermanier.)

Coasts of the Mediterranean, the Caucasus, &c. yields copiously a secretion which dries into a gum resin, supposed by some to be galbanum, but Professor Don states that galbanum is yielded by quite a different genus, called by him Galbanum officinale.—*Eng. Cyc. Hogg. p.* 388.

FERULA HOOSHEE of Beloochistan resembles the asafœtida in size and appearance, and yields a gum like the opoponax of the European shops, (*Mrs. M'Neil's letter*, 1833) Professor Royle alludes to this also as resembling opoponax.—*O'Shaughnessy p.* 364.

FERULA ORIENTALIS.

Feshook, F. | Ammonifera, FEE.

It grows in Asia Minor, Greece, and Morocco, supposed a source of gum ammoniacum.—*O'Shaughnessy p.* 364.

FERULA PERSICA, W.

F. Sagapenum, Fee. Vol. ii. p. 201.

Sugbinuj, AR. Sugafiun, GR. PERS.
Eo-sus, of BOMBAY. Kundel, HIND.

A native of Persia, stem about two feet high. According to some authorities it produces Sagapenum. Nees von Esenbeck and Lindley consider it as one of many plants from which asafœtida is procured. Sapagenum, is found in masses. Its odour resembles that of garlic and asafœtida, its taste is hot, nauseous, and rather bitter. It is sometimes adulterated with bdellium, gunda-birosa, and other similar gum resins or turpentines. It is collected in the same manner as asafœtida; sells at four rupees the lb. The medical uses of Sagapenum are the same as those of asafœtida, but it is considered less energetic, and is but little employed.—*O'Shaughnessy pp.* 363-64.

FERULA SAGAPENUM. Syn. of Ferula persica.

FESHUK. ARAB. also Ushek. ARAB. Gum ammoniac.

FESTUCA QUADRIDENTATA. One of the Graminaceæ.

FETISH. See Papuan, Semitic races.

FEUD. In the Hindu word "wer" which designates a feud, we have a striking coincidence in terms; wer is 'a feud,' weree, 'a foe.' The Saxon term for the composition of a feud, wergeldt, is familiar to every man. In some of the Rajput states the initial vowel is hard, and pronounced "ber." In Rajasthan ber is more common than wer, but throughout the south-west "wer" only is used. In these we have the origin of the Saxon word war, the French guer or guerre. The Rajpoot *wergeldt* is land or a daughter to wife. *Tod's Rajasthan, Vol.* i. *p.* 181.

FEUERSTEIN. GER. Flint.

FEUERWERKE. GER. Fireworks.

FEUX D' ARTIFICE. FR. Fireworks.

FEVE DE LOUP. FR. Hedysarum alhaji.

FEY-YUE-LING. A gigantic mountain on the frontier of the central empire of China rising like an advanced post of the mountains of Thibet. It rises almost perpendicularly, and presents to the eyes of the traveller many peaks. During the whole year it is covered with snow, and surround-

ed by clouds that reach to its very foot. The road is frightful, and passes over rocks and chasms; it is one of the most difficult in all China, and no place of rest can be found on it. *Huc. Chinese Empire. Vol.* i. *pp.* ii—16.

FIBROUS PLANTS, In India and Eastern and Southern Asia, the number and variety of these are great, and amongst the most deserving of attention may be enumerated, the following:

Abelmoschus esculentus,	Vendee fibre.
Abelmoschus ficulneus,	
Abroma augusta,	
Abutilon indicum,	Toottee.
Abutilon polyandrum,	
Abutilon tomentosum,	
Acacia leucophlœa,	Oody nar—This tree is common near Cape Comorin. The fibres from the bark are used by the fishermen in making nets. A coarse kind of cordage is also made from it.
Acacia Arabica,	Karoovalum nar.
Æschynomene cannabina,	
Agave Americana,	Pita or great Aloe fibre.
Agave cantala,	
Agave diacantha,	
Agave vivipara,	Kathalay.
Agave yuccæfolia	
Allantus Malabaricus,	Poroomarum.—inner bark not much used.
Aletris nervosa,	
Aloe indica, or vulgaris	Kuttally nar.
Aloe perfoliata,	Aloe fibre.
Ananassa sativa	Pine Apple fibre.
Andropogon involucrum,	
Andropogon schœnanthus	Camachy.
Andropogon muricatus	
Arenga saccharifera,	Arengee.
Antiaris saccidora,	
Areca vestiaria,	
Artocarpus, several species,	
Arundo donax,	
Bauhinia racemosa,	Maljhun.
Bauhinia diphylla,	
Bauhinia Vahlii,	Yepy tree bark.
Bauhinea tomentosa,	Vellay Aatee nar.
Bauhinea scandens,	
Boehmeria; several species.	
Bombax Malabaricum	
Borassus flabelliformis,	Palmyra fibre.
Bromelia, several species	
Broussonetia papyrifera,	
Butea frondosa,	
Butea superba,	
Callicarpa cana,	
Callicarpa lanata	Thondy nar.—Inner Bark. Not much used.
Calotropis gigantea, &c	Ak, Mudar, or Yercum.
Calotropis Hamiltonii	
Calotropis procera	
Cannabis sativa	Hemp.
Carex Indica,	
Careya arborea	
Caryota urens,	
Chamærops or Hemp palm,	
Chamærops humilis	
Chamærops Ritchiana	
Cordia obliqua	Pothooveroosen nar.—Moderate strength.
Cocos nucifera,	Cocoa.
Corchorus olitorious	Jute.
Corchorus capsularis,	
Corchorus fuscus,	
Corypha, several species,	
Crotalaria Burhia,	
Crotalaria juncea	Under the name of Canamboo or Wuckoo, it is cultivated extensively in the Southern Travancore districts. Fishing nets are made from them; the best kinds are grown in the Northern district, Sunn (wuckoo nar.)
Crotalaria tenuifolia,	
Cyperus textilis,	Mat-grass, or Coaray.
Cyperus tegetum,	
Daphne bholua,	
Daphne cannabinus,	
Daphne Gardneri,	
Decaschistia crotonifolia,	
Desmodium argenteum,	
Desmodium tiliæfolium,	Ootrum ka bel.
Dœmia extensa,	
Eriochlœna Candollii,	
Eriodendron anfractuosum,	
Eriophorum cannabinum,	
Eriophorum comosum,	
Erythrina Indica,	
Ficus religiosa,	Arasa nar.
Ficus racemosa,	Atti nar.
Ficus Roxburghii	
Ficus venosa,	
Ficus Indica,	Aulamarum nar; Aallen nar.—Not much used.
Ficus oppositifolia,	Bodda nar.
Ficus Mysorensis,	Kul-sallum nar.—Not much used.
Fourcroya gigantea,	Seemay Kathalay.
Girardinia Leschenaultiana,	Neilgherry nettle.
Gossypium Indicum,	Indian Cotton.
Gossypium acuminatum,	Brazil Cotton.
Gossypium herbaceum,	
Grewia asiatica,	Bast.
Grewia tiliœfolia,	
Grewia rotundifolia,	Oonoo—Moderate strength.
Grewia didyma,	
Grewia oppositifolia,	
Guazuma tomentosa,	
Guazuma ulmifolia,	
Hibiscus cannabinus,	Poolychay fibre.
Hibiscus fragrans,	
Hibiscus sabdariffa	Roselle fibre.
Hibiscus striatus,	
Hibiscus vesicarius,	Wild ambara.
Hibiscus rosa chinensis,	Shoe plant fibre.
Hibiscus vitifolia,	
Hibiscus lampas,	
Hibiscus macrophyllus,	
Hibiscus manihot,	
Isora corylifolia,	Valumbrikai, Kywen nar-This is the most valuable fibre in Travancore. The plant grows abundantly at the base of the hills. The natives produce fibre from the stem.
Juncus,	
Lodoicea Seychellarum	
Linum usitatissimum,	Flax.
Maranta dichotoma,	
Marsdenia Roylei,	
Marsdenia tenacissima,	
Mimosa Intsia,	Eenjy nar.
Musa paradisiaca,	Plantain fibre.
Musa sapientum,	
Musa textilis,	
Myssiessya hypolouca,	
Orthanthera viminea,	
Pandanus,	
Pandanus odoratissimus,	Fragrant Screw Pine.
Papyrus,	
Pangres,	
Paritium macrophyllum,	
Paritium tiliaceum,	
Philadelphus. *sp.*,	
Phœnix acaulis,	
Phœnix dactylifera,	
Phœnix sylvestris,	
Raphis Cochin-chinensis,	
Raphis flabelliformis,	
Raphis, *sp.*	
Saccharum sara,	Sara.
Saccharum munja,	
Saccharum officinarum,	
Sanseviera zeylanica,	Moorghee, Marool.
Salmalia Malabarica,	Elavum parooty.
Sesbania aculeata,	
Sesbania cannabina,	
Sida asiatica,	
Sida graveolens,	
Sida Indica,	
Sida rhomboidea,	
Sida rhombifolia,	
Sida tiliæfolia,	
Sida periplocifolia,	
Sida populifolia,	Used for Cordage &c.
Strychnos potatorum,	Katha von nar.
Smilax ovalifolia,	Krinkoddy nar.—Used for tying bundles &c.
Sterculia guttuta,	
Sterculia ornata,	
Sterculia villosa,	

Terminalia alata,	Mooroothen nar.—Bark, very strong and lasts many years: used for dragging timber, cordage &c. Common in the forests.
Terminalia belerica,	Umburathee nar.
Triumfetta lobata,	
Tylophora asthmatica,	Koorinja.
Typha angustifolia,	
Typha elephantina,	
Ulmus campestris,	
Urena lobata,	Bun—Ochra,
Urena sinuata,	" "
Urtica, several species,	
Urtica heterophylla,	
Vernonia anthelmintica,	Coat sceragum.
Wikstræmia salicifolia	
Yucca angustifolia,	
Yucca gloriosa,	Pita or Adam's Needle.
Yucca aloifolia,	

The natives from time immemorial have been accustomed to utilize all of these, but want of roads, and the expense of transporting raw materials have restricted their use to their respective localities.

On the outbreak of the war with Russia the attention of manufacturers at home was directed towards the probable effect which the stoppage of the Russian trade would produce upon the supply of flax and hemp, the greater portion of which had been derived from that Empire. The question was not merely as to the rise in prices likely to follow so considerable a reduction of the quantity imported, but parties interested in the articles were anxious to discover the means for providing an effective and ample substitute for the Russian material; especially as from the returns published it became evident that the aggregate importations of the raw stuffs from all parts of the world were inadequate to the increasing consumption of the articles manufactured therefrom. The Manchester Chamber of Commerce took up the subject with all the interest it deserved. It was observed whilst the importations of flax from all parts in 1853 amounted to 94,169 tons, Russia alone contributed 63,399 tons towards that quantity; and out of 63,142 tons of hemp imported during the same year, 41,819 tons were obtained from Russia alone. The total value of these importations computed upon the average rates of the year, amounted in round numbers to £3,500,000 sterling, and at the immediately enhanced rates were estimated at £6,000,000. Under these circumstances attention was forcibly directed towards India, with a view to ascertain how far its fibres might yield a substitute for the produce hitherto chiefly imported from Russia and the result of the inquiry was that Indian fibres have been proved to possess all the necessary intrinsic properties, and in point of flexibility and strength some of them are infinitely superior to Russian produce. Very much was then done, by Dr. John Forbes Royle, Dr. Alexander Hunter, the Home Government, the Governments of Madras and of India, to extend our knowledge of the fibrous and textile materials of South Eastern Asia, and Lord Mayo, Viceroy of India has taken much interest in the matter, but there is still much to be done and the subject is of so great importance that the following details are given. The Court of Directors of the East India Company early moved in the matter, and they enclosed in their letter No. 6, of 15th March 1854, the following Memorandum by Dr. John Forbes Royle.

Boehmeria nevia.

The Rheca fibre forwarded by the Government of India, as the produce of Assam, in order that its properties and value may be correctly ascertained in this country, appears, he says, likely to prove one of the most valuable products of India, for in strength it exceeds the best hemp and in fineness it rivals the superior kinds of flax. Its culture is well known to the natives of Assam, and in the districts of Rungpore and of Dinagepore, being called "Kunkhoora." It is known in Burmah and is the Pan of the Shans, the Ramee of the Malays and of Java, and the Caloee of Sumatra. Its culture succeeded in Tenasserim, and is practised in Siam, as in other Eastern countries and islands. It can now be produced and sold with profit at as a cheap rate as Russian hemp, and if any machine could be employed for facilitating the separation of the fibre from the outer bark and the woody part of the stalks, it would speedily undersell all other fibres, as from four to five crops of it can be obtained within the year from the same plants. The Rheea fibre, though a new import from Assam, is well known under another name, being identical with the highly valued article of commerce, known by the name of China Grass, the Chu-ma of the Chinese, and from which the famed grass-cloth of China is manufactured. The proof of this identity is very complete. One of the educated Chinese introduced into Upper Assam, on account of the Tea manufactory there, recognized the Rheea as identical with the Chuma of his own country. The Rheea of Assam had been ascertained by botanists to be the same plant as the Urtica tenacissima of Dr. Roxburgh, who, half a century ago, was informed by a friend at Canton, that the plant which he had obtained from Bencoolen, as the Caloee of Sumatra, and to which he gave the above botanical name, was that from which the Chinese grass-cloth was made. Lately Dr. MacGowan settled at Ningpo, sent specimens of the Chu-ma to Calcutta. These, Dr. Falconer found to be the same

plant as the Boehmeria nivea of botanists, described under the names of Urtica tenacissima by Dr. Roxburgh. Sir W. Hooker had also identified these two plants as being identical, and has described the former as yielding what is called China Grass. Further, manufacturers in England have found the two fibres to be the same for all practical purposes. In Assam, Rungpore and Dinagepore this plant seems to be very generally cultivated, though only in small quantities, by the "doom" or fishermen race, near their huts. Manure is useful, and moisture essential quick growth, as well as shade and some protection from storms, in order to allow it to grow to the height of eight feet, from which a six foot fibre may be separated. Hence it is most common and succeeds best in the districts along the foot of the hills. It is grown from the separated roots and may be cut down several times in the year, so that four or five crops may easily be obtained during the year, and the aggregate produce of an acre of ground be about twelve maunds. The different crops vary in strength and fineness, the earlier being the stronger and the latter finer. The officers of the above districts, as well as others, state that the culture is perfectly understood, and that it is susceptible of easy and rapid extension, if the cultivators had any other inducement than their own requirements to grow it. The expense seems to be about 5 rupees a maund. For Major Hannay, referring to the fact of £20 a ton having been offered for any quantity in Calcutta, observes that "as it costs at least 5 rupees per maund, you will see that it can scarce be sent to Calcutta at the price offered." But he also says, that "if any cheaper method of separation from the stalk could be discovered, it would undersell all other fibres." Various attempts have been made to make this fibre more generally known and to bring it into demand as an article of commerce. Thus, Dr. Roxburgh having obtained four plants from Bencoolen in the year 1803, wrote that "some thousand plants have been reared from these four, so readily does it grow and multiply;" and also, that it was one of the strongest fibres he had met with. In the year 1811, Dr. Buchanan sent three bales of the fibres from the Botanic Garden at Calcutta to the Court. These were given to Messrs. Sharp, of Mark Lane, who reported that a thread spun of this fibre bore 252 lbs., whereas the weight required to be borne by Russian hemp of the same size, in His Majesty's Dock Yard, was only 84 lbs. The Society of Arts, in the year 1814, awarded a medal to Captain J. Cotton, of the East India Company's Service, for the introduction of this fibre. It had frequently been sent by Colonel Jenkins and the officers employed in Assam to the Agri-Horticultural Society of Calcutta, in whose transactions several accounts of it have been published. Mr. Henley, late of Calcutta, informed Dr. Royle that he readily collected two tons of it in the district of Rungpore, but that on sending it to this country, it sold at a loss, being unknown. Samples were sent by Major Hannay, Capt. Reynolds, Baboos Denanath and Lokenath to the Exhibition of 1851, when honorable mention was made of their efforts. Prize-medals were awarded to Messrs. Marshall and Messrs. Hives and Atkinson of Leeds, and to Messrs. Wright and Co. of London, for their several preparations of China Grass; also to M. Weber of Java, for some beautiful fibre sent by the Singapore Committee as the produce of a plant which he calls Boehmeria candicans, but which is probably only another name for the Ramee of the Malayas, which is cultivated there by the Dutch and its fibre introduced into Holland. Four gold medals have been awarded to Messrs. Meerburg of Leyden for specimens of sail cloth, ropes, cables, &c.: also for some finer kinds of cloth and table cloths: it is used by the natives of the countries which have been mentioned for making nets and fishing lines: also stout cloth and some of finer fabric. Major Hannay, who has long paid attention to this fibre and to whom much praise is due, was induced to send several samples of the Rheea fibre (the Dom Rheea of the Assamese,) with some grown by Capt. Dalton, in consequence of applications from this country by merchants who, however, offered a sum (of £20 a ton in Calcutta) which would not pay the expenses, and which moreover did not appear to be equivalent to the value of an article acknowledged to be identical with China Grass, which sells for £60 £70 and £80 a ton in Britain.

Since the arrival of specimens, Dr. Royle endeavoured to make the fibre known and its value appreciated. He sent specimens of both the Rheea and the Wild Rheea to the Society of Arts and published an account in their Journal of the 9th December. He sent specimens and wrote to Messrs. Marshall of Leeds and to the Commercial Association of Manchester, had frequently seen Mr. Sangster, as well as brokers and others, on the subject, and likewise sent specimens to Belfast and to Paris. Mr. Marshall acknowledged that the Rheea fibre is identical with China-grass and should class it with the middle or coarse quality, and that it is worth from £48 to £50 a ton in England; also, that it appears to be

clean and regular in colour and free from dead fibres which are often a great detriment; that it "is a useful quality of fibre, of which we could take a regular supply," and that "it would be of considerable advantage to obtain a supply from Assam" as a nearer market than China; and "if it could be supplied at lower rates than he mentioned, that would of course much encourage the consumption of it in this country." Of the Rheea fibre sent to the Exhibition of 1851, Mr. Marshall says, "It is the same as the above, but coarser in quality." Messrs. Wright and Co., had already come to the same conclusion, that for all practical purposes, the Rheea of Assam is the same as the China Grass. Mr. Dickson, of Deptford, to whom he had given specimens, says, "It is a splendid fibre, and when dressed as flax, of higher value than the sums mentioned by Mr. Marshall."

Though, Dr. J. Forbes Royle had no doubt, that when the peculiarities of the Rheea fibre or China Grass are more generally known, its excellent qualities will be fully appreciated, and that it will come into more general use as a rival to the finer kinds of flax, yet, at that time, there were but few spinners who thoroughly understood its management or have machinery to do it justice. It may not therefore realize its full value in the markets of Europe. As it was desirable, therefore, to have its strength tested as a substitute for hemp, Mr. W. Cotton was good enough to have the bale of Rheea fibre, and also that of the Wild Rheea, tarred by the warm register and twisted into five inch rope, and carefully tried with respect to the strength of each. The experiments were most satisfactory, neither rope breaking until the Rheea fibre bore above 9 tons weight, and the Wild Rheea nearly as much. The results of the experiments are stated in the accompanying Memorandum. Mr. W. Sangster had some of the Rheea fibre, which he had received from Assam, also twisted into small rope. It was pronounced by Messrs. Hunter by whom it was made 50 per cent. better than similar rope made with Russian hemp. A small portion was also made into fishing-line, which was described as being wonderfully strong.

Bon Rhea.—Though it is to be hoped that the Rheea or Dom Rheea fibres will prove too valuable to be only employed for rope making, the Wild Rheea or Bon Rheea, on the contrary, is well calculated for this purpose. No information was given respecting the plant yielding it, but it is no doubt one of the nettle tribe, and from being called Bon or Jungle Rheea, it has been inferred that it may be the Rheea in a wild state. But though there was no proof of this, it is satisfactory to find that Major Hannay of Assam describes it as "uncultivated, but very common in all parts of the province;" and again, "common in most of our forests." By proper management any quantity of young shoots can be obtained, and as the divided roots afford numerous shoots, and the plant can be propagated by slips as well as by seed, its cultivation for its fibre might be carried on with facility. He further says that he had paid 5 rupees a maund for it, and that "it is cultivated largely by the hill tribes on the North-west of Yunan, and by the Singpoo and Dhounnea of the own North-east frontier to a small extent only for a coarse cloth, but chiefly for nets. It is recognized by the Nepaulese as the Leepeeah of Nepal." Captain A. Thompson, of the firm of Thompson and Co., Rope makers, of Calcutta, says of it, that "it is all that can be desired for either canvas or lines, and only requires to be known to be generally used for that purpose." It was valued as being worth about £35 a ton in England. When made into a five-inch rope at Messrs. Huddart's works, it absorbed 1-7 of tar and did not break until it bore nearly 9 tons weight.

Boehmeria frutescens. There are several other fibres, some probably of equal value, to be found in abundance along the hills from Assam to near the Sutlej, as for instance, the Pooah fibre yielded by Boemeria frutescens and other *Hemps*. The strength of some of these fibres, in the plain untwisted state, has been ascertained with samples of the same length and weight. By this it will be seen, that the Rheea fibres bore very heavy weights in their untwisted state, and that three others are at least equal to Russian hemp and the Kote Kangra hemp was far stronger than any thing that has yet been tried. It is at the same time liked for its colour and texture, and would be certain to be employed for all the purposes for which the best hemp is required, if it could be procured. It is therefore included with the two Rheeas in the present recommendation.

The Jubbulpore hemp was extensively cultivated by Mr. Williams and already established as an article of commerce in India and highly esteemed by good judges in this country.

The Wukka Nar might be exported from Travancore, and the Madar or Yercum fibre from different parts of India.

New fibres, must be sent into the market for three or four years, and in sufficient quantities, to attract the notice of respectable manufacturers and induce them to give these fibres a fair trial. From ten to twenty tons sent annually into the market, for three or four years, would be sufficient; others say that this quantity should be sent twice a year. But in the case of India, such quantities being sent from different districts would arrive at different times and have the same effect. The Officiating Commissioner of Revenue in Assam recommends that as the culture of the Rheea fibre is sufficiently well understood, "the best way to encourage its extension would be to secure to the ryots a sure market at remunerating prices." Captain Dalton, Collector of Debrooghur, states "that the best method would be for Government to offer a premium of so much a ton on all that is produced for three or four years." Both recommendations might be united in one.

In issuing directions, as well as in making purchases, great care should be taken that the fibres were carefully and cleanly prepared, and if intended for rope-making and as a substitute for hemp, the Bon or Wild Rheea should be made to resemble as closely as possible the specimens of Petersburgh hemp, Mr. W. Cotton furnished samples in illustration for transmission to India. The improved appearance of the Rheea fibre sent by Major Hannay was owing to specimens sent out to him by Mr. Sangster; others cannot do better than follow Major Hannay's examples as there is every probability of establishing the best specimens of the Rheea fibre as a substitute for China Grass, when much higher prices would be realized than as a substitute for hemp only. Rheea fibre grows in the districts of Rungpore, and of Dinagepore, where it is cultivated under the name of *Kunkhoora*, and where it might very easily be collected and its culture extended.

The Himalayan districts of Kemaon, Garhwal and of Kote Kangra, abound in true hemp of the finest quality, cultivated both on account of its fibre and for the different preparations of Bhang. The fibre is sold among themselves for 2 rupees for 82lbs, or about 5s. a cwt. Lord Auckland, when Governor-General of India, calculated that at the native rates it might be landed in Calcutta for £7-16 a ton, and hemp-seed for £6 a ton.

Major Corbet gave three estimates of the price, including all expenses, at which hemp could be delivered in Calcutta from

Kotedwarra, Chilkea, and Sunnea, the average of which is £15-2 a ton. Captain Kirke, giving 5 rupees a maund for the hemp at Deyra Dhoon, calculated that it could be delivered for about £17-14 a ton.

In making advances for cultivating hemp, it is absolutely necessary to call the attention of the natives, not only to the culture, but to the preparation of the fibre. The culture seems to be very well understood in many parts of the Hills, as they carefully prepare and usually manure the ground, thin the plants to within three or five inches, and cut the male plants, "phoolbhanga which flowers, but has no seed," a month or six weeks before the female plant, "goolanga or ghoolbhanga" which has seed, the latter being cut about the end of September. As the preparation is also understood, the cultivators should be required to do this in their best way, so as to procure a clean and uniform article in long lengths, without raising or platting the ends up in any way and to resemble the Petersburgh hemp, as nearly as possible.

The hemp sent by D. F. Macleod, Esq., as the produce of Kote Kangra, was highly approved of in England. The subject so warmly taken up in 1854, continues to interest all who are desirous of improving the fibres of these countries.

Fibres tested at the Military Stores.

	lbs.
Petersburg Clean Hemp,... ...	160
Jubbulpore Hemp,...	190
China Grass,...	250
Rheea Fibre,...	320
Wild Rheea,...	343
Kote Kangra hemp, (no breakage at)	400
Wuckoo-nar fibre.....	175
Yercum or Ak or Mudar fibre	190

Clean samples of all the above fibres were taken of equal weights and firmly tied at their ends, so as to be of equal lengths, at the India House, and their strength tried in the usual way by Mr. Hull, in the Military Stores, 16th December 1853.

Experiments at Messrs. Huddart and Co., Rope Manufactory, Lime House, 13th February 1854. Experiments on strength of rope made from samples of Rheea and Bon Rheea fibre from Assam, received from the East India House.

Description of Hemp.	Size of Rope.	No. of Yarns per Strand.	Total No. of Yarns in Rope.	Strength of Rope in Pounds.	Strength of Rope per inch. Circumference squared.	Size of Rope at breaking.	Tar absorbed.	Amount of stretching.
	In							
Wild Rheea, 1st Experiment...	4¼	44	132	19032	844	4⅜	1-7	1 in 16
Ditto 2nd ditto..	do	do	do.	20124	894	4⅜	1-7	1 in 16
Rheea Fibre	4⅛	44	132	20488	910	4⅜	1-9	1 in 16

The preparation of the fibre is tedious, and is what causes the difficulty of sending it at a cheaper rate into market. Major Hannay writes, "when the stalks have become brown, for about six inches above the roots, the top is seized with the left-hand and the leaves are stripped off by passing the right-hand to the ground, near which the stalk is cut. The outer bark has first to be scraped off with a blunt-edged knife, when the exposed fibre, still attached to the woody part of the stalk, is placed in the hot sun to dry. On the third morning, after being exposed to the dew for several hours, the fibre is drawn off. This is done by breaking (beating) the woody stalk right through towards the thicker end and then separating the fibre therefrom, drawing it off slowly towards the small end, and repeating the process as often as necessary, though much of the fibre remains and may be taken off at a second breaking." (The fibres now require to be carefully washed, *Henley.*) "The hanks of fibre are then separately twisted at the upper end and tied up in bundles. When the threads are required for spinning, they are prepared by drawing the single hanks several times with a blunt-edged slip of bamboo held in the right hand, when they are easily opened out to the required fineness with the fingers and thumb nails. This is certainly a rude and tedious process." Dr. MacGowan, of Ningpo, states that "in China the last cutting is made in September, and from it the finest cloth is made, the first being inferior, coarse and hard. On being cut, the leaves are carefully taken off on the spot; the stocks taken to the house and soaked in water for an hour. In cold weather the water should be tepid. After this the plant is broken in the middle, by which the fibrous portion is loosened and raised from the stalk. Into the interstice thus made, the operator

FIBROUS PLANTS.

thrusts the finger nails and separates the fibre from the centre to one extremity and then to the other. The stripping process is very easy. The next process is scraping the hemp, to facilitate which the fibre is first soaked in water. The strips of hemp are drawn over the blade of a small knife or scraper from within outwards, and being pressed upon by the thumb, the fibrous portion of one surface and the mucilaginous part of the other are thus taken off. The hemp is then wiped dry and the whitest selected for fine cloth. It is afterwards bleached."

The directions for peeling the Chu-ma or *Tchou Ma*, in China, as translated from the Chinese, are given as follows: "When the stems are all got in, they are split longitudinally with knives of iron or of bamboo. The bark is first removed, then the lower layer (which is white and covered with a shrivelled pellicle which comes off by itself) is scraped off with a knife. The interior fibres are then seen; they are to be removed and softened in boiling water. If the Tchou ma be peeled in winter, the stems must be previously steeped in tepid water, in order that they may be the more easily split. The first layer of Tchou-ma is coarse and hard, and is only good for making common materials; the second is a little more supple and fine; the third, which is the best, is used for making extremely fine light articles.

A few months after this Mr. Samuel Gregson M. P. in a letter of 1st June 1854, to Sir Charles Wood, mentioned that the growth of flax has rapidly increased within the last few years in the United Kingdom, and especially in Ireland. In 1849 the quantity of land in Ireland under this crop was 60,314 acres; and taking its average yield at 6 cwt. per acre, the produce would be 18,094 tons. In 1853 there were 174,423 acres under flax cultivation, yielding at the same average, 52,327 tons. The importation of foreign flax for the previous three years had been.

	From Russia. Tons.	*All other parts.* Tons.	*Total importation.* Tons.
In 1851.....	40,934	18,775	59,709
1852.....	47,426	22,703	70,129
1853.....	64,393	29,770	95,169
Total in 3 years	152,753	71,248	224,007
Average	50,920	23,749	74,669

The importation and the Irish production together of flax during 1853 amounted to 146,496 tons. Its market value, (at peace prices averaging £30 per ton,) amounting to nearly £2,000,000. Of the articles passing

under the general title, "hemp," including Sunn and Jute, from India, and that known as Manilla hemp, the quantities received were as under.

	From Russia. Tons.	*All other parts* Tons.	*Total importation* Tons.
In 1851..... ...	33,229	31,442	64,671
1852.....	27,198	26,516	53,714
1853	41,819	21,323	63,142
Total...	102,246	79,281	181,527
Average	34,082	26,427	60,509

Russia supplied considerably more than half the entire importation, realizing in 1853 upon 42,000 tons at peace prices averaging £35 per ton, a market value of nearly £1,500,000.

In the five years, 1830 to 1834, prior to the reduction of the excise duty on first class papers from 3d to its present equalized rate of 1½d. per lb., the average annual quantity made was 70,988,131 lbs.; and in the five years, 1849 to 1853, the average annual quantity made was 151,234,175 lbs. The production of the year 1853 was 177,623,009 lbs., being above 23,000,000 lbs. (more than 10,000 tons) over that of the preceding year, and more than 36,000 tons over 1834, such excess requiring for its production not less than 13,000 tons of raw material in the former case, and nearly 47,000 in the latter. The whole weight of material employed in the manufacture of paper only may be stated at between 110,000 and 120,000 tons per annum.

Dr. Forbes Royle, has proved the existence in various parts of the British Indian Empire, not only of the identical plants which furnish flax and hemp, but of numerous other plants yielding fibres of great importance, some of them greatly superior in strength and general value to either of those articles. Having submitted a variety of fibres to be tested, the weight each broke with was ascertained to be as follows.

Fibres in equal weights and equal lengths tested at the East India Company's Military Stores.

	lbs
Petersburg hemp broke with.....	160
Jubbulpore hemp, from Mr. Williams.. ....,.....	190
Wuckoo-nar fibre, Travancore...	175
Mudar or yercum fibre, common all over India..	190
China grass, Boehmeria nivea.....	250
Rheea fibre, the same from Assam.....	320
Wild rheea, Boehmeria species, from Assam.. ...	343
Kote Kangra hemp (no breakage at).....	400

It is true that some of these Indian plants are grown in places remote from the seaboard, and from which there are still very bad roads, or no roads at all, for transport; but several of them, and amongst them perhaps the most prolific of all, are of very extensive growth in parts contiguous to the coast, and therefore capable of being beneficially and cheaply prepared for exportation.

The most conspicuous of these is the plantain, which contains a valuable fibre, and is every where cultivated in the plains of India for its fruit, an article of universal consumption by the native population. It is a plant which bears fruit only once, and as soon as that is removed, it is, and has been from time immemorial, cut down and left to rot upon the ground. Persons who have paid close attention to the subject state that there will be no difficulty in obtaining from this plant alone any required quantity of fibre of admitted valuable quality, and as fast as the mechanical appliances necessary for its preparation can be sent out.

Applicable as this fibre is to the manufacture of every species of cloth or other articles usually made from flax or hemp, and of equal quality, it can be used with no less facility and advantage in the manufacture of paper; thus supplying both the one and the other of the important desiderata which the foregoing facts and figures establish.

When preparing for the Great Exhibition of 1859, Dr. James Taylor, who had long been Civil Surgeon at Dacca, furnished several interesting remarks on the fibres of that district. There are, he says, several plants in Bengal adapted for the manufacture of textile fabrics. A species of Urtica, of whose fibres the much admired grass-cloth of China is made, is cultivated in Rungpore; and either it, or an allied species, the rhea, is grown in Assam and Cachar. The pine apple plant too, from which a beautiful fabric is manufactured in Manilla, is indigenous in Sylhet and Assam, and is extensively cultivated about Dacca. The fibres of both plants are used by the natives for making fishing lines and nets; but no attempt, had been made in Bengal, to weave them into fine cloths. The same remark, perhaps, applies to "munga" (Sanseviera zeylanica) the fibres of which are commonly used to make bowstrings. The Calotropis gigantea possesses a fine silky fibre; and some varieties of the plantain tree, as the Musa textilis, yield fibres which, like the abaca hemp of Manilla, are capable of being converted into strong thread or cord, such as the Dacca spinners sometimes use for the bows with which they tease cotton. The people of Rungpore make cloths of the fibres of pât; and there can be little doubt, that if encouragement were given to them and other spinners and weavers in Bengal, they would, with the skill which they possess in these arts, also succeed in converting

these materials into fabrics. A manufacture of similar nature, indeed, was formerly carried on in Bengal. Mention is made in several old works relating to India, of cloths having been made of a plant called "Herba Bengalo," which appears to be now unknown as a material of manufacture. Linschoten, who visited Bengal in 1599, is one of the earliest travellers who notice it. After enumerating under the general name of gossipina, the various cotton goods manufactured in Bengal, he states—"Etiam quædam eximia ex herba instar fili preparant filum apud paludanum videas colore flavo. Herba Bengalo nominatur. Pingunt hoc filo lectum, sagula, pulvinaria, mutitia quibus pueros baptisandos induunt, circumtextis floribus, imaginibusque, ad miraculum usque artis ut nec in Europâ tale quid inveneris. Subâ inde item sericum miscent: sed ex quo purherbâ suunt preciosiora sunt, ipsumque sericum exsuperant. Telas hujusmodi "Sarryn" vocant, multi usus in India ad braccas et thoraces virorum. Abluuntur ut apud nos linteamina nitorem que suum velut nuper facto recipiunt." (Vide Navigatio ac Itinerarium Johan. H. Linscotani, A.D. 1599.) Mandelso speaks of it as "a certain herb having on the top of its stalk (which is about the compass of a man's thumb) a great button like a tassel: this tassel is spun out, and there are excellent stuffs made of it. The Portuguese call it Herba Bengalo, and make of it hangings and coverlets, in which they represent all sorts of figures." (Vide Mandelso's travels, A. D. 1639, translated by J. Davies, Book II., page 94.) A similar description is given of it by the Abbé Guyon in his history of the East Indies: "On trouve encore a Bengale une espéce singuliere des toiles quin'est ni fil ni coton, dont on fait des tapis et des couvertes. On les nomme simplement herbes. La tige de l'herbe, dont elles sont faites, a un pouce d'epaisseur et au haut une espéce de houppe qui contient une sorte de bourrée que les femmes du Paris filent on prendroit ces etoffes heure de loiser: mais elles sont sujettes a se couper dans les plis." (Vide Histoire des Indes Orientales, par M. L' Abbé Guyon, A. D. 1744, Vol. 3, p. 19.) Fitch about the year 1586, and Hamilton in 1744, both refer to it in their accounts of Orissa. The latter calls it herba, a sort of tough grass of which they make "ginghamspinascos and several other goods for expor, tation," (new account of the East Indies by Captain A. Hamilton, A. D. 1744, Vol. I, p. 393,) what plant is referred to under the name of "herba bengalo;" is not now known but it appears to have been held in high estimation in former times.

On the receipt of the Courts letters, the Madras Government, on the 19th September 1854, reviewed the proceedings of the Madras Central Committee for the London Exhibition of 1851. It had remarked that, (Vide their report 17th April 1851) of the fibrous substances produced in India "some are altogether novel and some though long known in India, have not been used in Europe: of these the Committee particularly allude to be fibres of the plantain, of the yerkum."

	weight sustained. lbs.
Coir...	224
Pooley Numejee (*Hibiscus cannabinus*)	290
Marool (*Sanseviera Zeylanica*)...	316
Cotton...	346
Catthalay nar (*Agave Americana*)..	362
Junapum or Sunn... ...	407
Yercum nar (*Calotropis gigantea*)..	552

Fibres of the plantain quality very good.

Fibres of the large or hill aloe good. The Garden aloe or Adam's needle has fibres a little finer and shorter than those of the large aloe. Fibres of a variety of roselle very like English hemp. Fibres of the pine apple very fine, strong and silky.

Dr. Wight says "yercum plant yields by far the strongest fibre it is a most common plant and may yet become a valuable article of export if a less costly mode of obtaining it without injuring its quality can be found."

The Coimbatore Local Committee allude to "a very fine flax-like fibre, the produce of a large nettle abundant in Mysore and on the Neilgherries. The Todawar race separate this flax by boiling the plant, and spin it into their coarse thread" and Dr. Wight records of the same substance that "it produces a beautifully fine and soft flax-like fibre which the Todawar use as a thread material. The sample of this was too small to make a proper rope, but its examination convinced the Committee that if well prepared and procurable in quantity it is fitted to compete with flax for the manufacture of even very fine textile fabrics."

Dr. Royle gives the following tested strength:

	lb.
Wuckoo Fibre small Cord ... ... broke at	86
Petersburgh Hemp Cord	170
Wild Rheea Cord, same size as Russian ..	190
Rheea Fibre Cord, one thread larger	230
Pound line of Wild Rheea	510
Six-thread Cord of Petersburgh Hemp ...	505
Six-thread Ratline of Rheea, tarred	525
Six-thread do. of Wild Rheea, tarred ...	530

Nine-thread Ratline of Wild Rheea, tarred...	860
Twelve-thread Ratline of Wild Rheea, do. ...	1120
One-inch Rope of Wild Rheea	1350
One-and-half-inch Rope of Wild Rheea tarred..	1900
One-and-half-inch Rope of Wild Rheea do. ...	1900
Two-inch Cord of Russia Hemp	1800
Two-inch Rope of Rheea Fibre tarred	2800
Twelve-thread Rope of Plantain, made in India.	864
Twelve-thread do. of Pine-apple, do. ...	924
Two-inch Cord of Russia Hemp	1800
Two-inch Rope of Dhuncheo fibre, made in India.	1850
Two-inch Rope of Agave, usually called Aloe, do.	1900

Dr. Hunter observes of the plantain that "it yields an excellent substitute for hemp or linen thread. The fine grass cloth, ships' cordage and ropes used in the South Sea whale fisheries, are made from this substance. The outer stalks of the stem leaves yield the thickest and strongest fibres."

It is described by another writer "as the most conspicuous amongst the Indian fibrous plants." "It contains," he adds "a valuable fibre and is everywhere cultivated in the plains of India for its fruit, an article of universal consumption by the Native population. It is a plant which bears fruit, only once, and as soon as that is removed it is cut down and left to rot upon the ground —Persons who have paid close attention to the subject state that there will be no difficulty in obtaining from this plant alone any required quantity of fibre of admitted valuable quality and as fast as the mechanical appliances necessary for its preparation can be sent out."

"Applicable as this fibre is to the manufacture of every species of cloth or other article usually made from flax or hemp, and of equal quality, it can be used with no less facility and advantage in the manufacture of paper."

The janapa or sunn plant, yields fibres next in strength to the yerkum or jilladoonar. It is cultivated, in Rajahmundry, as a second crop on wet lands with profit to the ryot.

The fibres of the roselle (*Hibiscus cannabinus*) an excellent substitute for the tow now imported from Europe might be profitably supplied in abundance. Hemp, coir, and coir rope exported from Madras shewn by the Sea Custom Returns, amounted to

	Hemp.	Coir and Coir Rope.	Total.
	Rs.	Rs.	Rs.
1847—48.....	19,819.....	27,937.....	47,756
1848—49	23 242.....	1,38,617	...1,61,859
1849—50..	23,076.....	2,08,7[illegible]4.....	2,31,770
1850—51.....	..10,577.....	. 4,46,852	2,57,429
1851—52 . ——	46,683———	2,42,019———	2,88,702

At a meeting of the Society of Arts on the 12th December 1855, Mr. Thomas Watson brought to notice three basts sent by Lieut. Ripley from Araccan, one of which he deemed of value, He also mentioned a wild jungle tree, the 'Noona,' growing around Calcutta, yielding a serviceable bast also, the fibres of a Hibiscus, of Burmah, of the Urena lobata, and of the "Pee-law." A fibre called "Bedolee-lath" sent by Major Hannay from Assam, was soft and delicate. He mentioned that small quantities of the aloe fibre were being sold in Calcutta at Rs. 10 or 12 a maund, equal to £26 and £32 the ton. He also mentioned the Danche. When properly treated it possesses amazing tenacity, and withstands the action of water, and dilute acids well. It is largely grown, and seemingly little cared for beyond being made into mats for sheltering the betel vine from the sun; afterwards the dried fibres are used for blazing the bottoms of the natives' boats when they are desirous of burning off the old pitch. Rope is made of this fibre. It is easily cultivated, requires little trouble after once sown, and when cut before flowering, is, as usual with fibrous plants, much stronger than afterwards.

FIBROUS PLANTS.

Dr. Alexander Hunter, Reporter, for the Jury for the Madras Exhibition of 1855, thus reported on the subject of the cultivation and cleaning of fibres.

Few subjects he says present a wider or more interesting field for investigation, than the best modes of cultivating and cleaning fibrous plants. Hitherto, these branches of industry have not been carried on in India, with sufficient care or energy, to make profitable returns to the agriculturist or the merchant. Some very serious faults have been committed in the process of cleaning Indian fibres, which have tended in a great measure to deprive them of their value for manufacturing purposes. In order to save labour, the usual practice has been to steep the plants till the sap and vegetable juices are thoroughly decomposed, as the fibre can then in most instances, be easily beaten or washed out, but this method, though applicable to a certain extent, in cold climates, where decomposition takes place slowly, is found to be very injurious to the fibre, and to be almost inapplicable in warm climates, where fermentation often passes into putrefacation within three days, and the decomposed sap acquires acid and other properties which not only deprive the fibres of their strength but discolor them in such a way as to render them quite unfit for manufacturing purposes. Most vegetable substances contain, besides the fibrous tissue, sap, cellular tissue, and a little coloring matter; the sap consists usually of water, gum, fecula and alkali with occasionally tannin. When plants are dead or dried up, they pass

into a red or brown, usually streaked with deep yellow and grey. It is often possible to detect a regular succession of colors in the different parts of the same plant, and a few very useful lessons may be drawn from them—1st, that the pale yellow or greenish parts of a plant contain fresh, tender fibres—2ndly, that the deep green parts of a plant contain fibres in full vigor, and 3rdly, that red or brown parts indicate that the fibre is past its prime and beginning to decay. In the latter case, the fibre becomes stiff, harsh and often brittle. If plants be cut and exposed to the air or steeped in water, the same succession of colors may be observed, while they are drying or passing into decomposition, and these form a criterion by which the value of the fibre may be detected. As soon as a plant is cut, the circulation in its leaves ceases, and a new process is set a going which if carefully watched, will be found to be a beautiful and wise provision for reducing the parts to their primitive elements; the fecula and gum begin to ferment passing first into sugar, then into spirit and lastly into vinegar, the rapidity of the changes is usually in proportion to the water in the sap and the temperature of the air; the drier the plant the more slowly does it usually decay, but if the sap be allowed to dry up in a cut plant, the above changes still go on, though they are less perceptible, and the plant undergoes another change which is an equally wise provision for reducing it to its pristine elements. It becomes stiff and brittle, light and crumbly, parts falling into dust while the fibre and woody parts often remain to point out how the plant grew, derived its nourishment, and accomplished the ends for which it was created.

The following, he adds, may be laid down as broad and simple principles which have been found by experience to be applicable to the cleaning of most fibres.

The Cutting of Plants for Fibres.

The leaves, stalks or barks of plants should be cut when in full vigor and of a bright green color—when old, dry or decayed, they yield coarse and stiff fibre—no more should be cut at a time, than can be cleaned within two days, and the cut plants should not be left long exposed to the sun, as the sap dries up, and the process of cleaning then becomes more difficult. The sooner the sap, pulp, and impurities can be removed from the fibre, the cleaner and stronger will it be. The process of rotting plants, or steeping till fermentation takes place, is objectionable in a warm climate, and is now being abandoned even in cold climates, as it discolors the fibres and takes from their strength. Beating, crushing and scraping fibres, improves their quality, instead of injuring them, as was at one time supposed. In fact, the more a fresh fibre gets knocked about, provided it be not cut across and rendered too short in the staple, the softer and more pliant does it become. If a plant be well crushed or beaten soon after it is cut, it may be immersed in water for a night and a good deal of the injurious part of the sap will be removed.

The above remarks are applicable to the cleaning of nearly all plants. Some special observations regarding particular classes may be given.

The Palms—Cocoanut, Coir.—The coir fibre from the husk of the ripe cocoanut is greatly improved in quality and appearance by beating, washing, and soaking,—the old method of steeping in salt water for 18 months or 2 years, is quite unnecessary, and produces a harsher and dirtier coir. The tannin which this substance contains prevents the fibre from rotting, but most of the coir of commerce is a dusty harsh produce, but clean, and samples are suited to a superior class of manufactures, as fine mats and furniture brushes.

Leaves of the Palms—are employed for thatching and making fans, they do not undergo any preparation.

Leaf Stalks of the Palms—are harsh, stiff and brittle, but if beaten and washed they become softer and whiter; if carefully split and drawn like wire through perforated steel plates, a neat clean and durable basket work might be made from them.

Leaves of the Screw Pine make good matting. Some neat kinds of basket work have been made from this substance, it has also been tried for paper and yields it of good quality, light and strong. Further experiments are required to separate the green parts of the pulp from the white short fibre.

Rushes, Grasses, and Sedges—A good deal of uncertainty exists regarding the number and the names of the species employed. It is uncertain whether differences depend upon the treatment of the grass and the modes of splitting it, or on the different qualities of the plants employed. The Paulghat and Cochin mats have long been considered the finest in the South of India.

Liliaceous Plants—include the different varieties of aloe, agave, yucca, fourcroya and sanseviera. They are all hardy, require but little care for their cultivation are comparatively easily cleaned, and yield good white fibres of considerable length.

All that is necessary for cleaning them is to beat or crush the pulp with a common mallet, a pair of crushing cylinders, or a brake, then scrape away the pulp and wash the fibre. There are large exports of aloe fibre from the Western coast, and the cultivation of these plants might easily be extended on this coast, as it was on a former occasion. (See Report in Records of Military Board on aloe ropes supplied to the Arsenal from the years 1797 till 1805.) The aloe fibre contains a thick, viscid milky juice which remains in the fibre after it has been cleaned and imparts a stiffness to it. This juice can only be removed by hard beating or crushing. It is probable that this juice gives the aloe fibre its tendency to rot when much exposed to moisture.

FLAX—grows on the Shevaroy Hills, Mysore, Cuddapah, in the Nizam's Territories and the Northern Circars.

In cultivating sunn, hemp or flax, the seeds should be sown thickly together, in order that they may shoot up into long wand-like plants, which will yield much longer fibres, and be much less branched than if sown wide and freely exposed. The most promising substitutes for flax appear to be the pine apple, yercum, palay, ootrum and kooringa. Several of these grow abundantly in Southern India, but experiments are required to test their productiveness and the expense of their culture.

PLANTAIN—is extensively cultivated throughout India, but very little attention has been paid to the cleaning of its fibres. The plants being cut down and allowed to go to waste. The fibre is easily cleaned, but some simple crushing machinery is requisite.

HEMP, JUTE AND SUNN—of all Indian fibres appear to hold out the best prospects of proving remunerative. They are easily cultivated though not so strong as flax and its substitutes, they are suited for cordage, coarse cloth and other manufactures. The demand for them is steady. They could be cleaned economically by the machinery used for cleaning flax, but the machines would require to be made, and their uses taught to the Natives; further experiments might also be tried on the barks of some other promising plants as the species of Hibiscus, Abutilon, Abelmoschus, Althæa, Ficus, Bauhinia, Grewia, and Wrightia.

It still requires to be determined, whether tanning or tarring is the better mode of preserving cordage, and whether a substitute for tar might not be discovered in some of the numerous resins and gum elastics of Southern India.

Each district of India, has its own particular fibres, all largely utilized by the people. Of the very extensive and varied fibrous substances in all parts of the Madras Presidency only a few are cultivated as articles of export, though Southern India is abundantly supplied with fibrous materials for every description of textile manufacture, from the coarsest packing cloth, to the finest cambric, lawn, or muslin. It would be impossible to say how far the cultivation of fibrous plants might be carried, and what would be the demand for them at Madras, if properly prepared for the market; but there is no doubt, that the usual careless and slovenly mode of preparing these materials, has hitherto tended greatly to interfere with their sale in the European market. A large and interesting class of fibrous substances, which have hitherto attracted but little attention, is the barks of trees, many of which yield a strong and ready substitute for rope, and from the quantity of tannin, which some of them contain, they resist moisture, and retain their strength for a long time. With a little care and the employment of simple machinery, excellent ropes, mats and baskets might be prepared from some of these substances, and they would probably find a ready sale for agricultural and commercial purposes. One of the most common of these barks is the Bauhinia diphylla, called authee nar, yepy, and apa. This is a strong, coarse brown bark of which the Natives make temporary ropes for securing thatch, matting or fences. The barks of several other Bauhinias are used for the same purposes. The Ara nar is the bark of the Bauhinia parvifolia, of which matches for native guns are made. This class also includes the barks of the banian, Ficus indica or ala nar; of the peepul, Ficus religiosa or arasa nar; of the Ficus racemosa, atti nar; of the Ficus oppositifolia, bodda nar, Ficus (?) cullethy nar; of the bark of the Ficus tomentosa, also the barks of several species of acacia, as the babool (Acacia Arabica,) or karoovalum nar, the white acacia, or oday nar, (Acacia leucophlea,) velvaila nar, Wrightia tinctoria, and a number of other plants not yet identified. The trailing roots, twigs, tendrils, and drops of a number of plants are used for the same purposes. Under the head of Endogenous plants yielding fibres may be classed the

Palms,	Ananassa or Pine Apple,
Aloe and Agave,	Musa or Plantain,
Yucca or Adam's Needle,	Pandanus or screw pine,
Sanseviera or Marool,	Rushes,
Fourcroya or gigantic Aloe,	Grasses,
	Sedges, &c.

The Exogenous fibrous plants embrace those yielding cotton and silk cotton, flax and its substitutes, viz.:

Calotropis, or Yercum.	Bendee, or Abelmoschus.
Tylophora asthmatica.	Toothee, or Abutilon.
Cryptostegia grandiflora, or Palay.	Barks of Trees including varieties of
Dæmia extensa, or Ootrum	Ficus,
Hemp—Cannabis sativa, and its substitutes.	Bauhinia,
Jute, Corchorus olitorius	Grewia,
Sunn or Junapum, Crotolaria juncea.	Dalbergia,
	Isora,
Ambaree, or Hibiscus cannabinus.	Butea,
	Vernonia, &c.

The following fibrous plants occur in the Madras Presidency:—

Botanical Name.	Uses.
Saccharum sara ...	Moonshee's pen-reed grass.
Cyperus textilis ...	Used in the manufacture of mats.
Andropogon schœnanthus	Used in thatching.
Sanseviera Zeylanica ...	Bow string hemp, abundant along coasts.
Yucca gloriosa ..	Fibre and Oakum, clean and strong.
Yucca alœfolia ...	Clean white and silky.
Agave Americana ..	American aloe, now common in every part of India, used for cordage.
Agave vivipara ..	Long in the staple, clean and strong, used for cordage.
Agave viridis ..	Not strong do.
Fourcroya gigantea ..	White, strong, fit for cordage or paper.
Ananassa sativa ...	Fibres of various kinds, and worked in handkerchief, cords of different sizes.
Musa paradisiaca ...	Preserved fruit and meal, fibre, tow, cords, ropes, tarred rope, canvas, worked handkerchiefs & paper.
Pandanus odoratissimus	White, good for paper.
Cocos nucifera ...	Cocoa mats, cord and ropes.
Borassus flabelliformis..	Good colored fibre only fit for basket work or coarse cordage.
Linum usitatissimum ...	Flax of commerce.
Grewia asiatica ..	Coarse strong bark.
Do. tiliœfolia ..	Do.
Triumfetta angulata ...	Do.
Corchorus olitorius ..	Jute, cloth, gunny bags and rope.
Do. capsularis ...	Do. do.
Hibiscus cannabinus ...	Gunny bags and cordage.
Do. sabdariffa ..	Strong and silky.
Do. vesicarius ..	Soft and silky, fit for weaving.
Do. rosa chinensis.	Clean and silky, fit for cordage.
Do. vitifolia ..	Good color, strong do.
Do. lampas ..	Fit for rope and paper.
Abelmoschus ficulneus..	Good color and long do.
Do. esculentus	Strong and clean.
Decaschistia crotonifolia	Strong, silky and of good color, fit for weaving.
Abutilon tomentosum...	Silky, good color, not strong
Do. polyandrum ...	Silky, stronger than the last, fit for rope.
Do. Indicum ...	Clean and good, fit for rope

The *Fibrous plants of Travancore* are—Ailantus malabaricus, Paroo-marum, Malayalum, Inner bark. Not much used.

Agave americana.

Acacia leucophlœa, Oody nar. This tree is common near Cape Comorin. The fibres from the bark are used by the fishermen in making nets. A coarse kind of cordage is also made from it.

Aloe indica, or vulgaris, Kuttally nar.

Asclepias gigantia, Ericoo nar, Common.

Bauhinca tomentosa, Vellay Aatee nar.

Callicarpa lanata, Thondy nar. Inner Bark. Not much used.

Crotalaria juncea, Canamboo or Wuckoo. Cultivated extensively in the Southern districts. It is not exported. Fishing nets are made from them; the best kinds are grown in the Northern districts.

Cordia obliqua, Pothooveroosen nar. Moderate strength.

Erythrina indica. Moorookoo nar. Moderate strength.

Ficus indica, Aallen nar. Not much used.

Ficus mysorensis, Kul-aallun nar. Not much used.

Grewia rotundifolia, Oonoo. Moderate strength.

Isora corylifolia, Kywen nar. This is the most valuable fibre in Travancore. The plant grows abundantly at the base of the hills. It is from the stem of this shrub that the natives produce fire.

Mimosa intsia, Eengy nar.

Sida populifolia, used for cordage, &c.

Strychnos potatorum, Kathaven nar.

Smilax ovalifolia, Krinkoddy nar. Used for tying bundles, &c.

Sanseviera zeylanica, Marool nar. Excellent fibre when well prepared.

Terminalia alata, Mooroothen nar. Bark very strong and lasts many years: used for dragging timber, cordage, &c. Common in the forests.

Terminalia belerica, Umburathee nar.

Pandanus odoratissmus, Thalay nar. This plant grows abundantly in Travancore along the backwaters and canals, the fibres are extensively used, being good and strong.

General Rules for planting and cleaning.—When, says Dr. Hunter, plants are grown to produce fibres, they ought to be sown thick, to induce them to grow tall and slender, and without branches, so that the straight stems may yield a greater length of fibre, and it may be laid down as a general rule that the

softness or clearness of a fibre, forms a good criterion of its strength and vice versa.

As a general rule, every days steeping of a fibre, takes from its strength, and imparts more or less color. Therefore, with plants having bark and woody fibres,—the fibre can be purest extracted, by beating them, at first, well with a wooden mallet in order to loosen and allow the removal of the bark from the stalk, as it is generally on the inner surface of the bark that the fibres suitable for cordage usually occur. When the bark has been brought into a pulpy state, it should be well washed in clean water, to remove as much of the sap as possible, as this is the part, in which the putrifactive process first begins. The leaves, stalks, or barks of plants should be cut when in full vigour and in their bright green colour; when old, dried or decayed, they yield coarse and stiff fibre. Only so much should be cut at a time as can be cleaned within two days, and the plants when cut should not be exposed to the sun, as the sap dries up, and the process of cleaning them is made more tedious. The sooner the sap, pulp, and impurities can be removed from the fibre, the cleaner and stronger will it be. If a plant be well crushed or beaten soon after it is cut, it may be immersed in water, for a night, and a good deal of the injurious part of the sap will be removed. These remarks are particularly applicable to the coir fibre. With the Agave, Yucca, Fourcroya and Sanseviera beat or crush the pulp with a mallet, or crushing cylinder, or a brake, and scrape away the pulp and wash the fibres. In cleaning the fibres of pulpy plants, the plants should first be bruised or crushed, and the juice which exudes may be kept to be converted into a coarse kind of vinegar required in another process. For this part of the process the common sugar mill of India, with two perpendicular rollers and a channel to convey the juice into some convenient vessel, answers well, and the cost does not exceed ten Rupees. Where this small sum cannot be afforded, and labour is abundant, the plant may be well beaten with wooden mallets, on planks, until all the pulp is loosened. When it has assumed a pulpy consistence, the plant should be seized at both ends and well twisted on itself in various directions, to squeeze out the sap. It should then be well washed in plenty of water, untwisted, and scraped on a board, in small handfuls at a time, with a blunt straight knife, on a long piece of hoop iron, fastened into a wooden handle.. When all impurities are thus removed the fibres may be soaked for an hour or two in clean water and then hung

FIBROUS PLANTS.

up in the shade to dry, the latter being a point of much importance as exposure to the sun at first, is apt to discolor them. By this simple process, fibres, of great length, of a silky appearance and of a good colour, can readily be prepared. The scrapings should be well washed and set aside in the shade to dry as tow, for packing, or as a material, for making paper. This process is applicable to all fleshy or pulpy plants such as those known as Aloe plants, the Agave, and Yucca, Sanseviera and plantain. Prices have been offered in England, of Rupees 250 to Rupees 700, (£25 to £75) for fibres cleaned in this manner, while only from £10 to £18 per ton was offered for fibres sent to England at the same time, but which had been cleaned by the ordinary rotting process.—

Fibrous Plants of Western India, the Western side of India is less richly provided with those gigantic grasses, which in the valleys of the Ganges and Brahmapootra form such important parts of household economy. Still in the forests or dangs and on some of the internal rivers of Guzerat there are supplies sufficiently ample for many purposes if we but had the industry to turn them generally to account. That they can be partially worked up into a shape at once useful, light, and elegant, may be seen in those tent-houses constructed of reeds which form the dwellings of our Indian gipsies, gopala and other wandering tribes. Some of these huts can with ease be carried on a small donkey, and the material is so closely woven as to resist the heaviest rain. In Sind the manufacture is more extended and the grass chairs of that province as well as the boat mats are models for lightness and comfort, *Musa textilis* grows on the Ghats from CapeComorin Northward, and if hitherto it has not been turned to full account this may be ascribed partly to ignorance or apathy on the part of those whose mountains afford many other fibres; and partly to the fact, that in the northern slopes of the Ghats, the plant does not reach a height fitted to afford a fibre or more than two feet in length. Its strength is well known to the Ghat people who employ it occasionally for domestic purposes in rope-making as well as use the stem for food. The stem is perhaps too short to allow of its being worked into exportable fibre.

Cocoanut. In Malabar and Ceylon every available spot within the influence of the sea breeze is being devoted to the growth of the Cocoanut. Along the Western coast of the Madras provinces the wavy downs naer the sea-borders which have hitherto produced only a

stunted and worthless crop of grass are being every where levelled, broken up and manured so as to form the beds of future plantations, the value of coir depends so greatly on the previous manipulation.

Linseed—is often sown as an edging crop to wheat and other grain because it is not eaten by cattle in the green state. The reason given for its being sown in both long and cross drills is that the plant being weakly requires close sowing to guard it against the action of the weather.

Bast. Of these our substitutes for Bast we need only remark that while they rank among the easiest grown and most extensively distributed of all our forest trees, they usually suffer more from the axe of the woodsman and the flames lighted by the cultivator of the jungle, &c., than almost any other class of trees. In places where they were once abundant, trees are now rare. In forests under the Western Ghats far to the southward, they are still to be found in considerable numbers, but in such places the population is too scattered and migratory to take up the manufacture steadily and on an extensive scale. Provided they get a supply for making nets to catch the elk or fetters for the tame elephant they generally seek no more. For the latter purpose they frequently use the bark of some of the Sterculia trees.

Crotalaria.—These remarks may serve as an introduction to the important subject of Sunn or Crotalaria fibre, because the Hibiscus cannabinus or Ambaree, need be but lightly noticed, for it is not likely to be ever largely exported, and its uses will continue to be chiefly confined to the agricultural population of its native places. The Sunn fibre is becoming an article of increased export and of growing importance particularly in the great agricultural districts to the east of the Godavery, in Malabar, Canara, Darwar, Mysore, in all the great grain countries to the south, and in Khandeish, the quantity grown has more than doubled during the last ten years. Brahmans and the higher classes of cultivators consider it beneath them to cultivate sunn, indeed there is a common belief, that a cow in calf, if tied with a rope of Sunn will miscarry. In Guzerat, it is often sown for a green manure, being ploughed into the land just after the flower has appeared. Also in the collectorate of Broach, it is somewhat extensively cultivated on those broken lands and edges of ravines which decline from the level of the Khannum or black soil to the Myhee river. In cleared patches of the different forests which skirt and lie at the foot of the Ghats, it is said to be regularly cultivated as a rotation crop. In Khandeish the Brinjari, (the great grain carriers of the country) grow it in spaces which they clear near their temporary camps in the rainy seasons and in the hilly parts of Mysore, large camps of the same wandering tribe may be seen with their small huts or lightly stretched tents of cloth pitched near the slope of a great river, while their cattle are browsing among the neighbouring heights, and whole families are busied either in attending to the cultivation of Sunn or in working up into twine and cloth such material as they have collected from the crop. For the former purpose the hemp has to be prepared by a tedious and laborious process of beating on a flat stone or wooden block, successive blows being dealt by the men, each of whom is armed with a heavy club. By this means the woody fibre is pretty effectually got rid of and the article is then handed over to the women, boys and girls of the company to be by them spun into twine on the rude spindle or pirn which they always carry with them. It is no uncommon thing to see one of their stout wiry and bronzed visages—for such they always appear in the line of march, stalking along with a child on her back, her eye fixed on the movements of the cattle and both her hands employed in mechanically twisting the fibre of the twine on this spindle.

In districts below the Ghats the cultivation of sunn is limited to that grown by the wilder mountain tribes, and the mussulman and hindoo fishermen for their nets. Further cultivation seems to be restrained partly by fiscal measures and still more by the want of fresh water for steeping the fibre.

The practice of sowing the Sunn plant for the purpose of a green manure, proves that the natives appreciate the effect of manures decomposing in the soil: the use of liquid manure specially carted for the purpose of distribution was common in some parts of the country.

Combretaceæ. The withes of two species of the Combretaceæ are extensively employed in the place of iron stretchers for the mouths of the leathern sacks used in drawing water from wells.

Cannabis sativa is grown in several places; the mussulman population are just as great consumers of the intoxicating hemp product as the hindus. In Sind the extent to which it is used by all classes is frightful.

Paper. In Western India paper is made at Ahmedabad, Surat, Dharwar, Kolapore, and Aurungabad, the workmen are all mussul-

mans, the paper made at Aurungabad bears the palm as to fineness and gloss, hence the demand for it to engross sunnuds, deeds and other such documents. For royal use, as may be seen in the private account books of the late peshwa Bajee Rao, grains of gold leaf are mixed with the pulp and thus becomes spread over the surface of the paper. We believe that in all cases the pulp is formed from old grain bags originally made from the Crotalaria hemp or Sunn. Although the import to Bombay from Bengal of jute gunny bags for packing is considerable, we have never known them applied to the manufacture of paper.—*Bombay Quar. Review, page 265 of No. IV. of* 8855.

Moorshedabad, Bhaugulpore, and Cuttack abound in fibrous substances, and the Moorgahee, grown in the latter, is considered of a very superior description.

Assam furnishes many fibrous substances, and Dacca and Chittagong yield superior plantain fibre.

Eee-gywot-sha, a bast of Arracan, strips to five to six feet in length, composed of several layers, of which one side is smooth and compact, and the layers on the other side thin but cancellar : all having a considerable degree of toughness.

The Arracan fibres, known as Theng-ban Shaw, Pa-tha-yan Shaw, Shaw-phyoo, Ngan-tsoung Shaw,and Ee-gywot-Shaw attracted attention in England, but the quantity was too small for trying experiments.

The Tenasserim Provinces, Singapore and Prince of Wales Island yield abundant fibre, among them is that of the Aloe or Agave which is worked into thread; also, different sorts of pine-apple fibre, from the coarse material used for cordage to the finest thread for weaving cloth.

An officer sent, apparently from Arrakan or Assam, to the Bengal Agricultural Society, fibres from three plants : two from the Papeng shaw, one from Sida rhomboidea, and one of dhuncha, and an experiment made on the Papeng shaw was in two ways. In one process he stripped the bark, and immersed it in water, keeping the same for fifteen days; and the other was to strip the bark and to allow the process of fermentation to take place before immersing the same in water, which took place in forty-eight hours, and remained immersed in water for seventeen days, then washed, and the refuse separated from the bark the bark does not seen to admit of the process of fermentation, as that which is without has yielded a finer description of fibre, the dhuncha fibres are extracted in the same way, of the whole, he considered the

fibres of Sida to be the best; The basts of the Trans Ganjetic countries are very numerous. The bast is the liber or cellular tissue consisting of tough elongated vessels, which can often be separated and converted into fibrous material, useful for cordage and matting. That best known to Europe is a product of Russia and obtained from the Lime or Linden tree, the Tilia Europea, and converted into mats, and shoes. In the East Indies, species of Grewia, of Hibiscus, and of Mulberry, are remarkable for this product. The Theng-ban-sha; the Pa-tha-yon-sha, the sha-phyoo; the Ngan-tsoung-sha: Sha-nee and Ee-gw-ot-sha are the better known basts of Arracan.

The basts of Akyab and Burmah, are Heng-kyo sha, Dam sha, Tha-not sha, Wa-pree-loo sha and Sha goung, all used in preparing cordage for boats, nets, &c., wholesale market price, 2 Rs. 8 As. per maund, and all are of the inner bark of large trees.

The Sha Nee, Sha Phru, and Theng-ban sha of Akyab are most plentiful, and are used in preparing cordage for boats, nets,&c., and their wholesale market price is 1 R. 12 As. per maund. The Guandyoung sha or Akyab is used for cables and strong nets, the wholesale market price being 3 Rs. 4 As. per maund, and all these fibres are much used by the inhabitants of tha province.

The three basts extensively used in Burmah, for making ropes are called "That-poot-net-shaw," "Shaw-Laib-way," and Shaw-nee. These three basts, appear to be the inner barks of various species of sterculia and allied plants, which abound in the districts from whence they are forwarded. They are strong and enduring in their nature, and some of them have been tested with satisfactory results, but those seen are coarse and ill-prepared.

The Cacha codie are the stems of a creeper used for tying bundles and other purposes instead of twine.

The Mandrong rushes of Province Wellesley, grow spontaneously in the rice fields after the crop has been gathered, overspreading them like a second crop. Its fibre is strong, and is locally used in the manufacture of rice and sugar bags, mats, &c., experiment may prove it to be adapted for the manufacture of paper.

The Mang-kwang (Pandanus sp.) is used for matting, in Province Wellesley.

The Glam tree bark is from the Melaleuca viridiflora, Malacca. The Talee trap (Artocarpus sp.) is used at Hassang for fishing nets.

The Talee Taras, is of Singapore, and there is a bark used as twine, in Siam.

The Bark cloth of Keda in the Malay Peninsula is manufactured by the Semang an eastern Negro tribe; and that of the Celebes (Kaili) is made from the bark of the paper mulberry. Mr. Jaffrey at the Madras Exhibition of 1857, exhibited a very powerful new bast from the Eriodendron anfractuosum. A bast or Nar, from the large Australian or rather Cape tree (Acacia robusta) so common on the Neilgherries has been used for all purpose to which Russian bast is applied in gardens in Europe. The material is strong, tough, and durable also pliable when wetted; this bast could be procured cheaply and in large quantities, as when the trees are cut down the roots throw up numerous young shoots to the height of from 6 to 12 feet in one year. The bark of this tree is also a powerful tan. In the Tenasserim Provinces, as in other parts of India, cordage is made of coir, but ropes are more frequently made from the barks of Paritium macrophyllum, P. tiliaceum, Hibiscus macrophyllas, Sterculia gattata and Sterculia ornata.—*Mason.*

In China the staple summer corps are those which yield textile fibres. The jute of India, a species of Corchorus is grown in China to a very large extent and is used in the manufacture of sacks and bags for holding rice and other grains. A gigantic species of hemp (Cannabis) growing from ten to fifteen feet in height is also a staple summer crop. This is chiefly used in making ropes and string of various sizes; such articles being in great demand for tracking the boats up rivers and in the canals of the country. The beautiful fabric, China grass-cloth—is made in the Canton province and largely exported to Europe and America. The plant which is supposed to produce this (Urtica nivea) is also abundantly grown in the western part of this province and in the adjoining province of Kiangse. Fabrics of various degrees of fineness are made from this fibre and sold in these provinces, but none so fine as that made about Canton; it is also spun into thread for sewing purposes, and is found to be very strong and durable. There are two very distinct varieties of this plant common in Che Kiang—one the cultivated, the other the wild. The cultivated variety has larger leaves than the other; on the upper side they are of a lighter green, and on the under they are much more downy. The stems also are lighter in colour, and the whole plant, has a silky feel about it which the wild one wants. The wild variety grows plentifully on sloping banks, on city walls, and other old and ruinous buildings. It is not prized by the natives, who say its fibre is not so fine, and more broken and confused in its structure than the other kind. The cultivated kind yields three crops a year. A species of juncus, is also a great crop. Its stems are woven into beautiful mats, used by the natives for sleeping upon, for covering the floors of rooms, and for many other useful purposes. This is cultivated in water, somewhat like the rice-plant, and is therefore always planted in the lowest part of the valleys the harvest of this crop is in the beginning of July, and hundreds of the natives are employed in drying it. The river's banks, uncultivated land, the dry gravelly bed of the river, and every other available spot is taken up with this operation. At grey dawn of morning the sheaves or bundles are taken out of temporary sheds, erected for the purpose of keeping off the rain and dew, and shaken thinly over the surface of the ground. In the afternoon before the sun had sunk very low in the horizon it was gathered up again into sheaves, and placed under cover for the night. And so the process of winnowing went on day by day until the whole of the moisture was dried out of the reeds. They were then bound up firmly in round bundles, and either sold in the markets of the country, or taken to Ningpo and other towns where the manufacture of mats is carried on a large scale.—*Fortune.* Hemp is cultivated in the provinces north of the Meiling, but the plant also grows in Fuhkien; the grass-cloth made from it is not so much used for common dresses as cotton and silk. There are three plants which produce a fibre made into cloth known under this name, viz., the Cannabis sativa or hemp at Canton, the Urtica nivea, a species of nettle grown about Suchan, and the Sida tiliœfolia near Tientsinfu.—(*Williams' Middle Kingdom, page* 106.)

The following fibres and textile materials were sent from India, to the Paris International Exposition.

Corchorus oltitorius, jute.
Hibiscus cannabinus, ambara.
Hibiscus striatus.
Hibiscus fragrans.
Sida periploccœfolia.
Triumfetta lobata, fibres of good quality, and the plant is very abundant.
Sterculia villosa, oadal; very abundant.
Bombax malabaricum.
Crotalaria juncea, sunn, two varieties frequently employed under the term brown hemp and wuckoo nar.
Crotalaria tenuifolia, Jubulpore hemp.
Bauhinia racemosa.
Sesbania aculeata, dhanchee.
Butea frondosa, gular, string.
Calotropis gigantea, mudar; fibres good and silky the plant grows in dry places.
Daphne cannabina, employed in the fabrica-

tion of the satiny paper of India.
Daphne Gardneri, do.
Daphne Bholua, do.
Cannabis sativa or Indica, hemp plant, indegenous in India.
Urtiça nivea or Bœhmeria nivea, China grass or chu-ma or rhea of Assam.
Urtica or Bœhmeria tenacissima, known under the term rhea. Plant grows spontaneously, the fibres are soft and tenacious.
Urtica or Bœhmeria puya, do.
Pandanus odoratissimus screw pine; fibres employed in the manufactnre of canvass and paper.
Bromelia ananas, pine apple fibre.
Agave americana; fibres strong but are altered by washing.
Agave vivipara, do.
Aloe perfoliata.
Yucca angustifolia.
Yucca gloriosa.
Yucca aloifolia; fibre very strong and in length 60 to 160 centimetres.
Sanseviera Zeylanica, moorva or bow-string hemp.
Musa paradisiaca, plantain.
Musa sapientum, plantain or banana.
Musa textilis, Manilla hemp, famous for its strength and particularly useful for ships cordage.
Cyperus segetum.
Papyrus pangorei.
Eriophorum cannabinum, bhabur; for cordage.
Eriophorum commosum.
Typha elephantina.
Andropogon muricatus, cuscus, vetiver, sold in Europe as a perfume.
Bambusa arundinacea, and other species.
Maranta dichotoma.
Borassus flabelliformis.
Cocos nucifera, coir or cocoa nut.
Caryota urens. Kittul.
Arenga saccharifera, ejoo; its black fibres make excellent ships cordage.
Chamærops Ritchiana, &c.

(*Rapports du Jury mixte International, p.* 54.)

The reticulated fibre of the Abelmoschus ficulneus is made into paper and used in the manufacture of ghunny bags.

The Abelmoschus esculentus furnishes an excellent fibre for the paper makers and it is exported to a small extent as a rope making material. It has a fine gloss, which it retains even when brown and rotten; a bundle was found by Dr. Roxburgh to bear a weight of from lbs. 79 to lbs. 95.

The fibre of the Abelmoschus moschatus, broke with a weight of lbs. 107.

An excellent white fibre from the Abelmoschus tetraphylla, was exhibited by Mr. Jaffrey at the Madras Exhibition of 1857.

The fibres of the Abroma augusta are of great beauty, strength, toughness and fineness, and as it grows all over the East and as far as the Philippines, and so rapidly as to yield two, three and even four cuttings annually, all fit for peeling, it is deserving of more than common attention. The bark is steeped in water, for a week or more, according to the heat of the weather, and requires no further cleaning. The fibre is said to be three times greater and one-tenth stronger than that of sunn. A cord of the Abroma bore a weight of lbs. 74, while that of Sunn only lbs. 68. The fibres do not become weakened

by exposure to wet and the plant can be cultivated as an annual. (*Royle. Riddell; Roxb. iii* 156, *Voigt* 106, *Cycl. of Nat., Hist. Useful Plants.*)

The Abutilon Indicum yields a rather strong fibre fit for the manufacture of ropes. The plants are gathered and freed of their leaves and twigs and dried for two days in the sun. They are then tied in bundles and placed under water for about ten days; the bark and other foreign matter is removed by repeated washing, and the fibres are placed in the sun to dry.

Fibres of a long silky character fit for making ropes are obtained from the Abutilon polyandrum, and a fibre is also yielded by the A. tomentosum.

The leaves of Alcstris nervosus, *Roxb.*, are used for making cordage: they are steeped in water for fifteen days in order to rot useless parts and then beaten to separate the fibres. Aloe Indica, A. littoralis, A. perfoliata and A. vulgaris, and the American Aloe or Agave Americana, yield fibres of great value.

The following is the result of experiments of the strength of fibres:—

Coir	... 224 lb.
Pooley Mungeo (Hibiscus cannabinus)	... 290 „
Marool (Sanseviera zeylanica) ...	... 316 „
Cotton (Gossypium herbaceum) ...	... 346 „
Cutthalay nar (Agave americana)	... 362 „
Janapa (Crotolaria juncea), Sunn, hindee	... 407 „
Yercum (Calotropis gigantea) ...	... 552 „

Calotropus gigantea is a valuable plant and grows all over India. The charcoal of its roots is prized in the manufacture of gunpowder. Its leaves, buds, bark and milky juice are employed in native medicine, for their emetic, diaphoretic and purgative properties and the inspissated juice resembles caoutchouc, but is a conductor of electricity. It yields an ardent spirit. It is the "Bar" spirit of the western Ghats of India and according to Barth, the "giya" of the African.

Dunchai, the fibre obtained from the Æschynomene canabina grows plentifully. From the bamboo is made all the paper of China; the consumption, for all purposes, of 370 millions of a much-reading and much-printing population;—even that imported for engravings into Britain, under the name of "India paper," is thus derived. The

fibre of the pine-apple is the Pina of the inhabitants of the Philippines, who manufacture from it their finest fabrics. The Chinese in the European settlements of the Indian Archipelago have of late years prepared the fibre in considerable quantity, exporting it to China, where it is in great esteem for thread, and for weaving fine textures. The paper mulberry, the Broussonetia papyrifera, which furnished the ancient clothing of the South Sea islanders, and from which the Javanese manufacture a cheap paper, of toughness and durability approaching to parchment, is of value.

In the matter of Cotton fabrics, Mr. Rivett-Carnac, says that "however successful the Manchester mills may have been in providing the better class of natives with that smart cloth called Jagernathee, of which the "koorta" which now constitutes the costume of all in society is composed, they have not yet succeeded in affecting the manufactures of the beautiful dhotees and other fabrics of Nagpore and Oomrair, in which the better classes and the now enriched peasantry of Berar indulge, nor have they touched the manufacture of the coarse strong cloth made in the Nagpore and Chanda districts from home-spun thread, which all the Koonbee race of that part of India prefer to any imported cloth." The cotton of Central India finds its way north by Jubbulpore, as it used to do by Mirzapore, for the native and factory looms of Hindostan and Bengal. Among the eight millions of the Central Provinces alone, half the whole cotton produced is woven into cloth. While they took 58, 402 maunds of English piece goods in 1866-67, they exported 52,893 maunds of their own cloth to Berar and Bombay.

A vast improvement has been effected in the character of the indigenous staple of Indian cotton, the natives have learned that there must be a selection of seed adapted to the climate and soil of each province. The exotic "Middling New Orleans" suits Dharwar, which is within the influence of the damp sea breezes. The indigenous Hingunghat is well adapted for the dry uplands of Berar, Nagpore and Khandeish. Hingunghat seed, selected on the pedigree system as the peasantry select their seed for cereals, will produce a useful staple. Ropes, made of cotton are in extensive use in all the South and East of Asia. Taking each bale at 400lbs, the highest rate of consumption in all Europe has of late been a little above four millions of bales a year, or 78,000 bales a week. The average consumption is 3,800,000 bales a year or 73,000 a week, in Britain, as follows :—

	1861.	1862.	1863.	1864.	1865.	1866.	1867.
East Indian ...	986,600	1,072,439	1,223,700	1,399,500	1,266,525	1,847,763	1,508,750
American ...	1,841,600	71,766	131,903	197,800	461,927	1,162,743	1,225,688
Other kinds ...	207,500	300,863	576,600	989,800	1,026,869	738,553	766,333
Imports into Great Britain ...	3,035,700	1,445,068	1,982,200	2,587,100	2,755,321	3,749,058	3,500,771
Exports from Great Britain ...	677,220	564,900	660,590	732,280	890,830	136,565	1,015,040
Consumption in Great Britain ...	2,358,480	810,168	1,271,250	1,854,820	1,864,491	2,612,493	2,485,731

When we analyse the sources of the Indian supply, which is 1,500,000 bales to Britain, but 1,700,000 including exports direct to Europe and to China, we find the following :—

From		*Bales.*
Calcutta and Tinnevelly		425,000
Bombay		
Surat and Broach	100,000	
Dharwar and Koompta	150,000	
Khandeish	75,000	
Native States.		
Dhollera	250,000	
Kattywar	100,000	
Kutch, &c.	150,000	825,000
Kurrachee		70,000
Central Provinces and Berar		250,000
Nizam's Country		50,000
Central India States		50,000
Sundry small places		80,000
Total		1,700,000

The gomuti palm of very extensive culture in the Indian Islands, furnishes a fibrous matter at the roots of its fronds, much resembling black horse-hair, of finer texture and greater strength than the husk

of the cocoa-nut. This subtance, known to Eastern seamen as "black rope," is much used for cables and running rigging, and invites greater attention from our manufacturers.

Jute from the Corchorus capsularis has been imported from India into Great Britain only since the complete opening of the Indian trade in 1833, or for about 18 years. All the sacking of India is made from it and it is largely exported from Bengal, to the Dutch and Spanish possessions in Asia, to America and to Australia. The raw fibre of the jute, with a little wool, has been manufactured into good, useful, and substantial carpeting, which can be sold at the very moderate price of 8½d a yard.

The sunn, Crotolaria juncea, has been for many years imported from India, in quantities, into Britain.

In the Red Sea, cables are used formed of the coating of the branches of the date tree. At Oopada, the same material is used mixed with a proportion of fibre of the kaldera bush the Pandanus odoratissmus.

Of all the substitutes for hemp, probably the most important is that yielded by the banana, or Musa of botanists the stem of all of the species will produce a fibre of some utility, but, unquestionably, the only one that has hitherto been effectually used for this purpose is the Musa textilis, the well-known Abaca of the Philippine Islands. The fruit of this plantain is harsh, small, and uneatable when allowed to ripen, but in practice the ripening is prevented, for the flower is nipped off, and that increases the strength of the fibre. It has been immemoriably cultivated, and contributes largely to the clothing of the four millions of inhabitants of the Philippines, besides being largely exported in the raw state. It is made into cordage in the country, and takes the shape of cloth, most of the latter of a very fine quality and of great durability. In the raw state alone, known to us under the name of "Manilla hemp," the yearly exportation from Manilla amounts to about 6000 tons, the Americans being the principal exporters. The cost of this article at the port of Manilla is about £14 a ton, it is the coarsest fibres only that are exported, all the finer being retained for cloth, which as yet has not been made except in the Philippines.

India produces true flax and true hemp, exactly the same species of both as the European. The seed of the first, a valuable article, is crushed for its oil, and has of late been largely exported to this country. Hemp grows freely from the equator to the Himalayas and the fibrous matter of the stem is used as cordage. Jubbalpore hemp has been tested, and proved to be equal to Polish or Russian hemp, and is employed for ships ropes.

Hurcara, Newspaper, August 21st (1854); *Indian Field, Newspaper; Mr. P. Watson, in Proceedings of Society of Arts of 12th December* 1854; *Hon'ble Court of Directors' Despatch, No. 6 of June* 1854. *Dr. John Forbes Royle, M. D., in memo., dated* ——— 1854, *sent with Courts No. 6 of* 1854. *Rapports du Jury mixte International, p 54. Dr. Taylor, late Civil Surgeon of Dacca, letter, dated* 18 .

Mr. McIver, Mr. Jaffrey, London Exhibition, of 1862, *Madras Ex. Jur., Reports, Royle Fib. Pl. pp.* 80 *to* 237. *Calcutta Catalogue of the Exhibition of* 1862, *Beng. Dispen. p.* 457-4 *Beng. Pharm.* 405, *Honigberger* 457. *Dr. A. Hunter in Mad. Ex. Jur. Rep. Dr. J. L. Stewart, Punjab Plants.*

FICI. It. Figs.

FICO DEL INFERNO. It. Argemone Mexicana, Linn.

FICUS, a genus of plants belonging to the natural order Urticaceæ. The species are numerous, Voigt. numerates forty-two as having been grown in the Calcutta gardens, and Dr. Wight, in his Icones, gives the following fifty-two names of forty-two plants and ten synonyms;

Ampelos,	Exasperata,	Polycarpa,
Angustifolia,	*Excelsa,*	Quercifolia,
Aquatica,	Fruticosa'	Racemifera,
Asperrima,	Glomerata,	Radicans,
Attimeeraloo.	Hederacea,	Ramentacea,
Bengalensis,	Heterophylla,	Rapiformis,
Benjamina,	Hirsuta,	Repens,
Cannabinna,	Hirta,	Scabrella,
Caricoides,	Humilis,	Scandens,
Comosa,	*Indica,*	*Serrata,*
Congesta,	Infectoria,	Tomentosa,
Conglomerata,	Laccifera,	*Truncata,*
Copiosa,	Lanceolata;	T'siela,
Cordifolia,	Macrophylla,	Tuberculata,
Cunia,	Nitida,	Vagans,
Dœmona,	Obtusifolia,	Virgata,
Denticulata,	Oppositifolia,	Wassa.
Elastica,		

One of this genus, yields the fig, others of them yield a useful caoutchouc, several of them yield fibrous materials used for cordage, for half stuff and paper making and the Banyan tree, and the pipul tree are highly ornamental plants. Several throw out aerial roots, from their branches which grow into the ground and again throw out branches. Some are valuable as fruit trees, and yield viscid and useful juices, but few of them are of value for timber. The Ficus carica, the common fig tree, is cultivated in many parts of India. Ficus Benjaminoides, the Tenasserim Banyan tree, which drops aerial roots like the Indian fig tree, grows amidst mangroves and near tidal streams.

FICUS ASPERRIMA.

Ficus cinerascens, *Thw.*, the Walgoona-gass of Ceylon, is a large tree of the warmer parts of that island. F. citrifolia, *Wilde*, grows in Ceylon and on the western side of India, where some parts of it are employed in medicine. Ficus disticha, *Blume*, grows in the Central province of Ceylon, at an elevation of 3,000 to 5,000 feet, and F. diversiformis, *Miq.*, is very common in Ceylon, up to an elevation of 2,000 feet. The root of Ficus excelsa, *Vahl.*, of peninsular India and the Moluccas, is given, in decoction, as a purgative. A soft, grey, timber is obtained from the F. Gooleeria, *Roxb.*, which grows in Hindostan and Chota Nagpore. F. heterophylla, *Roxb.* Wal-ahatoo, *Singh.*, is common in Ceylon, in damp shady places. F. infectoria, *Willde*, is of Ceylon and India, and its bark is chewed with betel, in lieu of the areca nut. Ficus laccifera, *Roxb.*, Noogagass *Singh*, is not uncommon, in the Central province of Ceylon. F. lanceolata, *Roxb.* Thapan, *Burm.*, of Pegu, yields a soft useless wood. F. lucida, *Ait.*, the Kapootoo-bo-gass, of Ceylon, occurs in the drier parts of that island. F. nitida, *Thunb.*, which grows in the south of China and in many parts of India, is a valuable ornamental tree and good for shade. F. racemosa, *Linn.*, of India, produces a fruit of little value. Ficus religiosa, *Linn.*, the Pipul of India, and Bo tree of Ceylon, is a graceful and ornamental plant. F. t'siela, *Roxb.*, is common, but its timber is of no value. Some of the species possess, in their milky secretion, a highly acrid principle, which explains the specific name of F. toxicaria of Sumatra, and F. dæmona of Tanjore.—*Drs. Wight and Gibson, Thwaite, Voigt.*

FICUS, *Species.* Kulli kae. CAN. Generally a climber. Abounds in Canara and Sunda, in the country from Bilgy to the Ghats. Juice peculiarly abundant and viscid and used as a bird-lime. Well merits a further examination.—*Dr. Gibson.*

FICUS, *Species.* Thub-boo. BURM. A Tavoy tree, used in house carpentry.

FICUS, *Species.* Thup-pan. BURM. In Tavoy, a large tree: wood not used.

FICUS, *Species.* Baee dhimeree. URIA ? A tree of Ganjam and Gumsur, extreme height 30 feet, circumference 2½ feet, and height from ground to the intersection of the first branch, 8 feet. It is burnt for firewood being tolerably common. The leaves are used for food platters: the fruit is eaten. —*Captain Macdonald.*

FICUS ASPERRIMA, *Roxb.*

Ficus ampelos, *Burm.*
„ politoria, *Moon.*

FICUS CITRIFOLIA.

See-Wana madde-ya-gass.	SINGH.	Karasa,	TEL.
Pindi chettu.	TEL.	Tella baranki,	„
		Baranki chettu,	„

A large tree, a native of the peninsula of India, and which grows in Ceylon, up to an elevation of 2,000 feet. The trunk is remarkably short, but very thick and sometimes so completely covered with small very leafy branchlets, as to be entirely hidden. The leaves are used to polish ivory, horn, &c., and, in Ceylon, are in general use amongst native cabinet makers as a substitute for fine sandpaper, similarly to those of the Trophis aspera.—*Voigt, Thwaites, Mr. Rohde's MSS. Roxb.* iii. 554.

FICUS BENJAMINA, *Linn.* Rumph.

F. nitida *Wight.*

Kamrup,	BENG.	Itti alu,	MALEAL.
Oval leaved fig tree,	ENG.	Tella barranki,	TEL.
Warangan,	MALAY ?		

Grows in peninsular India, also in Kamrup and in the Archipelago. Is a valuable avenue tree, as it does not throw down ærial roots. *Roxb.* iii. 550.

FICUS BENJAMINOIDES, MASON.

Nyoung oung, BURM. | Tenasserim Banyan, ENG.

Leaves oval, suddenly acuminate, smooth, polished above; fruit auxiliary, paired, sessile, rough. It has the habit of dropping roots from its branches that root in the ground, and become trunks as large as the parent tree, to an extent nearly equal to the famous banyan. It escapes notice because it developes itself in the greatest perfection near the mangrove swamps, and on the banks of tide water streams above that belt where Heritiera trees and their associates show themselves, on land that is inundated by the spring tides only. Specimens are seen farther toward the interior, as on the banks of the Gyaine, but on the low banks near the sea between Tavoy and Mergui, the trees often form labyrinths from which it is difficult to extricate one's self. In towns, it would be quite an ornament to the sides of public walks. *Mason.*

FICUS CARICOIDES.

Kuwari, HIND. | Puari, HIND.

A plant of Kaghan.

FICUS CINERASCENS, *Thw.*

Wal-gona-gass, SINGH.

A large tree of the warmer parts of Ceylon. *Thw. En. pl. Zeyl. p.* 266.

FICUS CITRIFOLIA, *Lam. Willde.*

Ficus Mysorensis, *Roth.*
Urostigma Mysorensis, *Miq.*

Katu alu, MALEAL. | Boonooga-gass, SINGH.

Grows in Ceylon and on the western side of India. Various parts are employed in medicine.

FICUS CONGLOMERATA. Roxb. Syn. of Ficus cunia.—*Buch.*

FICUS CORDIFOLIA — ?

Nga thin-gyee, Burm. | Heart leaved fig tree, Eng.
Ny-oung-gyat, „ |

A tree of Moulmein and the Tenasserim Provinces. In Tenasserim, this tree usually supplies the place of the peepul in the public places, and in the neighbourhood of religious edifices. It approaches nearest to F. religiosa, yet is easily distinguished from it by the leaves being narower in proportion to the length, with much shorter points, and the fruit being perfectly round and not, as in religiosa, vertically compressed. It yields a strong wood, fit for any ordinary purpose.—*Dr. Mason, Cal. Cat. Ex.* 1862.

FICUS CUNIA. *Buch.*

F. conglomerata, *Roxb.*

A tree of the Concans, Rajmahal, Oudh, Nepal, Taong Dong, and Moulmein.

FICUS DÆMONUM. *Kon. Roxb.*

Yæ-kha-oung, Burm.

A tree of Tanjore and Burmah.

FICUS DISTICHA, *Blume.* Common in the Central Province of Ceylon at an elevation of 3,000 to 5,000 feet. *Thw. En. pl. Zeyl. p.* 266.

FICUS DIVERSIFORMIS, *Miq. I. c. p.* 441.

F. stipulata, Moon's Cat. p. 74.

Very common in Ceylon up to an elevation of 2,000 feet. *Thw. En. pl. Zeyl. p.* 266.

FICUS ELASTICA, *Roxb.*

Kusnir, Beng. | Caoutchouc tree, Eng.
Elastic fig tree, Eng. | Kasnir, Silhet.

The Indian Caoutchouc tree inhabits the Pundua and the Juntipoor mountains, which bound the province of Silhet on the north, where it grows to the size of a European sycamore. It is cultivated in Malabar. It is chiefly found in the chasms of rocks and over the declivities of mountains among decomposed rocky and vegetable matter. It produces when wounded a great abundance of milk, which yields about one-third of its weight of caoutchouc. It grows with great rapidity; a tree is described as being 25 feet high, with the trunk a foot in diameter when only four years old. Its juice is used by the natives of Sylhet to smear the inside of split rattan baskets, which are thus rendered water-tight. Old trees yield a richer juice than young ones. The milk is extracted by incisions made across the bark, down to the wood, at a distance of about a foot from each other, all round the trunk or branch, up to the top of the tree, and the higher the more abundant is the fluid said to be. After one operation the tree requires a fortnight's rest, when it may be again repeated. When the juice is exposed to the air it separates spontaneously into a firm elastic substance, and a whey-like fetid coloured liquid. Fifty ounces of pure milky juice taken from the trees in August yielded exactly $15\frac{1}{2}$ ounces of clean washed caoutchouc. This substance is of the finest quality, and may be obtained in large quantities. It is perfectly soluble in the essential oil of cajeput. This tree abounds in Assam, but the outer Himalaya at Punkabarree, is its western limit. It penerates amongst the mountains, as far as the Teesta valley in Sikkim, but is of small size. It may be distinguished from a distance of several miles by its immense, and dense lofty crown. Dr. Griffiths gives the dimensions of one of the largest as follows: —Circumference of main trunk seventy-four feet, ditto of main trunk and supports, one hundred and twenty feet, ditto of area covered by the branches six hundred and ten feet, estimated height one hundred feet. The geographical range of the tree, so far as has been hitherto ascertained, may be stated to be between 25° 10′ and 27° 20′ north latitude, and between 90° 40′ and 95° 30′ east longitude. Throughout this space it is found in the densely wooded tracts, so prevalent along the bases of the hills, and perhaps on their faces, up to an average elevation of 2,250 feet. Up till recent years there was but one European manufactory of caouchouc in Assam, the process of cleansing the gum was kept a secret. When Assam is more peopled by Europeans, and its forests become more known, caoutchouc will form an important article of export.—*The Universal Review, No.* 3, *p.* 360. *Roxb. Fl. Ind. III.* 545, *Hooker, Him. Jour. Vol. I. p.* 102, *and II. p.* 13, *Voigt.*

FICUS EXCELSA. *Vahl.*

Ati meralu, Maleal.

Grows in the Moluccas and in Southern India. Its root is given as a purgative, in decoction. *Voigt* 287 *Useful Plants.*

FICUS GLOMERATA, *Roxb.; Willde.*

Ficus cunia, *Buch.* | Covellia glomerata, *Miq.*
„ racemosaa, *Willde.* |

Juguya doomoer,	Beng.	Rumbal,	Panj.
Yæ-tha-pan,	Burm.	Atteekka-gass,	Singh.
Rulla ? kith mara,	Can.	Atti maram,	Tam.
Kulla kith mara,	„	Medi chettu,	Tel.
Oombur,	Duk.	Atti chettu,	„
Glomerous fig tree,	Eng.	Bodda chettu,	
Gooler,	Hind.	Paidi chettu,	,
Perena teregram,	Mal.		

A large tree thrives best near a watercourse, or on the banks of the rivers, fruit like the common fig, and grows in clusters

along the branches, flavour insipid, but eaten by the poorer classes. In Ceylon, it is common on the banks of rivers, up to an elevation of 2,000 feet: grows, also, in the peninsula of India, the Konkans, at Taong Dong, Moulmein, Nepaul and all over Oudh. The wood is said to be used there for furniture, and some of the lac of commerce is gathered from this tree. Mr. Latham says that it grows in the Nalla Mallai, to a height of 40 feet with a circumference of 4½ feet; and that bandy wheels are made from its timber, which is straight grained, strong, and appears useful; it is by hindus, considered sacred, and is burnt when libations are offered. In the Panjab, it is said to be only useful for fuel, it there grows as high as, and resembles, peepul. A medicinal extract is obtained from the root.—*Col. Cat. Ex. of* 1862, *Mr. Latham, Voigt, Thwaites, Mr. Rohde's* MSS. *Fl. Andh*: *Riddell. Lt. Col. Lake.*

FICUS GOOLEREEA, *Roxb.*

Dumbar. Hind?

A small tree of Chota Nagpore and Hindustan, with a soft, grey timber. *Roxb. Cal. Cat. Ex.* 1862. *Voigt.*

FICUS HETEROPHYLLA, *Roxb.* C. P. 532.

F. elongata, *Miq. i. c.*
F. subpanduræformis *Miq. i, c. p.* 235.
F. rubescens. *Vahl.*

Wal—ahattoo. SINGH.

It is common in damp shady places in Ceylon. *Thw. En. pl. Zeyl. p.* 266.

FICUS INDICA, *Linn.; Roxb.*

Ficus Benghalense, *Linn.*
Urostigma Benghalense, *Miq.*; *Gasp.*; *Rheede*: *W. Ic.*

But,	BENG.	Bera,	PANJ.
Bat.	„	Bar gad,	„
Bar.	„	Arbor de Rais,	PORT.
Pa-Nyoung,	BURM.	Vata vriksha,	SANS.
Ahlada mara,	CAN.	Maha nooga-gass,	SINGH.
Indian Fig-tree,	ENG.	Kiripello,	„
Banyan tree,	„	Ala maram,	TAM.
Bengal Fig tree,	„	Marri chettu,	TEL.
Bar ka jhar,	HIND.		

The Indian fig tree grows in most parts of the mainland and islands of India and in the hotter parts of Ceylon where, however, it seems to have been introduced. It is found in great perfection and beauty about the villages on the skirts of the Circar mountains. Its fruit, the figs, grow in pairs, and, when ripe, are about the size and colour of a middle-sized red cherry. If the seeds drop into the axils of the leaves of the palmyra-tree, the roots grow downwards, embracing the palmyra trunk in their descent; by degrees, they envelope every part except the top, whence, in very old specimens, the leaves and head of the palmyra are seen emerging from the trunk of the Banyan tree, as if they grew from it. The hindoos regard such unions with reverence, and call them a holy marriage instituted by Providence. Some of these trees cover an immense space even when comparatively young. In the Botanical Gardens at Calcutta, Dr. Falconer ascertained the great Banyan tree, which is still the pride and ornament of the garden, to be only seventy-five years old; for, people were alive who remembered well its site being occupied, in 1782, by a Date-palm, out of whose crown the Banyan sprouted, and beneath which a devotee sat. The editor writes from memory after a lapse of 36 years; but when, in 1834, he paced, at noon, the outer shadow of its branches, the circumference was near 360 paces, Dr. Hooker writing more recently mentions that this tree was eighty feet high, and throws an area, 300 feet in diameter, into a dark cool shade. It is undoubtedly a graceful tree. The editor paced it again, at noon, in 1863, and the circumference was still one hundred paces. Large banyans are common in India; but few are so symmetrical in shape and height, as that in the Calcutta gardens. Dr. Roxburgh had seen such trees full 500 yards round the circumference of the branches, and 100 feet high, the principal trunk being more than 25 feet to the branches, and 8 or 9 feet diameter. Marsden mentions a remarkable banyan or Bur tree, near Manjee, twenty miles west of Patna in Bengal, diameter 360 to 375 feet, circumference of shadow at noon 1,116 feet, circumference of the several stems, in number fifty or sixty, 921 feet. Under this tree sat a naked devotee who had occupied that situation for twenty-five years; but he did not continue there the whole year through, for his vow obliged him to lie, during the four cold months, up to his neck in the waters of the river Ganges. A remarkably large Banyan tree grows, or grew on an island in the river Nerbudda, ten miles from the city of Baroach, in the province of Guzerat, and was described by Colenel Sykes. It is called the Kabir Bar, a name said to have been given to it in honour of a saint, but more probably from the Arabic adjective "Kabir" great. It is supposed to be that which Nearchus described. Forbes in his Oriental Memoirs mentions its circumference as of 2,000 feet, and its overhanging branches which had not thrown down aerial roots stretched over a much larger area. The tree had as many as 320 large trunks and over 3,000 smaller ones, and was capable of giving shelter to

7,000 men. It was once much larger than at present, but high floods have carried away the banks of the island on which it grows, and with it a portion of the tree. Indian armies, when in that neighbourhood, have encamped around it, and at stated seasons hindoo festivals are held there, to which thousands of votaries repair. This is the tree, alluded to in Paradise Lost, when Adam and Eve

* * * * * both together went
Into the thickest wood: when soon they choose
The Fig-tree; not that kind for fruit renowned,
But such as, at this day, to Indians known
In Malabar and Deccan, spreads her arms,
Branching so broad and long, that, in the ground,
The bended twigs take root, and daughters grow
About the mother tree, a pillared shade
High overarched and echoing walls between.
There, oft, the Indian herdsman shunning heat,
Shelters in cool, and tends his pasturing herds
At loop-holes cut through thickest shade: these leaves
They gathered, broad as Amazonian targe,
And, with what skill they had, together sewed,
To gird their waist.

The tree, however, is not, as Milton sang, remarkable for the broadness of its leaf though the branches spread to a great extent, dropping their roots here and there, which, as soon as they reach the ground, rapidly increase in size till they become as large as, and similar to, the parent trunk. As the Banyan tree gets old, it breaks up into separate masses, the original trunk decaying, and the props becoming separate trunks of the different portions. The banyan hardly ever vegetates on the ground; but its figs are eaten by birds, and the seeds deposited in the crowns of palms, where they grow, sending down roots that embrace and eventually kill the palm, which decays away; the drops or aerial roots yield a heavy hard timber and, when well prepared by water seasoning, oiling &c., are valued for tent poles, spars of small vessels, &c. The timber of the trunk is not employed in India, but Mr. Rohde had used planks, sawn from large drops after they had been seasoned in water with advantage: for knife boards it is excellent. In Ceylon, Mr. Mendis says, it is used for common furniture and house buildings. A white glutinous juice is extracted by incision, from which birdlime is prepared and it is applied to the mouth to relieve tooth-ache; it is also considered a valuable application to the soles of the feet when cracked and inflamed. The bark is supposed by the hindoos to be a powerful tonic. The leaves are pinned together, to form platters, off which brahmins and hindoos eat. Much lac is often to be collected from this tree.—*Drs. Riddell, O'Shaughnessy, Dr. Hooker's Him. Journ.*

Vol. II. p. 246, *Marsden's Hist. of Sumatra, p.* 160, *Mr. Mendis, Milton, Book of Trees, Voigt, Thwaites, Mr. Rohde's MSS., Eng. Cyc.*

FICUS INFECTORIA. *Willde.*

Ficus venosa, AIT.	Urostigma ægeirophyllum, MIG.
Urostigma infectorium, MIG.	„ T'jakela, MIG.
	„ Ceylonense, „
Bassari mara, CAN.	Kirri palla gass, SINGH.
Wave leaved fig tree, ENG.	Kall alim, ? TAM.
Jovi, HIND.	Juvvi, TEL.

Grows in Ceylon and the peninsula of India. Its bark is used as a substitute for betel nut, to chew with the betel leaf.

FICUS LACCIFERA. *Roxb. F. I. III. p.* 545.

Urostigma lacciferum, *Miq. i. c. p.* 575;

Nooga-gass, SING.

Grows in the Central Province of Ceylon. *Thw. En. Zeyl. p.* 265.

FICUS LANCEOLATA. *Roxb.*

Tha-phon, BURMESE.

Wood soft, useless. A cubic foot weighs lb 27. In a full grown, tree on good soil the average length of the trunk to the first branch is 25 feet and average girth measured at 6 feet from the ground is 12 feet. *Dr. Brandis.*

FICUS MACROPHYLLA. *Clegh.*

Wild fig, ENG.	Trummel, PUNJABI
Broad leaved fig. „	Tirmul, „
Timbul, PANJ.	

This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 5,000 feet. Fruit edible, flavor pleasant, sold in bazaar of Simla, *Cleghorn Punjab Report, pp.* 965 *and* 82.

FICUS NITIDA. *Thunb. W. Ic. Rh.*

Ficus benjaminea, ROXB.	Urostigma retusum, MIQ.
„ pallida, WALL.	„ nitidum, „
„ retusa, LINN	„ pisiferum, „
Chinese banyan, ENG.	Billa juvvi, TEL.
Iti alu, MALEAL.	Emmodugu, „
Emmenta TEL.	Erra juvvi „
Hemanto, „	Nandireka, „

Common in the Central province of Ceylon up to an elevation of 5,000 feet. It grows in the Peninsula of India in Lower Nepaul, the Khassya hills, Penang, and China the bark of the root and leaves are used in medicine. It is a great favourite with the priests of China being valuable for ornamental purposes and shade. *Thw. p.* 265. *Fortune Tea Dist. p.* 6. *Wandering p.* 381.

FICUS PARASITICA. *Konig*, Syn.

F. Ampelos,	Kon. Roxb.	F. uniglandulosa,	Wall.
„ pervia,	Miq.	„ sclerophylla.	Roxb.
„ cuspidata,	„		

Cass nettool, Singh.

A Ceylon tree, very abundant up to 2,000 feet. *Thwaites.*

FICUS RACEMOSA. *Linn.*

Atti maram.	Can.	Atti maram,	Tam.
Gullar, ?	Duk ? Hind ?	Boddamanu, also	Tel.
Red wood fig-tree	Eng.	Medi.	„
Country-fig tree.	„	The Fruit.	
Bodda wood-Anglo.	Tel.	Atti Pallam	Tam.
Ati-olu.	Maleal.	„ Kaia	Tel.
Oodumburra,	Sans.	Madi-pandoo	Tel.

A large tree common throughout the country, its milky juice considered a valuable external application in ring-worm the fruit is used dried, in curries, roasted and eaten, pickles are likewise made with them by the poor.—*Ainslie page* 222. *Jaffrey.*

FICUS RELIGIOSA. *Linn. Roxb. Rh.*

Urostigma religiosum, Miguel.

Medah,	Ar.	Pipal,	Hind.
Vudah,	„	Ari-alu,	Maleal.
Oadi-zebid. ?	„	Bo-gass,	Singh.
Ashwuth	Beng.	Arasa maram,	Tam.
Ranghitmara,	Can.	Raya manu,	Tel.
Ani-pipal,	Duk.	Re also Ravi, also	
Pipal tree,	Eng.	Ragi,	„
Religious fig tree,	„	Aswaththamu	„
Poplar leaved fig tree	Eng.	Kallaravia	„

This large, handsome tree grows in most of the countries of the S. E. of Asia. It is frequently to be met with near pagodas, houses and other buildings. One at Gya-in South Bahar, is said to have been planted by Buddha, and, if so, is therefore more than 2300 years old. It is also held in veneration by the hindoos, because the god Vishnoo is fabled to have been born under its branches. This tree is planted for the sake of its extensive dark grateful shade and is preferable for avenues to the Banyan. The leaves are heart shaped, long, pointed, wavy at the edge, not unlike those of some poplars; and as the footstalks are long and slender, the leaves vibrate in the air like those of the Aspen-Tree (Populus trimula). Silkworms prefer the leaves next to those of the mulberry. The leaves are used for tanning leather. The roots are destructive to buildings, for if once they establish themselves amongst the crevices, there is no getting rid of them. Pepul bark is deemed a good tonic; the lac insects also flourishes on this tree. In Tenasserim, it is quite an ornamental tree but very scarce. The Chinese remove the cellular tissue or green matter of the leaves, and covering the skeleton with a coat of varnish or gelatine, paint figures of birds, flowers, &c. on its surface. It is the most sacred of trees with the Buddhists, for it was under this tree that Gaudama slept, and dreamed that his bed was the vast earth, and the Himalaya mountains his pillow, while his left arm reached to the eastern ocean, his right to the western ocean, and his feet to the great south sea. This dream he interpreted to mean that he would soon become a Buddha; and it was while seated beneath the same tree, that his dream was verified. A branch of the tree was sent to Ceylon by Asoka, and it flourishes there as the Bo-Tree. *Malcolm's Travels in South Eastern Asia. Drs. Mason, O'Shaughnessy, Riddell, Ainslie, Mr. Rohde.*

FICUS RUBESCENS, *Vahl.* Syn.

Ficus heterophylla, *Lam, Roxb. W. I. Rheede.*
Ficus aquatica, *Koen.*

Guri shiora,	Beng.	Buroni chettu,	Tel.
Valli teregam,	Maleal.		

Grows on the coasts of Peninsular India and is used in medicine.

FICUS T'SIELA, *Roxb. Rh.*

Ficus indica, *Linn, Syst.*		Urostigma, T'siela,	*Roxb.*
Ficus ampligrima, *Linn.*			
Eichie wood,	Eng.	Jovi Chettu ?	Tel.
Datira,	Mahr.	Pedda-Jovi,	Tel.
T'siela,	Maleal.	Juvvi,	„
Ichi maram, ?	Tam.		

A large and very handsome tree, generally planted by the road sides for the sake of its shade, and from its not sending down roots from the branches is, in so far, superior to either Ficus Indica (Banyan tree), or F. Benjamina, the pendulous roots of which are often dangerous impediments on a road.

FICUS SEPTICA and F. Toxicaria have an acrid and corrosive juice; F. tinctoria of the Society Isles gives a good yellow dye.

FICUS VENOSA, *Ait.*

Ficus infectoria, *Willd.*

Jakila,	Maleal.	Pakur,	Beng.

Grows on the coasts of Southern India, where a bow-string is prepared from the fibres of its roots and a red dye for cloths, from its roots.

FIDA, Ar. Pers. Hind. A Sacrifice.

FIDDLE, Eng.

Violin,	Eng.	Violons,	Fr.
Violinen,	Ger.	Violini,	It.
Geigen,	„	Violines,	Sp.
Vioolen,	Du.	Skripizii,	Rus.

A musical stringed instrument.

FIDORE, a town of the Lughari Affghans.

FIELD. A custom exists in Persia of dividing not only fields and villages, but, in some localities, whole districts, into six parts, which are further sub-divided into two unequal parts, the one containing four parts, char-dangheh, and the other two parts, do-dangheh. The same rule is observed also, with water for irrigating the fields, it being intimately connected with the division of landed property. *Baron C. A. De Bode's Travels in Turistan and Arabistan, Vol. II. p.* 336.

FIELD CUCUMBER. Eng. Cucumis utillissimus.—*Roxb.*

FIELEN, Ger. File.

FIENO. It. Hay.

FIERASFER, a species of this genus about six inches long dwells, as a parasite, within the great sea cucumber. It enters the mouth tears the sides and quarters itself between the stomach and the outer skin. *Hartw.*

FIGHTING STRENGTH OF THE FRONTIER CLANS OF INDIA. Writers have from time to time described the policy adopted by the British Government towards these clans, and its success appears at last to be acknowledged. An immense length of territory has to be watched. The clans can turn out a force greater than the whole Army of Bengal. They require an army of observation greater than the force which defended the Peninsula. The British Government has in fact placed the chain upon tribes as wild and almost as numerous as those who have for centuries maintained the independence of Arabia. The numbers stand as follows. Beyond British territory are

	Fighting men.
Tribes on Huzara Frontier and near the Indus—North of Peshawur, ...	8,000
Swat and its dependencies, ...	20,000
Momund, ...	12,000
Afreedie, ...	20,000
Oruckzye and other Tribes in Kohat Frontier, ...	30,000
Wuzeeric, ...	20,000
Sheoranee and others in Dehra Ismael Khan District, ...	5,000
Belooch Tribes on Dehra Ghazee Khan border, ...	20,000
Total...	135,000

the warlike Tribes within British Territory have the following numbers of

	Fighting men.
Turnoulee (including Jehandad), ...	8,000
Other Tribes of Huzara, ...	10,000
Eusufzye, ...	25,000
Khuttuck, ...	12,000
Bungush, ...	15,000
Derajat Tribes, ...	10,000
Total...	60,000

These men are all, trained from boyhood to the use of arms. All can use the tulwar, the long assassin's knife, and the long and heavy matchlock. All are fanatic mahomedans. All, too, are accustomed to consider plunder the easiest source of income, and robbery the only profession worthy of an honourable man, they have for ages regarded the people of the plains as serfs born to till for the benefit of the mountain and these lowlanders can be attacked through all the passes of ranges which extend for eight hundred miles, and the task of the Government may from this be partially comprehended. These tribes are, however, incapable of combination. They live in incessant bloodshedding feuds. Life for life is the universal law of the mountain, and the feud once commenced can end only with the destruction of one clan or the other. They have but one common bond, the hatred of the infidel, which from time to time urges individuals to acts of homicidal frenzy. A union among these tribes is considered in the Punjab an impossibility. But feuds as deadly were pacified in Arabia, when tribes equally wild and not more fanatic united for the conquest of the Oriental world.—*Friend of India, 3 April,* 1856.

FIGOS. Port. Figs.

FIGS. Eng.

Tin,	Ar.	Fici,	Lat.
Teen,	,,	Caricæ,	Lat.
Vygen,	Dut.	Figos,	Port.
Figues,	Fr.	Udumbara,	Sans.
Feigen,	Ger.	Rata Attika,	Singh.
Anjir,	Guz. Hind. Malay. Pers.	Higos,	Sp.
		Simai-atti pallam,	Tam.
Fichi,	It.	Mo'di-pandu,	Tel.

The fruit of the Ficus carica which grows all over Spain, the Mediterranean, Italy, France Greece and India. Dried figs are largely imported.—*Faulkner.*

FIG FREE of Ficus carica.

Tjin,	Arab.	Teenah,	Heb.

FIG TREE the Indian fig-tree is the Ficus Indica, one of them has long been famed at Allahabad and which is still represented by a withered stem in the underground cave at Patala puri. There was, no doubt, a very ancient and venera-

ble fig-tree at Allahabad, perhaps for some centuries, for it is alluded to in various vocabularies, as Medini, &c., it is also described in the Kasi-khanda, and Kurma Purana. The first notice, however, is in the Ramayana (B. 11. Sect. 41 and 42) of Rama with his wife and brother resting under the shade of it after crossing the Jumna so that not only was the tree then in the open air but it was on the opposite side of the river to that on which it is now traditionally venerated. *Uttara Rama Cheritra* Note p. 302.

FIG TREE COUNTRY, also red wood. Fig tree, ENG. Ficus racemosa.—*Linn.*

FIGUES. Fr. Figs.

FIGURES, are supposed to have originated among the brahmans of India. The Arabs have two sets of figures.

FIGURE-STONE, or Agalmatolite.

FIG, WILD, of Scripture. Ficus sycomorus.

FIGWORTS. See Scrophulariaceæ.

FIJI ISLANDS of Polynesia, in these until recently, the people were cannibals. They discouraged early marriages and the chastity of the young women was carefully guarded. Some at least of a chief's wives were always strangled on the death of their husband, to accompany him to the other world, and no reluctance was ever shown by women to submit to the sacrifice; nor, did young women consider the age of a man as any objection to their marriage, although fully aware that they must probably follow him to the tomb long before the natural termination of their own lives. The name and nature of their future abode differed in many of the islands, but the greater number spoke of "Bulu" as the place of departed spirits, a term probably synonymous with the Tongan Bulotu. *Capt. Elphinstone Erskine, Islands of the Western Pacific*, p. 248. See India pp. 319, 353.

FIKIS. ARAB. Galls.

FIL. FR. Thread, Yarn.

FILARIA MEDINENSIS. *Linn.* Guinea worm. This is often about three feet long, and is very troublesome when it occurs about the sinews of the feet and leg.

FILARIA. *Species*, one of these inhabits the pearl oyster, and Dr. Kelaart thinks it causes the formation of the pearl.

FILATO. IT. Yarn.

FILBERTS. The fruit of the hazel-nut Corylus avellana.

FILE.	ENG.	DAN.		
Vylen,	DUT.	Kikir,		MALAY.
Limes,	FR.	Limas,		PORT. SP
Feilen,	GER.	Pili,		RUS.
Kanus,	GUZ. HIND.	Arram,		TAM.
Lime,	IT.	Akurai,		TEL.

An iron or steel implement used to give form to metals and woods.—*McCulloch, Faulkner.*

FILE-FISH, the genus Balistes of the South Seas.

FISAUNI. HIND. Hamiltonia suaveolens.

FILFIL. AR. Pepper, hence:

Filfil-Achmar. ARAB. Cayenne pepper.

Filfil-Aswad. Black pepper, Piper nigrum.

Filfil Burree. Wild pepper, fruits of Vitex trifolia, agnus-castus and negundo.—*Irvine.*

Filfil-i-Daraz. PERS. long Pepper. Piper longum.

Filfil-i-Siah. PERS. Black pepper.

Filfil-i-Surkh. PERS. Cayenne pepper. Red pepper.

Filfil-Muck. ARAB. Pepper root.

Filfil-ul-Jibbel. Capparis Sinaica.

FILFIL BARI. HIND. Vitex negundo.

FILICES. See Capilaire. Fern.

FILLIGREE. A style of delicate wire-work, used for ornamenting gold and silver, introduced by the Italians, who call it filigrana, a word compounded of filum a thread or wire, and granum a grain or bead: this is in allusion to the early practice of ornamenting the wire-work with small beads. Wire used for this purpose is seldom drawn round, but flat or angular. The display of filligree work in the Great Exhibition was very wonderful for delicacy of workmanship and fantastic beauty. The chief exhibitors were from Sardinia, Turkey, the Ionian Islands and Malta. The native silversmiths of Cuttack have long been noted for the fineness, neatness, and lightness of their filligree work. This kind of work is executed, for the most part, under supervision, by mere boys, whose nimbler fingers and keener eyesight are supposed to enable them to bring out and put together the minute patterns with more distinctness and accuracy than their elders can; comparative cheapness is, perhaps, another reason for their employment. The ruling rates for this filligree work are from two to two and a half rupees, that is to say, taking the first rate, two rupees or four shillings is charged for every rupee weight of finished silver work, namely, one rupee for workmanship, and one rupee as the price of the silver. The filligree work in gold of Delhi and other places is famed. Next to muslins, and embroidered fabrics, filligree work is that for which Dacca is most celebrated but the art is also practised in great perfection at Cuttack, and in Sumatra, and China. The articles usually made at Dacca are Lady's ornaments, such as bracelets, ear-rings, brooches, chains, necklaces,

&c., and attar-dans and small boxes for natives. A specimen on a large scale could be made, such as a vase for flowers, a stand for writing materials. The design best adapted for displaying the delicate work of filligree is that of a leaf. It should be drawn on stout paper, and of the exact size of the article intended to be made. The apparatus used in the art is exceedingly simple, consisting merely of a few small crucibles, a piece of bamboo for a blow pipe, small hammers for flattening the wire, and sets of a forceps for inter-twisting it. The drawing of silver and gold (*i. e.* silver covered with gold) wire, used as thread in embroidery, is extensively carried on in several places and Benares is celebrated for this art. There are several varieties of silver and gold thread (badla) made at Dacca, as "goolabatoon" for the embroidery of muslins and silks; "goshoo" for caps and covering the handles of chowries; "sulmah" for turbans, slippers, and hookah snakes; and boolun for gold lace and brocades. Some of it is drawn almost as fine as a hair. In the time of Aurungzebe a quantity of this article was made yearly for the Court at Delhi. A hundred sticks covered with it, and plain gold, and silver "badla" to the amount of £2,000 in value, appear, among items composing the *Mulhoos Khas Nuzr*, or present of royal clothing annually sent to the Emperor. The Trichinopoly filigree work is as light and elegant as that of Malta or Genoa. (*Dr. Taylor.*)

FILIX MAS. See Nephrodium felix.

FINDUK. Arab. Pers. Hind. Corylus avellana also C. lacera, Hazelnuts.

FINE TOOTHED CHERRY. Cerasus serrulata.

FINJAN. Arab. A cup without handles.

FINN, a race occupying Finnland in the North of Europe, supposed to be of the same stock with the Turkoman, the Tshude, the Laplander and theMagyar of Hungary. Rask was of opinion that the language of the Lap, the Finn and Basque of Europe and of the Cuchuwari, Kohati, Toda. Gond, and Lar of India were of one stock. Also the Brahui and the Japanese. See India 314,332. Kelat p. 488.

FINOKI, Jap. A cypress tree, of Japan, which yields a light whitish wood of a good substance, and does not absorb water.—*Thunb., Hist, Jap. Vol. I. p.* 118.

FINUS FELLEUS. See Cocculus crispus.

FIO. Port. Thread: Yarn.

FIÓRE. It. Flour.

FIRDUSI, author of the Shah Namah, a Persian poem. He wrote it at the request of shah Mahmud of Ghizini; but, disappointed by the promised reward of 30,000 drachmas, he returned to Toos his native city and there died.

FIRE. Eng.

Mee,	Burm.	Ignis,	Lat.
Feu,	Fr.	Fuego,	Sp.
Feur,	Ger.	Narapu,	Tam.
Ag,	Hind.	Nepu,	Tel.
Agn,	,,	Agg,	,,
Fuoco,	It.		

Fire is frequently mentioned in the writings of ancient and modern nations as an object to be worshipped or reverenced. Perhaps the chief culture enjoined in the Vedas is that of Agni or Fire and of the Sun, and with the ancient Persians as with the Parsees of the present day, the worship of these two objects formed the principal religious duty. Fire is preserved in hindu, in Parsee, and in Buddhist temples and seems to be the inextinguishable fire alluded to in Lev. iv. and 13 as their lamps are kept perpetually burning, according to the injunction to the Hebrew Levites, "the fire shall ever be burning upon the altar; it shall never go out." An Agnihotra bramhin preserves the fire which was kindled at the time of his investiture with the poita, and never suffers it to go out, using the same fire at his wedding, and in all his burnt-offerings, till at length, after his death, his body is burnt with it. The sacred fire kindled by Montezuma was preserved at Pecos down to our own times. The Natches of N. America even now preserve a sacred fire and believe that frightful calamities would ensue if ever the fire were extinguished at both temples at once. Even among christians of the present day, according to Mr. Robertson, on the eve of the Greek Easter-day, the ceremony of receiving the αφως-πυς or Holy Fire is performed in the chapel at Jerusalem. The fire bursts from the sepulchre and the pilgrims of the Greek communion light their torches at it believing that they receive it from heaven. (*Robinson's Travels, Palestine and Syria* Vol. 1, pp. 47-8.

The lamps and candles which some christian sects keep in their churches are remnants of the ancient and modern culture of fire. The Athenians had a perpetual fire kept by widows; among the Romans it was kept by virgins. The Greeks had one in the temple of Apollo. The Parsi people, descendants of the ancient Persians, have a sacred fire, in each of their temples. The Chaldeans, adored fire, and when it went out, it was a presage of all sorts of misfortunes to the State. What kind of fire is meant by the "Strange Fire" of Lev. x, 1; Numb. iii, 4; vxvi and 61 (See also Lev. xvi., 12; ix,

24; xi. and Ecc. xxx. 9, is doubtful, but a Brahman should maintain three fires (Vikrama and Uravasi, Introduction, Vol. i. p. 190) two, mentioned in a Sukta of the Rig Veda and the Apastamba Sutra, are the Sabhya and Avasathya, the precise purport of which names is not known to the Pundits, nor explained in the Bashya. The literal sense would be the fire of the assembly and the fire of the village, as if a sacrificial fire was sometimes maintained in common. (*Hind.Th.* Vol. ii. p. 11.)

The division of one fire into three is ascribed by the Mahabharata and the rest to Pururavas. The commentator on the former specifies them as the Garhapatya, Dakshina, and Ahavaniya, which Sir Wm. Jones, (Manu., II. 231,) renders nuptial, ceremonial, and sacrificial fires; or rather, (1) household, that which is perpetually maintained by a householder; (2) a fire for sacrifices, placed to the south of the rest, and (3) a consecrated fire for oblations; forming the Tretagni, or triad of sacred fires, in opposition to the Laukika, or merely temporal ones.

It may be that the taking of fire from other than the established place was called Strange. The fire used by hindus for the funeral pile, ought to be obtained from the sacred fire but it is at present the common practice of the hindus of ordinary rank in the western provinces of India to procure fire from an outcast to light the funeral pile. On the eastern side of India, the fire used in the household sacrifices of their homes is obtained from the hearth-fire. That used in their incremation is from the lamp lit in the ceremonial when a person is moribund but the lamps of the temples are lit only by brahmins and taking fire from other than the altar would be "strange". A hindu, as indeed also a mahomedan does not "blow" out a lamp with his breath, the hindu believing that a god intervenes. The Chaldeans paid divine adorations to fire. In the Hebrew books, God is mentioned as having appeared in fire or encompassed with this element, as when he showed himself in the burning bush and descended on Mount Sinai, in the midst of flames, thunder and lightning. (Exod. iii. 2; xix. 18.) Fire is also a symbol of the deity, (Deut. iv. 24.) In this awful manner he showed himself to Isaiah. (Ch. vi. 4), to Ezekiel (Ch. i. 4.) The Psalmist describes the chariot of God as composed of flames. (Psalm xviii. 12—14.) And the second coming of Christ is represented as in the midst of consuming fire. (2, Thess. i. 8. See also Daniel vii. 10.) The wrath of God is compared to fire. (Psalm xviii. 8); and so are those effects of his displeasure, famine, war, and pestilence. (Psalm lxvi. 12; Jer. xlviii.) To this element the Lord is compared, (Mal. iii. 2), referring to his judgment upon the wicked, who are consumed like the dross of metals, and to the effects of his grace refining the righteous like pure gold. The influences of the Holy Ghost are also compared to fire. (Mal. iii. 11); in reference to the tongues or flames of fire that rested on the heads of the Apostles (Acts ii. 3); and to the work of regeneration on the human soul, illuminating, quickening, purifying, and inflaming with gratitude, love, and zeal. The angels of God are represented under the emblem of fire. (Ps. civ. 4): and a column of flame directed the marches of the Israelistish camp during the night seasons in the wilderness. (Exod. xiii. 21.) Fire anciently fell from heaven to consume the victims sacrificed to the Lord, and this was an indication of his regard and approbation. And this is thought to be the manner in which Jehovah signified his acceptance of Abel's sacrifice. Fire also fell upon the offering made by Moses. (Lev. ix. 24), on those of Manoah (Judg. xiii. 19, 20), on Solomon's (2. Chron. vii. 1), and on Elijah's (1 Kings xviii. 38.) The fire which descended from heaven, first upon the altar constructed by Moses in the tabernacle, and again on that erected by Solomon, at its consecration, was constantly fed and preserved by the priests, and was regarded as celestial or hallowed fire, first kindled by the Lord himself, to instruct mankind that the origin of all spiritual good is from above, and that we are not to warm ourselves with the sparks of our own kindling. (*Robinson's Travels in Palestine and Syria.* Vol. I. pp. 280—2.)

On the east side of the fortress of Gwalior where myriads of warriors have fattened the soil, phosphorescent lights at one time often appeared. Colonel Todd dared as bold a Rajput as ever lived to approach them; but he replied, men he would encounter, but not the spirits of those erst slain in battle. Such fires the northern nations believed to issue from the tombs of their heroes, and to guard their ashes; they called them Hauga Elldr, or 'the sepulchral fires,' and they were supposed more especially to surround tombs which contained hidden treasures. They are termed "Shahaba" by the rajputs. When the intrepid Scandianavian maiden observes that she is not afraid of the flame burning her, she is bolder than that bold rajput, for Sri-Kishen,

who, as above related, was shocked at the bare idea of going near the sepulchral lights, was one of three non-commissioned officers who afterwards led thirty-two firelocks to the attack, and defeat of 1,500 Pindaries. At present the Kasak or Kirghis do not spit on a fire, and in Khiva, Khokand, in many other parts of Africa and Asia and Europe, the custom continues of dancing round fire. In the whole of Central and Southern Asia to blow out a light is considered very wrong. Everywhere in hindoo India, there is believed to be a fire which does not burn a person, attributed to Siva or Mahadeva, written also Seo, or Siu, and annually, in the Dekkan, the fire worship of Mahadeva is performed, in which, the devotees run or jump through great fires, attributing their escape to the interposition of that hindu deity.

Fire is obtained in New Zealand by friction of the woods of the Melicytus ramiflorus of the Aralia polygama, and of the Kaikomako trees. The wood used to provide fire in Tahiti is that of the Hibiscus tiliaceus.—*Wilson's Hindu Theatre, the Toy Cart. Art* 112. *Colebrooke on the Religious Ceremonies of the Hindu, Asiatic Res.* XXI. 241. *Sonnerats Voyage* pp. 77—8. *Story of Nala* p. 102. *Robinson's Travels Palestine and Syria* Vol. I, p. 282. See Agni, Agnihotra; India. Inscriptions; Tripandra.

FIRE CLAY, Sang-i-dalam. HIND. A kind of clay, very common in many parts of India, from which bricks can be made that resist the action of great heat.

FIRE FLY, a little luminous beetle, a species of Lampyris. The lower part of its body has some apparatus for emitting a bright phosphorescent light. Usually it is emitted in flashes at intervals of a second, and it is interesting to guess where the creature in its flight will next show itself. But occasionally the light is continuous. See Ægiceras.

FIRE PLACES. These, in the Eastern and Southern parts of Asia, are usually the hearths, alluded to in Jeremiah xxxvi. 22. 'There was a fire on the hearth burning before him.' Hindoo houses have neither chimnies nor fire-places. In the cold weather, the rich burn wood in brass or earthen pans, placed in any part of the room; the indigent burn sticks on the floor. The hearth or fire-place is commonly taken to mean the livelihood, or means of supporting a family. If the family be scattered into, say three parties, the expression would be, I have three fire-places burning. Speaking of a family ruined and dispersed, the Persians say oojak-i-shan koor shood, "their fire-place is darkened."

FIREWOOD is the chief fuel used in the Indies, and the less valuable trees of each locality are cut. On the east coast of the peninsula the woods chiefly used are:—

Canthium parviflorum.	Randia dumetorun.
Hymenodyction excelsum.	Anisonema multiflora.
	Cassia auriculata.
Acacia speciosa.	Phyllanthus.
Gmelina asiatica.	Acacia leucophlæa.
Peltandra.	Maba buxifolia.
Vatica laccifera.	Dichrostachys cinerea.
Grewia rotundifolia.	

The trees furnishing the supply at Simla, are chiefly:—

Quercus incana.	Pinus excelsa.
Rhododendron arboreum.	Cedrus deodara,
Andromeda ovalifolia.	

with other jungle trees and stout underwood. At Kassowlee and Kanawar, the contractors supply principally "chir" (Pinus longifolia), which grows wild in the adjoining hill sides, and splits easily. The only forbidden wood is "behul" (Grewia oppositifolia), which emits an offensive smell in burning. The villagers use as fuel the withered stems of Euphorbia pentagona and thorny bushes.

In the Punjab, the woods used are

Alsine, sp.	Hippophae rhamnoides.
Artemisia sacrorum.	Juniperus communis.
Calligonum polygonoides	Juniperus excelsus.
Caragana pygmæa.	Periploca aphylla.
Crozophora tinctoria.	Rhazya stricta.
Ephedra Gerardiana.	Rosa Webbiana.
Eurotia ceratoides.	Tanacetum tomentosum.

Near the Punjab railway lines, Phulai (Acacia modesta) furnishes a hard wood which is perhaps the best fuel given by any wild tree. It is only found in quantity near Umritsur and Jullundur. Dhak or Pulas (Butea frondosa) has a wood too soft and light to furnish, unmixed, a really effective fuel. Jhand or kandi (Prosopis spicigera) covers very large areas in the central tract near Lahore, and grows more partially over many parts to the south. Its wood is open-grained and softish, and is very subject to the attacks of white ants, but it furnishes a fair fuel, and has hitherto been perhaps the chief source of supply for the locomotives in the Punjab. Next to it, as to quantity of fuel furnished, come the tamarisks, furas, lei, pilchi, &c., (Tamarix orientalis and Tamarix Indica) which from some miles south of Lahore southwards, cover hundreds of square miles of the low land. A tree of Kikkar or Sissoo, under tolerably favourable circumstances, attains a girth of about 30 inches in ten years; and gives about four maunds of dry fuel;

200 trees, yielding 800 maunds of dry fuel, might be grown on an acre in ten years. Zizyphus nummularia, the malla or beri, grows abundantly in the Punjab, but it is small for fuel. Various species of Salsolaceæ, abound in the more saline dry parts of the Doabs of the Punjab. West of the Bias, Karil, Capparis aphylla, a considerable shrub, is a common brick fuel in many places in the Punjab, as also is the jal, wan or pilu, Salvadora oleoides overabundant south of Lahore. Along some of the rivers in the south the bahn (Populus Euphratica) is not uncommon, but its wood is very light. The smaller tamarisk T. Indica becomes fit for felling in 8 or 10 years. The "Kikkar" attains its maximum in 8 to 15 years. *Dr. Cleghorn's Report, p.* 14. *Cal. Rev. Feb.* 1868, *pp.* 266-7.

FIREWORKS.

Feux de artifice,	Fr.	Marchun	Malay.
Feurwerke,	Ger.	Rabok	„
Atishbazee, Guz.	Hind.		

In eastern countries the people have superb displays of pyrotechnic skill. The fireworks are of various forms, represent animate and inanimate things, such as trees, tigers, ships, elephants, men, sea-fights, eclipses of the sun and moon. They are manufactured in the principal cities.

FIRING. Pelling is the Tibetan corruption of the word Firingi, itself a corruption of Frank, the oriental word for European. *Prinsep's Tibet Tartary and Mongolia*, p. 65.

FIRKI TUGAR. Hind? Tabernæmontana.

FIRMAN. Pers. Turk. Royal letters are so called; literally, an order.

FIRNI. Hind. Rice boiled with milk.

FIROZAH. Hind. Turkis, turqu, hence Firoz-a-Rang, turquoise blue. It is found at Khojend in Mawar al nahr, or Trans Oxiana, at Shebavek, in Kirman, and in a mountain of Azerbijan, where the mine was discovered about fifty years before Ahmed ben Abd al Aziz, composed his Treatise on Jewels. He describes the mine at Nishapur as most celebrated from early ages for that particular kind of turquoise, entitled Abu Ishaki, which, says he, averts evil from those who wear it, conciliates the favour of princes, augments wealth, preserves the sight, ensures victory over an adversary and banishes all unpleasant dreams. The ancient sages, when first they beheld a new moon, immediately after fixed their eyes, says he, on the Firozeh. —*Ousley's Travels.* Vol. I. p. 211.

FIROZ KOHI, an Aimak tribe from the town of that name 63 miles from Teheran. They are of Persian origin, and their forefathers fought Timur bravely when that conqueror subjugated their country. After they were driven by him into the mountains south of Mazenderan, they there defended themselves most desperately; but they were eventually defeated and carried by him into Herat.—*Ferrier Journ*, p. 196. See Aimak.

FIR TREE.

Beraiet	Ar.	Berosh,	Heb.
Beroth,	Chal.	Berutha,	Syriac.

See Abies, Japan.

FISCH-ANGEN. Ger. Fish hooks.

FISCH-KORMER, Ger. Cocculus Indicus.

FIRUZ or Perose, B. C. 458, the 7th of the Sassanian kings.

FISHER. On all the sea coasts of the South and East of Asia and on the great rivers, the people are fishers. Of those, along the coasts at Madras many became christians, early; indeed, from the Southern outskirt of the town at St. Thome to its northern village of Ennore, nearly all the fishermen are earnest christians of the Roman catholic persuasion. The Koli tribe of fishers, in Bombay are nearly all christians, though thay have occasionally wavered. There is something remarkable in the circumstance of the fisher races being amongst the earliest and most eager converts to christianity in India; so much so as to render it questionable whether it be only an accidental coincidence, or the result of some permanent and predisposing cause. The Parawa or fishermen of cape Comorin were the earliest proselytes of St. Francis Xavier, and they have still a pride in alluding to the fact that they were the first, as they have since been the most faithful and abiding, of his converts. It was by the fishermen of Manaar that he was invited to Ceylon in 1544, and notwithstanding the martyrdom inflicted by the rajah of Jaffna, and the persecution with which they were visited by the Dutch, that district and the adjacent boundary of the Wanny has, to the present day, been one of the strongholds of the Roman catholics in Ceylon. Again, it is amongst the Parawa or Fisher caste of the Singhalese that the Roman catholics have at all times been most successful in their efforts to christianize. *Tennent's Christianity in Ceylon p.* 10.

FISH, ARTIFICIAL HATCHING OF. In China the hatching of eggs by artificial heat is well known, and extensively practised, as is, also, the hatching of fish. The sale of spawn for this purpose forms an im-

portant branch of trade in China. The fisherman collects with care on the margin and surface of water, all the gelatinous matters that contain spawn of fish, which is then placed in an egg shell, which has been fresh emptied, through a small hole; the hole is then stopped, and the shell is placed under a setting fowl. In a few days, the Chinese break the shell in warm water (warmed by the sun); the young fish are then kept in water until they are large enough to be placed in a pond. This plan, in some measure, counteracts the great destruction of spawn by troll-nets, which have caused the extinction of many fisheries. Recently, Dr. Francis Day, a Madras Medical Officer has made great efforts to introduce ova of exotic fish into India and made recommendations for the protection of young fry. A few drops of a weak solution of permanganate of lime, added night and morning, sweetens water, and supplies oxygen, and thus diminishes the mortality in fish hatching.—*Intellectual Observer*, Vol. viii. *Bonynge America, paye* 165. See FISHERIES.

FISHERIES OF EASTERN AND SOUTHERN ASIA. Of all the industrial pursuits of the sea, the whale fishery is the most valuable. The sperm whale is a warm water fish. The right whale delights in cold water. An immense number of log-books have been discussed at the National Observatory with the view of detecting the parts of the ocean on which the whales are to be found at the different seasons of the year. Charts showing the results have been published, and they form a part of the series of Maury's Wind and Current Charts. The fishery of the Sperm whale is largely followed in the South Sea, the Pacific and in all the South Sea ocean between Africa and America, but wholly by fishers from Europe and America. Maury remarks that it seems to be a physical law, that cold-water fish are more edible than those of warm-water. The places which are most favoured with good fish-markets, are the shores of North America, the east coast of China, with the west coasts of Europe and South America, and all of these are washed by cold waters, and therefore it may be inferred that their markets abound with the most excellent fish. The fisheries of Newfoundland and New England, over which nations have wrangled for centuries, are in the cold water from Davis's Strait. The fisheries of Japan and Eastern China, which almost, if not quite, rival these, are situated also in the cold water. Neither India, nor the east coast of Africa and South America, where the warm waters are, have been famed for its fish. Three thousand American vessels, it is said, are engaged in the Newfoundland and New England fisheries. If to these be added the Dutch, French, and English, perhaps, not less than six or eight thousand, of all sizes and flags, are engaged in this one pursuit. In the east and south of Asia the people by stake nets, bag-nets and hooks, in boats and in ships engaged in fishing are nevertheless very numerous. The pearl fisheries alone, in the Persian Gulf, employs a great collection of ships, and the pearl fisheries of China and Ceylon are also valuable. In Ceylon about 10,000 canoes and boats are employed in fishing.

Shark fishing, fishing for the Holothuria or sea-slug are extensively practised. In the four years 1857-8 to 1860-1, shark fins, to the value of £60,467 were exported from India to China and other places. There are many large boats with crews of twelve men each, constantly employed in the shark-fishery at Kurrachee. The value of the fins sent to Bombay varies from Rs. 13,000 to Rs. 18,000 a year. Of this a portion only passes directly into the hands of the fishermen, each boat earning perhaps Rs. 1,000 annually, or Rs. 100 for each man. From this falls to be deducted the cost of material and other charges. Shark-fins sell in China at about $32 per picul, or £6 per cwt. In the market of Macassar the ordinary price is from $15 to $16, or from £2-10s. to £3 per cwt. This trade was noticed by Dr. Royle (*on the production of Isinglass.—London*, 1842,) in 1842. It affords on some occasions to Bombay alone—taking fish-maws and shark-fins together,—as much as four lacs of rupees—£40,000, and furnishes the chief means of support to at least three thousand fishermen or, including their families to probably not less than fifteen thousand human beings. One boat will sometimes capture at a draught as many as a hundred sharks of different sizes: but sometimes they will be a week, sometimes a month, without securing a single fish. The fishermen are very averse to revealing the amount of their captures: inquiries of this sort are supposed by them to be made exclusively for the purpose of taxation. The great basking shark, or mhor, is always harpooned: it is found floating or asleep near the surface of the water, and is then struck with a harpoon eight feet long. The fish once struck is allowed to run till tired, and is then pulled in and beaten with clubs till stunned. A large hook is now hooked into its eyes or nostrils, or wherever it can be got most easily attached, —and by this the shark is towed inshore;

several boats are requisite for towing. The mhor is often forty, sometimes, sixty feet in length; the mouth is occasionally four feet wide. All other varieties of shark are caught in nets in something like the way in which herrings are caught in Europe. The net is made of strong English whip-cord, the mesh about six inches: they are generally six feet wide, and are from six to eight hundred fathoms,—from three quarters to nearly a mile, in length. On the one side are floats of wood, about four feet in length, at intervals of six feet; on the other, pieces of stone. The nets are sunk in deep water from eighty to one hundred and fifty feet, well out at sea: they are put in one day and taken out the next, so that they are down two or three times a week, according to the state of the weather and success of the fishing. The lesser sharks are occasionally found dead,—the larger ones much exhausted. On being taken home, the fins are cut off and dried on the sands in the sun: the flesh is cut up in long stripes and salted for food, and the liver is taken out and crushed down for oil. The head, backbone, and entrails, are left on the shore to rot, or thrown into the sea, where numberless little sharks are generally on the watch to eat up the remains of their kindred. The fishermen themselves are only concerned in the capture of the sharks: so soon as they are landed they are purchased by Bania merchants on whose account all the other operations are performed. The Bania collect them in large quantities, and transmit them to agents in Bombay, by whom they are sold for shipment to China. Not only are the fins of all the ordinary varieties of shark prepared for the market, but those also of the sawfish, of the cat-fish, and of some varieties of ray or skate —the latter, indeed, merges almost insensibly into the form of the shark. The cat-fish, known in India, by the same name as in Britain, has a head very like that of its European congener, from which it differs in all other respects most remarkably. Its skin is of a tawny yellowish brown, shading from dark brown on the back to dirty yellow on the belly: it is beautifully covered all over with spots, of the shape and size of those of the leopard, similarly arranged. The value of sharks' fins annually exported from Bombay amounts to betwixt a lakh and a half and two lakhs of rupees: the largest fishery at any given port is probably that of Kurrachee, which affords nearly one-tenth of the whole, but the shark-fishery is conducted all along the Bombay coast.

The fishermen along the Bombay coasts are divided into four great castes, over each of which a head man or jemadar presides. 1, Wayttree; 2, Son-koli; 3, Dongur-koli; 4, Thankur-koli. One great jemadar, or chief, rules supreme in the craft over all the fisher castes. (*Bombay, Monthly Times, from 11th to 24th May* 1850.)

The *Bombay fishing boat* is one of the swiftest and most elegant sea-going vessels of that coast. A complete set of models of the native vessels plying on the coast, at an estimated price of Rs. 15 each, or about Rs. 1,000 in all, was sent to the Exhibition of 1851. The mode of building is precisely the reverse of that pursued by Europeans who begin with drawing the lines, then lay down the keel, ribs, and frame, and finally applying the planking. In India drawn lines are dispensed with altogether:—having laid down the keel, the Indian shipbuilders fasten on the planking, leaving the ribs and frame to the last. The keel having been laid, and the stem and sternposts put in their places, they are fashioned in both sides with a grove. The lower edge of the plank next laid is made to conform in shape to this. The under grove is smeared over with red ochre and water, and the edge of the plank that follows is tried on from time to time till it takes a tinge everywhere, showing with what exactness it coincides. It is then steeped in water and bent over a fire of wood into the proper shape and applied to its place. When all is ready, the channel in the lower plank is filled up with cotton and tar. The two planks are now sewed together in the following manner; a pair of holes are bored in the upper and a corresponding pair in the lower plank, all along at intervals of a foot or two, according to the nature of the lines; a strong coir string is laced through this in the form of the letter X, the knot being inside. A stout wedge of wood is next driven through the strings outside, so as to bring the planks perfectly in contact. The planks being put sufficiently in their places, when gunwale high is attained, the timbers are put in; when the planks have been nailed to them, the sewing holes are filled up either with nails when opposite a timber, or with wooden pins the masts rake forward instead of back—the keel is hollow in the middle and not so long as the sternpost,—the forepart of the boat sharp, with hollow lines, the stern plump and round. The Bombay fishing-boats can beat the best of the English yachts.

There are three great fishing villages in Bombay island, at Worlee, Sewree, and Mahim. At Worlee, there was, in 1850, one pattimar, worth about rupees

3,000, employed in carrying cargo and in general business. There were 110 fishing-boats, worth about Rs. 350 each, and 45 canoes, worth from Rs. 40 to Rs. 60 each. At Sewree there were five large boats, worth about Rs. 1,000 each, employed in carrying bricks and tiles from Salsette to Bombay; one pattimar, worth about Rs. 3,000, employed in general trade; 25 fishing-boats, worth about Rs. 350 each; and 50 canoes. There were, besides, some 20 middling-sized boats, used in the transport of chunam and of black sand from Bellapore for building and other purposes. At Mahim and in the creek on Sion there are 7 fishing-boats, to 10 large chunam boats, 10 small, together with 25 canoes. The fishermen of Small Colaba own no more than 16 fishing-boats and 8 canoes. A pattimar employs from 15 to 20 men, a fishing-boat from 10 to 15, a canoe from 3 to 4. Canoes are chiefly employed in the coast-fishing and attending the men on the mudbanks, and in landing cargo when there is no depth of water sufficient for larger vessels. They are hollowed out of a single log, and are very serviceable, handsome-looking, well-finished craft. They are impelled either by paddles or sails: when the latter are employed, an outrigger is resorted to: they will bear a surprising stretch of canvas, and make their way rapidly through the water.

Hooks and lines are scarcely ever used on the western shores,—nets of various forms and sizes being almost solely employed in catching fish. The most important and extensively practised variety is the stake-net fishing,—and stakes are often to be found thirty and forty miles out at sea—wherever, indeed, a bank within half a day's sail of land presents itself: the fishermen are quite enterprising enough to extend their operations to any distance, but there is no use in their going further off than they can return with their fish to the market fresh. The fishing stakes vary from 50 to 150 feet in length: they are built up in the following manner of successive pieces of wood,—the lower being frequently the long straight trunk of the cocoanut or palmyra tree. As many as five or six pieces of wood, from eight to ten inches in diameter, are used in the construction of a single stake. They are scarfed across each other, the scarfing being from three to five feet: the pieces are fastened together by strong rectangular fillets of wood—Two or three boats are employed in towing the stake out to sea. Its point is made wedge-shaped—there is a hole near the point of the wedge, through which a rope is passed. The two ends of the rope are made fast to boats anchored at a considerable distance off: other boats now proceed and haul up the upper end of the stake till the point is found to descend by its own weight. When it has at once caught hold of the mud the rope is released from its lower end, and the boats to which it was attached employed in steadying the top in the direction of the run of the tide. At high water two boats are made fast, one on each side, to the top of the stake, which is forced by their weight ten or twelve feet into the mud. Stakes are thus put in successively, often to the extent of some miles at intervals of twenty feet from each other. Betwixt each pair is extended a long purse-net, the circumference of the mouth of which is about sixty feet, so that when attached to the stakes it exhibits an aperture twenty feet across, and ten feet perpendicularly—the upper edge being a little above high water. The purse is from 100 to 170 feet in length, terminating in a point. The meshes gradually diminish in size from the mouth to the further extremity, being about six inches at the former, and three-fourths of an inch at the latter. The fish are carried into this by the tide, and entrapped—boats are always in waiting at high and low water, to secure the capture and reverse the nets. In the creeks and shoals lines of stakes and nets, often several miles in length, are run along where the sludge is exposed at low water. The upper edge of these is considerably under high water, and mark the fish are in consequence entrapped by them on the retirement of the tide: breaks are left at intervals to secure their admission. Close along shore, fishing grounds, about half an acre in area or so, and in a semi-circular form, are built. An aperture is left in the extremity of each of these, into which a net is placed as the tide begins to recede, and a considerable capture of the lesser sized fish secured. Such are the fixed implements of the fisherman. Of the moveable implements the most frequent is a conical net, of which the lower lip is loaded with pieces of lead and turned up inwards. The material of which it is made is fine twine and the meshes small. It is from eight to twelve feet in diameter, and is only used in-shore. The fisherman holds it by the top, while he gives it a quick twirl, something betwixt that given to the American lasso and common quoit. Throwing it to the distance of some yards, it spreads fully out as it reaches the water—when pulled down and collapsing by means of the lead, it closes at the mouth as it approaches the bottom. The fisherman now approaches and pulls it up by the apex, when the fish

are found enwrapped in it. Though this net sometimes attains a weight of sixty pounds, the dexterity with which it is thrown is wonderful. There are various spoon and pursenets of different shapes and sizes, and a bag of muslin on a hoop about three feet in diameter, this last being employed to catch the young prawns, and smallest sized fish, that would escape through any mesh however fine. There is also a long trail-net, with which the fishermen wade neck deep through the water, but the mode of using it does not appear to be in any way peculiar or interesting. The mud banks and shoals in the creeks abound in eels, sometimes reaching the length of two or three feet. The fishermen wade through the mud till they detect these by the bubbling up or disturbance of the water. They then strike them with a harpoon or spear, and about two inches each way, with a fine bamboo shaft eight or ten feet in length. Having pinned them against the ground they draw them out with a hook about the same size as the spear, also on a shaft. They are very dexterous in catching the little fish or crabs which lurk under the stones close by the shore, with their hands, without the use of any implements at all: the crabs when caught are immediately stripped of their claws, and so prevented from getting away. Of these there are a wonderful variety on the Bombay shores, many of them of the greatest beauty. The fisherman's mooring anchor is generally of stone, from four to five feet in length; four-sided and pyramidal—the apex cut off. At base it is from six to eight inches square, and from four to six at top. Through the top is a hole, through which a cable or hawser passes. Near the base are two holes at right angles to each other; through these, pieces of wood are thrust corresponding to the prongs or flukes of the anchor. The whole weighs from 80 to 150 lbs., according to the size of the vessel, and answers very well the purposes intended. These anchors are most commonly made of limestone, and are on the whole most suitable.

Bombay fishermen are a strong-made race of men, and are the only labourers in India amongst whom a great degree of obesity is observed,—every fourth or fifth fisherman to be met with being more less corpulent—some of them very much so indeed. They are much given to the use of intoxicating drinks, and are often to be met with in a state of inebriety. They regulate their affairs very much after the manner in which they are regulated by those of kindred professions in other parts of the world. A set of boats and nets belong to a dozen of fishermen, one often advancing the capital required to be contributed by the others; the capture is divided amongst them on their reaching the shore, and is immediately taken charge of and carried to market by the women, who carry their baskets, not, as in Britain on their backs, but on their heads. The men when so employed carry theirs in baskets swung at the opposite ends of a bamboo across the shoulders. The women who carry the fish to market are commonly followed by ten or a dozen crows, who constantly watch for anything that may escape, every now and then making a dash at the basket itself.

The mode of making ropes and nets is singularly simple: coir is the material used for the former, cotton or hemp for the latter. One man sits on the ground and lets out the yarn; another retires half bent, and spins it by means of a spindle,—the yarn being passed through a wooden hoop hung round his neck. He gives the spindle a jerk betwixt the palms of his hands, and keeps its motion up at a very considerable degree of speed indeed. When several piles of fine yarn are to be twisted together, a man with a spindle is placed at the end of each. The whole series are supported at intervals by frames of bamboo: a spinner at the further extremity twists all the strands into one, while a light piece of board is being passed along when the cords are meant to be hard plaited and strong, to keep them from running too rapidly together. In the case of ropes, after the single strands are laid together, the rope is made up by men twisting the larger strands by a stout piece of wood—a much stronger and longer piece being used for the entire rope, a man sitting by a board with holes through which the several strands pass, to see that all go properly together. To see forty or fifty fine powerful men busily employed in the evening in sewing a cord betwixt each of the cloths of a sail—the sails of a pattimar being often from seventy to ninety feet wide,—with the accompaniments of swarthy dames and children,—boats of the most picturesque forms,—palm trees or an old Mahratta fort in the distance, and fishing tackle every where around,—is frequently highly picturesque; the sight being much more pleasing than the smells which accompany the scene.

In the sea coasts of the South of India, Muræna maculata *Ham. Buch*: Ophiocephalus striatus Bloch; O. Marulius *Buch.* O. Gachua *Buch*, Wallago (Silurus) attu, Bloch, W. Malabarici, *Cuv. et Val*: Hemibagrus (Bagrus) punctatus, *Jerdon*, and Hypselobagrus (Silurus) cavasius, *Buch* are dried and exported to the interior. But O'

insidiatrix, *Bloch* Atherina, Forskalii, Ruppell, and species of Ambassis, Polynemus, Hemiramphus and Chætodon are also largely exported.

There is an import trade of fish into Ceylon, to the value of about £15,000. Fish are cured by smoking them as they do herrings in tiers, by damp rice straw. Semi-putrescent fish in some shape or other is a characteristic article of diet among all the races from the mountains of Sylhet to the islands of the Archipelago. On the Madras side where a boisterous surf beats for ever on the shore, the fishers use the catamaran and fishing lines, but nets are also used and when shoals visit the coast, great bag nets several hundred yards long are thrown from masulah boats.

The great Irawady river and the seas in which the Mergui and Eastern Archipelagos are enclosed abound in fish, and the Malays shoot their great stake nettings far into the ocean. The shallows between Penang and Province Wellesley are covered with such nets. The wealth of these Eastern rivers and seas is boundless, and we have seen a single Burman in a small canoe, in an hour in the morning capture seventy fish, each between one and two feet long. The fishermen supplying the markets of Penang and Singapore are principally natives of China. The fishing boats vary from one to three tons burden; they are of a slight make and calculated to ply at but short distances from the shore. They are pulled by oars and seldom carry sails. The nets are made of twine, tanned with mangrove bark. The bamboo fishing-stakes are clumsy contrivances. That they answer well enough in fine weather is more owing to the riches of the sea and their sheltered position, than to the ingenuity of the contrivance or the durability of the materials. In nautical skill, the Chinese fishermen of the Straits settlements are far behind the Malays. The fishmongers are also natives of China, but they form a class far superior to the fishermen. Their trade comprizes the branches of

Fresh Fish,	Sardines,
Dried Fish,	Shark's Fins,
Isinglass (Fish Maws),	Balachan,
Fish Roes,	Fish Manure, and
Red Fish,	Tripang.

Fresh fish.—The fishermen dispose of their boat loads to the fishmongers who assort the different kinds in heaps, over which sea water is continually poured, and from these the daily customers are supplied. Although comparatively few kinds of fishes appear on the tables of Europeans, the Malays and Chinese are less nice in their selection, and reject but very few kinds.

Dried fish.—The daily surplus fish are cured by the fishmongers. The process commences with a partial abrasion of the scales, after which the larger fishes are opened lengthwise and the intestines removed. Water is repeatedly poured over the fishes till blood and impurities have disappeared, when they are placed in casks in flat layers, between which is thrown a quantity of salt. In this state the fishes remain from 24 to 48 hours, when they are exposed to the sun, and frequently turned, till they are thoroughly dried. The smaller kinds are not opened nor are they all salted before drying in the sun. The little care bestowed upon the curing appears, however, to be sufficient for local consumption, and none of the settlements in the Straits export dried fish. The pikul of 133⅓ lbs. sells from 3 to 7 Spanish Dollars valued at 4s. 6d. The katty being 1⅓ lb. of which 100 go to the picul.

Isinglass, Fish maws, Fish-sounds, or *Air-Bladders*, (Palogpong ikan or ari ari ikan of the Malays, loo-pa of the Chinese) appear to have formed an article of exportation from the islands of the Indian Archipelago as early as they became visited by the Chinese. When these people commenced to settle in the Straits, they not only there collected what are called fishmaws but also from distant localities. Bombay, Ceylon, Madras, Bengal, Tenasserim and most of the Malayan Islands contribute to the annual supply, which is bought up by Chinese dealers at Penang, Malacca and Singapore. By them the maws are exported to China. This fact was noted by Mr. Crawfurd, but that the fish maws are isinglass, appears to have been the discovery of an anonymous correspondent in *Parbury's Oriental Herald* for January 1839. The personal exertions of Mr. McCelland have been mainly instrumental in adding isinglass to the articles of exportation from India to the European markets. Since 1842, Mr. W. T. Lewis, Assistant Resident Counsellor of Penang, has made some very successful attempts to improve the production of isinglass in Prince of Wales Island. But European merchants there appear unwilling to engage in this novel branch of commerce, as the supply from want of proper care is uncertain, and procurable but in comparatively small quantities. These, however, are not objections to the Chinese dealers, as they are sure of a profitable and quick return on their outlay. The fishes from which isinglass is obtained at Penang are,

Lates heptadactylus, (Ikan siyakup.)

Polynemus indicus, (Ikan kurow.)
Otolithus biauritus, (Ikan salampae.)
Otolithus ruber, (Jarang gigi.)
Otolithus argenteus, (Jarang gigi.)
Otolithus maculatus, (Jarang gigi.)
Johnius diacanthus, (Ikan tambareh.)
Lobotes erate, (Ikan batu.)
Arius truncatus, (Ikan saludu.)
Arius arius, (Ikan saludu.)
Arius militaris, (Ikan saludu.)

The total quantities and value of fish maws imported into and from Prince of Wales Island, from 1832 to 1842, were

IMPORT.			EXPORT.		
1832—33 to 1841—42	Quantity in Pikuls.	Value in Dollars.	1832—33 to 1841—42	Quantity in Pikuls.	Value in Dollars.
Total...	1,323	50,?72	Total...	1,939	73,842

Fish Roes, *Red Fish*, and *Sardines* are condiments and the species of fish used in their preparation, are Alausa toli, (Ikan truboh,) Engraulis Brownii, (Bunga ayer or badah,) Dussumieria acuta (Tamban-bulat) and Clupeonia perforata, (Tamban-nepes or batuh.)

Shark's Fins.—The Chinese fishmongers of the Straits settlements obtain shark's fins from the same localities which supply them with fish maws. These fins are not exclusively selected from sharks (squali,) but equally from rays (raiæ). Quantities examined at Penang were composed of fins of the following genera: Stegostoma, Carcharias, Sphyrna, Pristis, Rhinobatus, Trygon, and Myliobatis. Of all fishes sharks and rays are the most valuable to Chinese. The flesh and entrails of all, not even the electric rays (torpedinidæ) excepted, are eaten either fresh or dried, the skin is used for polishing or converted into shagreen; gelatine is obtained from the larger fins, glue from the smaller. All, except the caudal fins, are cut at the root so as to leave as little flesh as possible. The root is dipped in wetted lime (Chunam) in the erroneous belief of preventing attacks of insects, and then the fins are dried in the sun. Those imported in the Straits Settlements are packed promiscuously in gunny bags, each containing from one half to one pikul. According to the value in the Chinese market, the fishmongers assort the fins in two kinds, "white" and "black." The white consist exclusively of the dorsal fins, which are on both sides of a uniform light colour and reputed to yield more gelatine than the other fins. In China the lovers of gelatinous soups pay from 30 to 40 Spanish Dollars per Pikul of white fins. The pectoral, ventral and anal fins pass under the denomination of black fins. The colour, however, varies according to the species from buff to grey or brown, and most of them are of two different colours, the upper surface being dark, the lower light. The black fins, for obvious reasons the most numerous, are supposed to yield a comparatively small quantity of gelatine and sell in China from 15 to 20 Spanish Dollars per pikul, Mr. W. T. Lewis communicated the annexed table, shewing the quantity of shark's fins imported into and exported during 10 years, from 1832 to 1842, from Penang to China.

IMPORT.			EXPORT.		
1832—33 to 1841—42	Quantity in Pikuls.	Value in Spanish Dollars.	1832—33 to 1841—42	Quantity in Pikuls.	Value in Spanish Dollars.
Total...	1,350	19,216	Total...	3,177	48,036

Balachan,—is a condiment prepared from small fishes, of all descriptions, and shell fish. The ingredients are placed in a pit to undergo fermentation, and afterwards dried, pounded and preserved with spices. With the Malays, Siamese, Burmese and Cochin Chinese, Balachan has become a necessary of life, as it serves to season the daily food of these nations.

Fish Manure.—The smallest fishes, and all offal are employed in the spice plantations by the Chinese gardeners and agriculturists of Penang, who consider the fluid in which fishes have been salted very useful manure in cocoanut plantations. In addition to the preceding, there are two animal productions of the eastern seas, which also are considered fishes by the Chinese. They are the dried Holothurioideæ, called Tripang, Swala or Beche de mar, and the Cuttle fishes. Of both, large quantities are annually collected and dried for the market in China. The naked Cephalopods are not only eaten fresh, but one species, a Loligo, forms in its dried state a considerable article of traffic. The preparation consists in removing the ink-bag without laying open the mantle. After all impurities have been removed by water the mollusk is submitted to a slight pressure and ultimately exposed to the sun. Small bundles of one katty weight are tied up with slips of ratan, and enclosed in cases holding ten katties and upwards. The Pikul sells at the rate of 14 to 16 Spanish Dollars. (*Beng. As. Soc. Jour.* No. 208.) Along the Asiatic coasts, the high price

obtained for the superior and well manufactured isinglass affords inducements not to be expected elsewhere, but all the parts of fish, as the flesh, the roe, and the sounds, can be turned to account, much of the fish caught must be everywhere consumed for food, but considerable quantities are dried, and form articles of commerce, as do shark-fins and fish-maws. The sounds of many Indian fishes might, like sturgeons, yield isinglass, while fish-glue and fish-oil might be obtained from others. The natives of Asia are not unacquainted with the modes of preserving fish. The roe appears among their articles of Materia Medica under the name of Butarookh, and Mr. Crawfurd and Dr. Cantor inform us, that the roe of enormous size of a kind of Shad which frequents the great river of Siak in Sumatra, constitutes an article of commerce: while the Balachang of the Eastern Seas, the Gna-pi of the Burmans, consisting of small fish with prawns and shrimps, first fermented and then dried, gives rise to a considerable traffic, as no food is deemed palpatable without it, and its use extends to every country from China to Bengal. That prepared at Mergui is excellent, only inferior to anchovy paste, by being over powerful. In Java and Sumatra a preparation of small fish with red rice, having the appearance of anchovies, and the colour of red cabbage, is esteemed as a delicacy. It is the famed "red-fish" condiment of those regions. So in India, the preparation called Tamarind fish, is much prized as a relish, the acid of the tamarind being made use of for preserving fish cut in transverse slices: the demand for dried fish exists in every part of Asia, and isinglass is in request both in Europe and China. It might perhaps become an article of consumption even in India, as it is mentioned in their systems of Materia Medica by the name of ghurree-al-sumak and sureshum mahee, that is fish-glue, and is described as a good diet for patients in a decline. The Sele combines the advantages of fineness of flavour, with wholesomeness as food; while considerable in size, it is migratory in habit and enters the Bengal rivers in great shoals in the cold weather. Its swimming bladder is of value as an article of commerce, and its flesh, in a fresh state, is esteemed as food; this would become still more valuable if it could be properly cured. In China, the consumption of salted provisions is very general. There also, in consequence of the immense quantities of both sea and river fish which are daily caught, and the rapidly putrescent nature of that species of provision a considerable portion is cured with salt and dried in the sun, the haut gout which accompanies it being rather a recommendation to the taste of the Chinese. Indeed it is one of their most favorite, as well as general articles of food, and they even overcame their prejudice or indifference for whatever is foreign, on the occasion of salted Cod being introduced for two or three years in English ships, the somewhat decayed condition in which it reached China being said to have been anything but a drawback. This species of cargo, besides its disagreeable nature and the injurious effect which it might have on some delicate articles of shipment, was found during the voyage to breed a peculiar insect, which from the readiness with which it bored into the planks and timbers of a ship, was considered as dangerous, and accordingly the import was greatly discontinued.

Sir A. Burnes represents "the mariner of Cutch in the present day as truly, adventurous, putting to sea for a trifling reward, and stretching boldly across the ocean of Arabia, the Red Sea, and the Coasts of Zanzebar in Africa. The Sea vessels of Kurachee sail to Muscat, Bombay, and the Malabar Coast, and he describes the fishing-boats at the mouths of the Indus as good sea-boats, sailing very quickly, and as numerous, because the fisheries there are extensive, and form a source of commerce on the South-Eastern part of the Peninsula of India. In Ceylon as also in China, the Pearl fisheries are of considerable value. Dr. Cantor states that at the mouths of the Ganges, the fishermen have sea-going boats, which they build themselves, and that they are a superior description of Indian sailors, of much more industrious habits than the majority of the natives of India. Still further to the eastward, we see the Burmese and Siamese almost living in boats, and the Malays most formidable as pirates in the Indian Seas. Mr. Crawfurd represents the Eastern Islanders as expert fishermen, and that there is no art which they carry to such perfection as fishing, which the nature of their climate allows them to practise, with hardly any interruption, from one end of the year to the other; the fishing boats proceeding to sea with the land-breeze at an early hour of the morning, and returning with the sea-breeze a little after noon. The fisheries afford a most valuable branch of their commerce, as a great variety of their fish are dried in the sun, or salted and dried, and sent by the inhabitants of the coast in large quantities into the interior of the Islands, or transmitted to every part of the Archipelago.

Dr. Cantor has particularly called attention to the importance of attending to, and encouraging the Sunderbun sea fishery, which is carried on to a very small extent, chiefly because the distance to Calcutta is too great to allow of the carriage of fish in a fresh state. The only class of fishermen who have sea-built boats inhabit villages situated near the entrance of the Hoogly. Their chief and most profitable employment consists in attending with their boats, on the shipping entering and leaving the river for which they receive 16 rupees per diem. Whenever this employment fails, they resort to work with their nets, which they drag during high water along the coasts of the Sunderbuns. Two or three times are generally speaking sufficient to load a boat with fishes and shell-fish (a truly prodigious quantity being brought up in a few hauls). The larger portion of the prize which is not consumed or otherwise disposed of on the spot, is then preserved. This process consists simply in dividing the fish, taking out the viscera, and spreading them in the sun till they become sufficiently dried. The Polynemus suliah, or Saccolih, enters the mouths of the Ganges in shoals. The Kharrah, or Indian Mackerel, a species of Thynnus, is rather uncommon in that estuary, but it must be found in abundance off the Burmese coast, as from thence, great numbers in a dried state are annually imported into Bengal. The cartilaginous fishes, he states, abound in numbers and species, and are remarkable for their wide geographical distribution. The Sharks enter the rivers to a considerable distance from the sea. Shark skin, he says, is used by the native workmen for polishing wood and ivory; and Shark-fins are largely exported to China. Of the better known salt water fishes of a wider geographical distribution, such, for instance, as are valued as articles of food, at the three distant points, Calcutta, Madras and Bombay, the market of the first is the least rich in varieties in consequence of its greater distance from the sea. The abundance of the supply, however, makes up for what it wants in variety and the great demand for fish affords a livelihood to great numbers of fishermen, who every night spread their nets in the river and in the salt-water lake. The Lates nobilis, different species of Polynemus, and the Mugil corsula daily cover the tables of Europeans, who will more readily recognise these fishes under the names of the Begti or Cockup, Sudjeh, Tupsi (Mango fish), and the Indian Mullet. At the Sandheads may be found some of those delicious fishes, which are more familiar to the residents of Madras and Bombay; for instance, the Indian Soles, the Roll-fish, and, above all, the black and white Pomfrets, and the Bummalo, which latter, in a dried state, is known by the name of the Bombay duck. Of these, the Indian Mullet is the most widely distributed, being common in the Straits of Malacca, the Bay of Bengal, the Persian Gulf and the Red Sea also at the Cape of Good Hope. The bazaars in Calcutta, Dr. Cantor remarks, are always stocked with an ample supply of dry fish, which is consumed partly by the European and native shipping of that port and partly by the poorer classes of Bengal, and the Upper Provinces. Cargoes of this article are annually imported by the Burmese and Arabs. These dried fishes consist chiefly of the Bummalo, the above named Siluroid fish, which sells in Calcutta at the rate of four or five rupees a hundred, in Indian Mullet, the Sudjeh, the Begti and the Kharrah or Indian mackerel. The demand for dried fish exists all along the coasts of the Peninsula. At Bombay large quantities of the Bummalo, are comsumed and exported. At the mouths of the Indus, the fishery is extensive and some fish sounds are there procured, perhaps those of the Polynemus, but they may also be those of other fish; as the specimens of fishmaws are very different in form from the isinglass sent from Bengal. Dr. McClelland, in his paper, calls attention to the very important subject of increasing the supply of fish in the interior of India. Wherever there are any large pieces of water for the purposes of irrigation, as in the Peninsula of India, these he conceives might support quantities of fish, if proper kinds were selected, and pains taken to destroy the injurious animals, in the season when the water is sufficiently low for the purpose. He also suggests that at the different sanitaria which have been established in the mountains, it would be desirable and easily practicable to form rivaria, which would at all times yield a supply of fish. This might, as he suggests, be done by damming up a portion of some of the valleys through which the mountain streams pass. He also further recommends that the natives of India should turn their attention to the curing of fish in districts where they are abundant, and sending them to others where they are less so, and for consumption at seasons when fresh fish becomes scarce. The cold season, from November to February, when most fishes are taken, in short, the fishermen not having the means of curing their fish, have nothing to stimu-

late them to any exertion, beyond what can be consumed when fresh. Had the fisherman the means of preserving the result of his labors, his chief market would commence when the fishing season ends, and his industry would then become a permanent benefit to himself and to the country at large. Mr. Crawfurd, after stating that the fisheries of the Indian islands form the most valuable branch of their commerce, and that a great variety of the fish caught, are dried in the sun, proceeds to observe, that ordinary dried fish form no portion of the foreign exports of the Indian Islands but three singular modifications of it do, Fish-maws, Shark-fins, and Tripang, all of which are sent to China in large quantity. The Tripang, Swala, or Beche de Mar, often called Sea Slug, one of the tribe of Holothuria, is an unseemly looking molluscous animal, which constitutes, in quantity and value, one of the most considerable articles of the exports of the Indian Islands to China. There are fisheries of Tripang in every Island of the Indian Archipelago. from Sumatra to New Guinea, and upwards of not less than 8,000 cwt. are yearly sent to China from Macassar, the price ranging from 8 Spanish Dollars per picul to 20, and as high as 115, according to the quality. The same author states, that Shark-fins are exported to China from every maritime country, between the Arabian Gulf and the East Indian Islands. A picul of shark-fins usually sells in China as high as 32 Spanish Dollars, or £6 1s. per cwt. which high price makes it evident, that they are only articles of luxury for the use of the rich. In the market of Macassar the ordinary price is about 15 Spanish Dollars, or £2 16s. 8½d. per cwt. Of the three substances mentioned by Mr. Crawfurd as exported from the Indian Islands, one only remains to be noticed, and this is Fish-maws. But of this he merely says that it is a favourite article of the strange luxury of the inhabitants of that country, often bringing as high as 75 Spanish Dollars per picul or £14, 3s. 6d. per cwt. in the market of Canton. Raw dried split fish are abundantly cured (without salt) in Tibet; they are caught in the Yaru and great lakes of Ramchoo, Dobtah, and Yarbru, and are chiefly carp, and allied fish, which attain a large size.

It is one of the most remarkable facts in the Zoology of Asia, that no trout or salmon inhabit any of the rivers that débouche into the Indian Ocean (the so-called Himalayan trout is a species of carp). This widely distributed natural order of fish (Salmonidæ) is, however, found in the Oxus, and in all the rivers of Central Asia that flow north and west, and the Salmo orientalis, M'Clelland, ("*Calcutta Jour. Nat. Hist.*" iii, *page* 283), was caught by Mr. Griffith (*Journals page* 403) in the Bamian river (north of the HindooKoosh) which flows into theOxus, and whose waters are separated by one narrow mountain ridge from those of the feeders of the Indus. The central Himalayan rivers often rise in Tibet from lakes full of fish, but have none (at least during the rains) in that rapid part of their course from 10,000 to 14,000 feet of elevation: below that, fish abound, but, it is believed, invariably of different species from those found at the sources of the same rivers. The nature of the tropical ocean into which all the Himalayan rivers débouche, is no doubt the proximate cause of the absence of Salmonidæ. Sir John Richardson (Fishes of China Seas, &c., "in *Brit. Ass. Rep. &c.*") says that no species of the order has been found in the Chinese or eastern Asiatic seas. (*Hooker Him. Jour. vol.* ii. *page* 183. *Jo. Ind. Archipelago*).

There are no seas in the world more abounding in esculent fish than those of the Asiatic Archipelago, and a few of them are of excellent flavour. Fish constitutes the chief animal aliment of all the inhabitants, and everywhere of those of the sea-coast who are by profession fishermen. Among the best fisheries are those of the eastern coast of the Malay Peninsula, those of the entire Straits of Malacca, of the northern coast of Java, and of all the coasts of Borneo and Celebes, with those of the Philippine Islands. The taking of the mother-of-pearl oyster, the pearl-oyster in a few places, of the holothurion or tripang, and of the shell tortoise, form valuable branches of the Malayan fisheries. (*Crawfurd's Dictionary, page* 138.) In China, the various modes of catching and rearing fish exhibit the contrivance and skill of the Chinese quite as much as their agricultural operations. According to the Repository, at least one tenth of the population derive their food from the water, and necessity leads them to invent and try many ingenious ways of securing the finny tribes. Nets are woven of hempen thread, and boiled in a solution of gambier (Uncaria gambier) to preserve them from rotting. The smacks which swarm along the coast go out in pairs, partly that the crews may afford mutual relief and protection, but chiefly to join in dragging the net fastened to their boats. In the shallows of rivers, rows of heavy poles are driven down, and nets secured to them, which are examined and changed at every tide. Those who attend these nets, moreover, attach scoops or drag-nets to their boats, so loaded

that they will sink and gather the sole, ray, and other fish feeding near the bottom. Lifting nets, 20 feet square, are suspended from poles elevated and depressed by a hawser worked by a windlass on shore; the nets are baited with the whites of eggs spread on the meshes. Cormorants are trained in great numbers in the eastern provinces to capture fish, and are sometimes under such good order that they will disperse at a given signal, and return with their prey without the precaution of a neck-ring. A single boatman can easily oversee twelve or fifteen of these birds, and although hundreds may be out upon the water, each one knows its own master. If one seize a fish too heavy for it alone, another comes to his assistance, and the two carry it aboard. The birds themselves are fed on bean-curd, and eels or fish. They lay eggs when three years old, which are often hatched under barn-yard hens, and the chickens fed with eel's blood and hash. They do not fish during the summer months. The price of a pair varies from $ 5 to $ 8. Mussels are caught in small cylindrical basket traps, attached to a single rope, and floated with the tide near the bottom. The rearing of fish is an important pursuit, and the spawn is sometimes deposited in proper vessels, and placed in favorable positions for hatching. The Bulletin Universal for 1839 asserts that in some parts of China, the spawn so taken is carefully placed in an empty egg-shell, and the whole closed: the egg is then replaced in the nest, and after the hen has sat a few days upon it, reopened, and the spawn placed in vessels of water warmed by the sun, where it soon hatches. Shell-fish and mollusks, both fresh and salt are abundant in the Chinese market, but they have not been examined scientifically. Oysters of a good quality are common along the coast, and a species of Mactra, or sand clam, is fished up near Macao. The Pearl river affords two or three kinds of freshwater shell-fish, of the genus Mytilus, which are obtained by dredging. The prawns, shrimps, crab, crawfish, and other kinds of crustacea met with are not less abundant than palatable, one species of crawfish, as large, but not taking the place of the lobster called "lang hai," or dragon crab, cuttle-fish of three or four kinds, and the large king crab (Polyphemus), are all eaten by the Chinese, though not relished by others. The true cod has not been observed on the Chinese coast, but several species of Serranus (as Plectropoma susuki, Serranus shihpan, megachir, &c.) generally called "shippan" by the natives and garoupa by foreigners, are common about Macao, and considered the most delicate flavoured of any in the markets. Another common and delicious fish is the Polynemus tetradactylus or bynnicarp, usually called salmon by foreigners, isinglass is prepared from its skin. The pomfret, or "stangyu" of the Chinese (Stromateus argenteus), is a good pan-fish, but not so delicate as the sole-fish, many species of which abound in the shallows of the Bogue. Two or three species of mackerel, the Sciœna lucida, an ophiocephalus, the mullet, the white rice fish and a kind of shad, complete the list of good table fish found in the markets of Canton. (*Williams' Middle Kingdom, Vol.* ii. p. 110, 169, 270, and 272.) Immense quantities of fish says Mr. Fortune are daily caught in the Chinese rivers. Their mode of catching them is ingenious and amusing. One day he was going up a considerable distance in a boat, and set out a little before low water, that he might have the full benefit of the flow of the tide, and get as far up as possible before it turned. On the side of the river, a few miles above Ning-po, he observed some hundreds of small boats anchored, each containing two or three men; and the tide turning just as he passed, the whole fleet was instantly in motion, rowing and sculling up the river with the greatest rapidity. As soon as the men reached a favourable part of the stream they cast out their nets and began to make a loud noise, splashing with their oars and sculls with the intention, he supposed, of driving the fish into the nets. After remaining in this spot for about a quarter of an hour, all the boats set off again, farther up, for the next station, when the crew commenced again in the same noisy manner, and so on for a long way up the river, as long as the tide was flowing; they then returned with the ebb loaded with fishes for the next morning's market. There is another curious mode of catching fish, which he frequently saw in the northern Chinese provinces, fish abound in all the Chinese rivers and lakes of the north: indeed every little pond swarms with them and the fish catcher in these places is literally amphibious. He is to be seen perfectly naked, half-walking, half-swimming; now he raises his arms and hands above his head, and, bringing them down, strikes a sharp blow upon the water, making a loud and splashing noise. His feet are not idle; they warn him that a fish is at hand, and they are now feeling for him amongst the mud at the bottom of the pond. The next moment the fisherman has disappeared: he is now under water, and he remains so long that you think something has happened to him. There is, however, no cause of fear: a few seconds more and he

appears, rubbing his face and eyes with one hand, and in the other triumphantly holding up the fish which he has just captured. It is immediately placed safely in his basket, and the work goes on as before. The surface of the water is struck and splashed, in order to frighten the fish which are swimming amongst the feet of the Chinamen. Being frightened, they dive immediately to the bottom amongst the mud, where they are felt by the feet, and are soon taken by these expert divers. But the most singular of all the methods of catching fish in China is that of training and employing a large species of cormorant for this purpose, generally called the fishing cormorant. These are certainly wonderful birds. I have, he says, frequently met with them on the canals and lakes in the interior, and, had I not seen with my own eyes their extraordinary docility, I should have had great difficulty in bringing my mind to believe what authors have said about them. The first time I saw them was on a canal a few miles from Ning-po. I was then on my way to a celebrated temple in that quarter, where I intended to remain for some time, in order to make collections of objects of natural history in the neighbourhood. When the birds came in sight, I immediately made my boatmen take in our sail, and we remained stationary for sometime to observe their proceedings. There were two small boats, containing one man and about ten or twelve birds in each. The birds were standing perched on the sides of the little boat, and apparently had just arrived at the fishing ground, and were about to commence operations. They were now ordered out of the boats by their masters, and so well trained were they, that they went on the water immediately, scattered themselves over the canal, and began to look for fish. They have a beautiful sea-green eye, and, quick as lightning, they see and dive upon the finny tribe, which, once caught in the sharp-notched bill of the bird, never by any possibility can escape. The cormorant now rises to the surface with the fish in its bill, and the moment he is seen by the Chinaman he is called back to the boat. As docile as a dog, he swims after his master, and allows himself to be pulled into the San-pan, where he disgorges his prey, and again resumes his labours. And, what is more wonderful still, if one of the cormorants gets hold of a fish of large size, so large that he would have some difficutly in taking it to the boat, some of the others, seeing his dilemma, hasten to his assistance, and with their efforts united capture the animal and haul it to the boat. Sometimes a bird seemed to get lazy or playful, and swam about without attending to his business; and then the Chinaman, with a long bamboo, which he also used for propelling the boat, struck the water near where the bird was, without, however, hurting him, calling out to him at the same time in an angry tone. Immediately, like the truant school boy who neglects his lessons and is found out, the cormorant gives up his play and resumes his labours. A small string is put round the neck of the bird, to prevent him from swallowing the fish which he catches; and great care is taken that this string is placed and fastened so that it will not slip farther down upon his neck and choke him, which otherwise it would be very apt to do. Since I first saw these birds on the Ning-po canal I have had opportunities of inspecting them and their operations in many other parts of China, more particularly in the country between the towns of Hang-chow-foo and Shanghai. I also saw great numbers of them on the river Min, near Foo-chow-foo. They sell at a high price even amongst the Chinese themselves—I believe from six to eight dollars per pair, that is, from 30s. to 40s.:—"The fish-catching birds eat small fish, yellow eels and pulse-jelly. At 5 P. M. every day each bird will eat six taels (eight ounces) of eels or fish, and a catty of pulse jelly. They lay eggs after three years, and in the fourth or fifth month. Hens are used to incubate the eggs. When about to lay, their faces turn red, and then a good hen must be set upon the eggs. The date must be clearly written upon the shells of the eggs laid, and they will hatch in twenty-five days. When hatched, they take the young and put them upon cotton, spread upon some warm water, and feed them with eel's blood for five days. After five days they can be fed with eel's flesh chopped fine, and great care must be taken in watching them. When fishing, a straw tie must be put upon their necks, to prevent them from swallowing the fish when they catch them. In the eighth or ninth month of the year they will daily descend into the water at ten o'clock in the morning, and catch fish until five in the afternoon, when they will come on shore. They will continue to go on in this way until the third month, after which time they cannot fish until the eighth month comes round again. The male is easily known from the female, in being generally a larger bird, and in having a darker, and more glossy feather, but more particularly in the size of the head, the head of the male being large and that of the female small." Such are the habits of this extra

ordinary bird. As the months named in the note just quoted refer to the Chinese calendar, it follows that these birds do not fish in the summer months, but commence in autumn, about October, and end about May—periods agreeing nearly with the eighth and third month of the Chinese year. (*Fortune's Wanderings page* 104 to 113.)

Chinese fishermen when they take one of those huge Rhizostoma which abound on the coast, rub the animal with pulverized alum to give a degree of coherence to the gelatinous mass.

In Borneo in the enclosures of stakes, drag-nets, casting-nets, traps, placed so as to swing to each tide, and hook and line are largely used: prawns, shrimps, and small fish are taken with hand-nets in the fine season. The quantity of fish taken by these various contrivances is enormous. They are salted and dried, and sent into the interior of the country. The river fish in general are not so much esteemed as those taken at sea, though they also are frequently caught, principally by means of hooks and lines attached to the light wood called plye, already described. Pieces of the wood, cut into the shape of birds, may frequently be seen floating down with the tide, to each of which is attached, at the neck, a strong line supporting a baited hook. The proprietor is generally not far off, and, on the float bobbing under water, soon seizes it, and captures the fish which has taken the hook, but though large, cannot keep the light float under water. A fine fish called in Borneo 'ikan malang,' is the one most frequently caught in this manner. *Low's Sarawak, p.* 160. *Cal. Journ. Nat. Hist. iii,* 283. *Crawfurd's, Dictionary p.* 138. *Dr. Buist in Bombay Times, Sir John Richardson in Rep. B. Ass. William's Middle Kingdom, Vol. ii pp.* 110 *to* 272. *Hooker's Him. Journal ii.* 183. *Fortune's Residence among the Chinese p.* 372. *Fortune's Wanderings, Dr. H. Day in M. Med. Journ.*

FISHER ISLAND. A low level island bounding the N. W. side of Malacca Road.—*Horsburgh.*

FISHER ISLAND, a group of two or three barren rocks off the coast of Cochin China, lie to the N. E. of Tree Island.

FISHES OF EASTERN AND SOUTHERN ASIA.

An-gna,	Burm.	Matchli,	Hind.
Fisk,	Dan. Swed.	Pesci,	It.
Visschen,	Dut.	Pisces,	Lat.
Poisson,	Fr.	Ikan,	Malay.
Fische,	Ger.	Mahi,	Persian.
Ichthyos,	Gr.	Rybi,	Polish.
Dag,	Heb.	Piexes,	Port.
Match'hi,	Hind.	Rub,	Rus.
Pescados,	Sp.	Chapu,	Tel.
Min,	Tam.		

During the past seventy years this branch of the Natural History of the East Indies, has received the attention of many learned Zoologists. The voluminous work by Baron Cuvier and M. Valenciennes, "Histoire Naturelle des Poissons" published in Paris in 1828 and following years, was of great value to science. A beautiful volume of much importance the Fauna Japonica, was published in 1847, by M. M. Ph. Fr. de Siebold, C. J. Temminck, H. Schlegel and W. de Haan, (Lugduni, Batavorum 1847.) Prior to that, in 1802, there had appeared Dr. Patrick Russell's book in two volumes, containing the descriptions and figures of 200 fishes collected at Vizagapatam on the coast of Coromandel. In 1841, there was issued at Berlin, the Systematische Beschreibung der Plagiostomen, by Dr. J. Müller and Dr. J. Henle which included several of the genera and species of the seas in the South and East of Asia. Dr. McLelland of the Bengal Army in 1842, in the Calcutta Journal of Natural History described the Fresh water fishes which Dr. Griffith had collected, and in 1843 he described a collection made at Chusan and Ning-po. In 1851, Mr. J. W. Bennett published "A selection of rare and curious fishes found on the coast of Ceylon. Dr. Ruppell and M. Peters had described the fishes of the Red Sea and southwards to Mozambique and the fishes near the Cape were described by Dr. Smith, Dr. Day, in 1865, published his fishes of Malabar, the nineteen new species in which were lodged in the British Museum. For many years from 1845 to 1860 Dr. P. Bleeker in numerous contributions, on the fishes of the Eastern Archipelago, added greatly to the stock of knowledge of the fauna of the region from Penang to Japan. Mr. E. Blyth, so long the Curator of the Bengal Asiatic Society's Museum, in the Bengal Asiatic Society Journal, from time to time, published notices of fish, and Mr. T. C. Jerdon, a Medical Officer of the Madras Army in the Madras Literary Society's Journal, gave several contributions on the fresh water and on the salt water fishes of the Peninsula. But the most recent of all the writers on this branch of science is Dr. A. Gunther, who, in addition to all that he had written in the Proceedings of the Zoological Society, and other Journals, in the years 1860 to 1868, brought out seven volumes of a Catalogue of the fishes in the collection of the British Museum, and in 1866, conjointly with Lieut.-Colonel L. Playfair, published an illustrated volume on the

Fishes of Zanzibar, the Seychelles and Chagos Islands. From the continuity of the waters from Suez in the Red Sea and from the East Coast of Africa through the Indian Ocean, and Bay of Bengal, into the seas of the Archipelago, around Australia and into the Pacific and Polynesia it is probable that many of the fishes which are now only known as inhabiting a particular Sea, will be found throughout that line of ocean and that the great natural barriers will be found to be Cape Horn and the Cape of Good Hope on the South, to pass either of which capes, would throw the fish of the tropical seas into cold regions.

In 1822 there had appeared in a 4to volume, Dr. Hamilton's Account of the fishes found in the River Ganges and its branches, with a volume of Plates. Dr. McClelland has written on the Indian Cyprinidæ in the *As. Res.* xix. p. 217. Colonel Sykes wrote on the fishes of the Deckan in the transactions of the Zoological Society. "Fische aus Caschemir" were described by M. M. von Hugel and Heckel. The fishes of Japan were described by Dr. Sir John Richardson. In 1866, appeared Lt.-Colonel Playfair and Dr. A. Gunthers work on the fishes of Zanzibar. Dr. Kelaart of Ceylon, paid much attention to the Ichthyology of the Island, and Dr. Theodore Cantor furnished in the Bengal Asiatic Society's Journal a minute account of 307 fishes of the Malay Archipelago. Almost all of these authors confined their descriptions to the distinctive features of the fish, but Dr. Buist of Bombay, Sir John Bowring, Sir J. E. Tennant, Dr. Cantor, Dr. Mason and Mr. Bonynge have given a few interesting notices of their habits. The hindu races who worship in addition to the works of their own hands, so many varied products and so large a number of mammals and reptiles, do not, seemingly, worship fish. In their religion the *Matsya Avatara* is the Fish Incarnation of Vishnu, in which he preserves a king named Manu, with the seeds of all things, in an ark, during the deluge, which happened in order to kill *Somukasura* who had stolen the *Vedas*, and hidden them in the sea. A tank or pond with all its contents may, however, with the hindoos, be devoted to a deity, and Colonel Tod mentions that when, one day, he had thrown his net into a lake, which abounded with a variety of fish, his pastime was interrupted by a message from the regent, Zalim Sing: to tell Captain Tod that Kotah and all around it are at his disposal; but these fish belong to Kaniya." On which, of course, he immediately desisted, and the fish were returned to the safe guard of the deity. In such sacred tanks fish will feed from the hand; and in the Mahanaddy, where it is three miles broad, he tells us, (*Travels p.* 9) fish will follow for miles for a little burnt rice. The amphibious snake-head fish (Ophiocephalus amphibeus) occurs in the fresh waters of Burmah, but the natives regard them with superstitious awe and do not eat them. They have a legend that they were formerly men, changed into fish for their sins, and the Pwo Karen of Tavoy say that if people eat them they will be transformed into lions. The Boura chang, a fish of Boutan, is believed by the natives to fall from heaven, from the circumstance of its being found after rain far from the water. In the neighbourhood of Tavoy are two small current-less basins in the Pagaya river at the foot of pagoda crowned precipices, one to two hundred feet high. The fish, a species of barbel, (Barbus Mortonius) are held sacred to the pagodas by the bud'dhists and come in shoals for rice thrown to them by passers bye, as fearless of man as the basking deer that drink their waters. Mr. Hodgson mentions a similar tameness amongst the large gold fish at Japan. No sooner did they see his little girl coming to the edge of the water, than they almost rose from their natural element to grasp and gasp, with open mouths, at the bread, biscuit, or cake which she was half afraid to offer them. (*Hodgson's Nagasaki, p.* 75). Professor Oldham, also, tells us that in the middle of the Irawadi, about thirty miles above the town of Tsengoo and opposite the small village of Thika-dan, on nearing the island, the head man in the boat called out tet-tet ! tet-tet ! saying he was calling the fish. On coming down to the boat again, Mr. Oldham found it surrounded on both sides with about fifty large fish, some three or four feet long; a kind of blunt-nosed broad-mouthed dog fish. In one group which he studied more than others there were ten. These were at one side of the boat, nearly half their bodies protruded vertically from the water, their mouths all gaping wide. The boatmen were feeding them with some of the rice prepared for their own dinners, by throwing little pellets down the throats of the fish. Each fish, as it got something to eat, sunk, and having swallowed the portion came back to the boat side for more. The men continued occasionally their cry of tet-tet-tet ! and putting their hands over the gunwale of the boat, stroked down the fish on the back precisely as they would stroke a dog. This was kept up for nearly half an hour moving the boat slightly about, and invariably the fish came at call

and were fed as before. The only effect which the stroking down or patting on the back seemed to have, was to cause them to gape still wider for their food. The fish are found in the deep pool formed at the back of the island, by the two currents meeting round its sides, and the Phoongyi are in the habit of feeding them daily. It is regarded by the Burmans as quite a sight, which the people come from great distances to see, as well as to visit the pagoda, which is very ancient and much venerated. During an annual March festival, it is not unusual for the visitors to take the fish into their boats, and gild their backs with gold leaf, as they do in the ordinary way to pagodas, and Mr. Oldham observed remains of the gilding visible on one of the fish. He wished to take one of the fish away, but refrained as the people seem to regard the act as sacrilege. (*Mr. Oldham, in Yule's Embassy.*) In various parts of the world, however, fish can be sufficiently tamed to eat from the hand. In 1834, in the garden of a native gentleman in Calcutta, we found in a tank, numerous fish, said to be mullet, which eat parched rice out of the hand: and in a public garden in northern Germany we witnessed all ages of the community amusing themselves with feeding a number of large fish that eagerly crowded near to receive shares of the bread bestowed on them.

Sir J. E. Tennant discusses the various theories of that curious phenomenon, everywhere occurring after rains, in southern Asia, of fish found in fields, tanks, ponds and marshes, in which they had not been known to exist while the drought lasted. Sir John Bowring notices it in his Philippine islands, and Sir J. E. Tennant remarks that there are full grown fish in Ceylon, endowed with the singular faculty of being able to migrate over land in search of water, and of burying themselves in the mud, retaining their vitality until the return of the rainy season. Fish, up to a foot in length, are, everywhere in India, caught in fields, and it is a popular belief either that fish bury themselves during droughts in the soft damp under soils or that they are accidently so imbedded from one dry season to another; or that they fall in some water spout. But we have never heard of, nor seen, fish dug up in any of the agricultural or engineering operations so continuously going on in the Peninsula of India. In the instances which have, there, come under our own observations, the places where the people were busy catching fish, were at levels lower than the surrounding country, and often in the line of the drainage of tanks, and it seemed evident that in a sudden fall of rain a tank or pond had everflowed and swept the fish down into the lower country. Whatever be the explanation, people are, in India, seen catching fish by hands, nets and baskets, immediately after heavy rains and in a few days afterwards, busy with fishing rods and lines in parts of the country which for months previous had been cracked and burnt up by the intensity of the heat.

The fact of the imbedding of fish is however stated by trustworthy writers Mr. Bonynge says (*America* p. 165.) I have seen the natives in the North East of India, both to my surprise and amusement, dig fish out of the earth. The fish is called " earth fish," " Zeemen ka mutchee," (Earth-fish) of about five to seven inches in length, flat, and black in color, flesh hard, and in flavor somewhat like an eel."

Mr. Cameron mentions (*Cameron p.* 119.) that in a morning in Singapore he has passed where men and women were busy catching fish in ditches that the evening before were previously dry, heavy rains having fallen over night. And he believes that these fish imbed themselves as the waters dry up and lie caked there until the next wet day.

Sir John Bowring says in his Philippines (p. 26) that after rains the fields and marshes are filled with fish. Fish two palms long are often pulled up from among the paddy. As the waters dry all the fish retreat to any muddy recess and the Indians catch them with their hands or kill them with sticks. I have, he adds, seen many Indians fishing in the paddy grounds, and what becomes of the fish in the times of drought when no muddy recesses are to be found it is hard to say. This phenomenon was noticed by Pennant, who, says (*Pennant's Hindoostan, Vol. I. pp.* 102-3) that the phenomenon of small fish appearing in the rainy season, in places before dry, is as true as it is surprising. The natives begin to fish, for them the tenth day after the first rains, and they make a common dish at the tables. Many are the modes of accounting for this annual appearance.

Dr. Buist, who from time published in the *Bombay Times* which he edited, many interesting points on Natural History, noticed several falls of fishes from the sky which Mr. Gosse and Sir James Emmerson Tennant (*Sketches* 362-4) have quoted. Dr. Buist writing in 1856, mentioned that in 1824, fishes fell at Meerut, on the men of Her Majesty's 14th Regiment, then out at drill, and were caught in numbers. In July 1826, live fish were seen to fall on the grass at Moradabad

during a storm. They were the common cyprinus, so prevalent in our Indian waters. On the 19th of February 1830, at noon, a heavy fall of fish occurred at the Nokulhatta factory, in the Dacca Zillah; depositions on the subject were obtained from nine different parties. The fish were all dead, most of them were large, some were fresh, others were rotten and mutilated. They were seen at first in the sky, like a flock of birds, descending rapidly to the ground; there was rain drizzling, but no storm. On the 16th and 17th of May, 1853, a fall of fish occurred in the zillah of Futtehpoor, about three miles north of the Jumna, after a violent storm of wind and rain. The fish were from lb. 1½ to lb. 3 in weight, and of the same species as those found in the tanks in the neighbourhood. They were all dead and dry. A fall of fish occurred at Allahabad, during a storm in May, 1835, they were of the chowla species, and were found, dead and dry, after the storm had passed over the district. On the 20th of September, 1839, after a smart shower of rain, a quantity of live fish, about three inches in length and all of the same kind, fell at the Sunderbunds, about 20 miles S. of Calcutta. On that occasion it was remarked that the fish did not fall here and there irregularly over the ground, but in a continuous straight line, not more than a span in breadth. About a week or ten days after the first burst of the monsoon, vast multitudes of fish, are observed on the low grounds round Bombay. But these appear to be derived from the adjacent pools and rivulets and not to have descended from the sky. Dr. Buist, was not aware that they occurred on the higher parts of the Island, and he had never seen them in casks for collecting rain water from the roofs of houses, nor on the awnings or decks of vessels in the harbour. During a tremendous deluge of rain at Kattywar, on the 25th of July, 1850, the ground around Rajkote was found literally covered with fish; some of them were found on the tops of haystacks, where probably they had been drifted by the storm. In the course of twenty-four successive hours twenty-seven inches of rain fell, thirty five fell in twenty-six hours, seven inches within one hour and a half, being the heaviest fall on record. At Poonah on the 3rd of August, 1852, after a very heavy fall of rain, multitudes of fish were caught on the ground in the cantonments, full half a mile from the nearest stream. Sir J. E. Tennant, when driving in the Cinnamon gardens near the port of Colombo, saw a violent but partial shower. On coming to the spot, he found a multitude of small silvery fish from 1½ to 2 inches in length, leaping on the gravel of the high road, numbers of which he collected and brought away and Mr. Whiting, a Civil Servant of Ceylon mentioned to Sir J. E. Tennant that he had been often told by the natives at Trincomalee that it sometimes rained fishes at that side of Ceylon. (*Tennant's Sketches of the Nat. Hist of Ceylon, p.* 362-4. *Phillip Henry Gosse F. R. S. Romance of Natural History, London,* 1861.)

Fish travel; not eels alone, which in all countries can move rapidly over moist land. Theophrastus (De piscibus) the contemporary of Aristotle, mentions fishes found in the Euphrates, which, in the dry seasons, leave the vacant channels and crawl over the ground, in search of water, moving along by fins and tail. Mention was made, above of the travelling powers of the Ophiocephalus amphibeus of Burmah. The Ophiocephalus striatus occurs in the Indian Peninsula, attains a length of upwards of 3 feet. O. gachua grows to one foot long, and Dr. Day believes that they breathe air direct from the atmosphere. Hartwig mentions that in several fish the gills communicate with a cellular labyrinth containing water, which keeps the gills moist; by this means the hassar of Guiana, the frog fish of Ceylon and the climbing perch of India are able to remain out of the water. The hassar throws itself forwards by the spring of its tail, and can move in that way nearly as fast as a man can leisurely walk. The pectoral fins of the frog fish supported by the bones of its carpus perform the office of feet. The climbing perch moves itself up trees by means of its ventral fins (*Hartwig.*)

Dr. Bowring says (Siam Vol. I. p. 10) that in ascending and descending the Meinam river, to and from Baukok, he was amused with the novel sight of fish leaving the river, gliding over the wet banks, and losing themselves among the trees of the jungle. Bishop Pallegoix (Siam I, 144) asserts that such fish will wander more than a league from the water. "Some years ago" he says, "a great drought had dried up all the ponds in the neighbourhood of Ayuthia: during the night, torrents of rain fell. Next day, going for a walk into the country, he was surprised at seeing the ponds almost full, and a quantity of fish leaping about! 'Whence have these fish come?' he inquired of a labourer: 'yesterday there was not one.' He replied "they were come under favour of the rain." In 1831, when fish were uncommonly cheap, the Bishop of Siam poured fifty cwt. into his ponds: but, in less than a month, nine-tenths escaped during a rain that fell in the night.

There are three species of this wandering fish, called Pla-xon, pla-duk, pla-mo. The first is voracious, and about the size of a carp; salted and dried, it can be preserved for a year: it is very abundant, and is exported to China, Singapore, and Java, and is a particularly wholesome and health-giving fish.—(*Bowring's Siam*, Vol. I. p. 10.) Sir J. E. Tennant thinks that the fish here alluded to by Sir John Bowring may be the Anabas scandens, *Cuv.* (Perca scandens *Daldorf*, Kavaya also Kawhyya *Singh.* Paunei eri *Tam.*) and Dr. Hamilton Buchanan says, it is most tenacious of life; he had known boatmen on the Ganges keep them for five or six days in an earthen pot without water and daily to use what they wanted, finding them as lively and fresh as when caught. The Platycephalus clavulatus, insidiator and P. carbunculus can all sustain life for some little time out of water.

Mr. Layard, (*Ann. Nat. Hist. Mag.* 1853) once encountered several of the Anabas, travelling along a dusty gravel road in the mid-day sun. Near the rocks of the Ceylon coast, are multitudes of a curious little fish (the Salarias alticus) which possesses the faculty of darting along the surface of the water and running up the wet stones and across the sand with the utmost ease and rapidity. (*Tennant*, ii, 493, *Gosse* 133.)

Mr. Gosse has seen a species of Antennarium running quickly to and fro on the surface of the great beds of floating sea weed in the gulf stream, progressing with the utmost facility by means of its pectorals and ventral fins, quite out of water. (*Gosse*, p. 122.)

The lepidosiren of Africa and S. America, is placed midway between the reptiles and fishes, and has gills and true lungs. It has the habit on the approach of drought of burying itself several feet deep into the mud of the ponds in which it usually dwells. It does not appear to possess the power of travelling. The Hydrargyræ of Carolina leave the drying pools and seek the nearest water, in a straight line, though at a considerable distance: and Sir R. Schomburgh tells us that certain species of Dora (by the people, the Hassar) in Guiana, have the same habit and are occasionally met with in such numbers in their travels that the negroes fill baskets with them. If they fail in finding water, they are said to burrow in the soft mud, and pass the dry season in torpidity like the lepidosiren. (*Gosse* 122.)

In Ceylon the fish most frequently seen travelling is a perch called by the Singalese Kavaya or Kawhyya, and by the Tamil, Pannei-eri, or Sennal. It is closely allied to the Anabas scandens of Cuvier, the Perca scandens of Daldorf. It grows to about six in length, the head round and covered with scales, and the edges of the gill covers strongly denticulated. Aided by the apparatus in its head, this little creature issues boldly from its native pools and addresses itself to its toilesome march, generally at night or in the early morning, whilst the grass is still damp with the dew; but in its distress it is sometimes compelled to move by day, and Mr. E. L. Layard on one occasion encountered a number of them travelling along a dusty road under the midday sun.

Mr. Morris, the Government Agent of Trincomalie, writing to Sir J. E. Tennant on this subject in 1856, mentioned that he was lately on duty inspecting the bund of a large tank at Nade-cadua. He found numbers of fish struggling upwards through the grass in the rills formed by the trickling of the rain. There was scarcely water enough to cover them, but nevertheless they made rapid progress up the bank, and his followers collected about two bushels of them at a distance of forty yards from the tank. They were forcing their way up the knoll. They were chub, the same as are found in the mud after the tanks dry up. In a subsequent communication, in July 1857, Mr. Morris mentioned that as the tanks dry up the fish congregate in the little pools till at last you find them in thousands in the moistest parts of the beds, rolling in the blue mud which is at that time about the consistence of thick gruel. As the moisture further evaporates from the surface, they are left uncovered, and they crawl away in search of fresh pools. In one place he saw hundreds diverging in every direction, from the tank they had just abandoned to a distance of fifty or sixty yards, and still traveling onwards. His impression was that this migration takes place at night or before sunrise, for it was only early in the morning that he had seen them progressing. All in the act of migration had their gills expanded. Sir J. E. Tennant says (*Sketches* p. 354) that in Ceylon where the country is flat, and small tanks are extremely numerous, the natives are accustomed in the hot season to dig in the mud for fish. Mr. Whiting, the chief civil officer of the eastern province, informed him that, on two occasions, he was present accidentally when the villagers were so engaged, once at the tank of Malliativoe, within a few miles of Kottiar, near the bay of Trincomalie, and again at a tank between Ellendetorre and Armitivoe, on the bank of the Vergel river. The clay was firm, but moist

and as the men flung out lumps of it with a spade, it fell to pieces, disclosing fish from nine to twelve inches long, full grown and healthy, which jumped on the bank when exposed to the sun light.

The climbing fish of Ceylon is an Anabas, closely resembling the Perca scandens of Daldorf; but on minute examination it proves to be a species unknown in India, and hitherto found only in Borneo and China. It is the A. oligolepis of Bleeker. (*Tennant's Sketches of the Nat. Hist. of Ceylon*, p. 354.)

The Magura fish in the Columbo lake is said to grunt under water when disturbed, and Bishop Pallegoix, in his account of Siam, speaks of a fish resembling a sole, but of brilliant colouring with black spots, which the natives call dogs tongues; it attaches itself to boats and gives out a very sonorous and harmonious sound. (*Tenn.* 2, 470.)

The Chætodon rostratus looks for an insect on the foliage overhanging its pool, and suddenly shoots on it from below a drop of water which brings the insect down. The Javanese keep them for their amusement.

Chætodon prætextatus, Cantor, like other species of this and the neighbouring genera, expires immediately, when removed from its element. It appears to be allied to C. reticulatus and C. lunula, Cuv. and Val.

The Toxotes jaculator, Pallas, or archer fish appears to be the variety, described by M. M. Cuvier and Valenciennes from a drawing in the series, formerly in the late Colonel Farquhar's possession. The food of several examined, consisted of remains of crustacea. In the straits of Malacca this fish occurs, at all seasons, but not numerously. It is eaten by the Malays, who record its habits in the denomination: ikan signifying a fish, sumpitan a blow-pipe.

The gaudiest fish live among the coral reefs, such as species of the Chætodon, the Balistinæ and Glyphosodon. The Mesoprion annularis of the Indian Ocean, feeds on crustacea, and is distinguished for the beauty of its colours and the symmetry of its form.

The Gourami, a fish of the Mauritius, is esteemed of more delicate flavour than the salmon or turbot: but many other fish of these regions are highly prized for food, and several of the genera Arius, Otolithus, Umbrina, Lobotes and Polynemus, furnish isinglass in abundance. P. tetradactylus is valued both for food and for its large sounds.

The Trichopodus trichopterus, (Pallas,) like the rest of the family, is capable of sustaining life out of water, particularly if kept in wetted fresh leaves, or occasionally sprinkled with water. At Penang it is numerous in streamlets and ponds, where it is eaten by the poorest classes. The exquisite beauty of the metallic irridescent colours make these fishes acquisitions in garden tanks. Like Osphromenus olfax they are very pugnacious among themselves. A second species of Trichopodus has been discovered by Dr. Campbell, Superintendent of Darjeeling, in the rivers at the Sikim passes in the northern frontier of Bengal. Both at Penang and at Malacca, the Osphromenus olfax (Commerson) has been successfully naturalised though in the former place it is not numerous, but confined to a few ponds. They become tame so as to appear on the approach of their feeder, and will rise to flies, beetles, and certain flowers, particularly a large Hibiscus. Among themselves they are pugnacious. Many years ago several living ones were imported, and placed in a tank in the Calcutta Botanical Gardens, where they appeared to thrive. Little care, however, having been bestowed on their preservation, only a solitary one survived in 1841.

The various pomfrets, are much valued by Europeans. Stromateus niger, the black pomfret, is taken abundantly along the coasts of India, and is largely dried for export to the interior. It is at all seasons taken in abundance in the Straits of Malacca, where, however, it is considered inferior to Stromateus sinensis, "the white pomfret." In a dried state it is largely exported, and thus it appears in the bazaars of Hindustan, which are chiefly supplied from Bombay. S. sinensis is par excellence the "white pomfret" of the Straits Settlements and Madras, the "pample blanche" of Pondicherry. It is justly renowned for its flavour, but it requires to be used when freshly taken. In the Straits and on the Coromandel Coast it is abundant at all seasons. At the Sandheads in the Bay of Bengal, (21° N. L.) it occurs, but less numerously. Dr. Russell happened seldom to see this species and considered it very inferior to the "black" Stromateus niger, (*Bloch*) or his "white pomfret," by which he means Stromateus argenteus *(Bloch.)* (*Russell* p. 34.)

In the Straits Settlements, as well as at Madras, S. argenteus is, likewise, denominated the "white pomfret." In abundance and excellence it vies with S. sinensis.

Stromateus cinereus, *Bloch*, is abundant at Penang but probably from its inferior size it is considered somewhat inferior in quality. At the Sandheads it occurs rarely.

Alausa toli, *Cuv. and Val.* inhabits the Sea of Penang, Malayan Peninsula, Singapore,

Borneo, Java, Sumatra, Pondicherry, river Cauvery, and Bombay. Total length 1 foot 9 inch. Like A. ilisha in Bengal, the A. toli is, by the English of the Straits Settlements, denominated Shad or Sable-fish, and is equally valued for its flavour. Both are, however, somewhat oily, very rich and bony. Alausa toli is remarkable as forming in the Indian Archipelago a distinct and important branch of fishery, principally for the sake of its roe. It is the kind of "Shad" to which Mr. Crawfurd refers as frequenting the great river Siak in Sumatra, and of which the dried roe, of enormous size, constitutes an article of commerce. (Crawfurd, *Hist. Ind. Archipel*, III. 440.—Royle, *On the Production of Isinglass*, 76). A description of the fishing of this species is given by the late Mr. Moor in Notices of the Indian Archipelago, &c. p. 29. At Bukit Batu, [opposite to, and a little to the southward of, Malacca] a place on the main of Sumatra within the Strait formed by the island of Bankalis, exists an extensive fishery well known in this part of the world. The fish which is the object of it is called in the Malayan language "Trubu." The fish itself is sufficiently known in all the neighbouring seas but found with a roe only here, [That is to say, in shoals, for it is plentiful at Penang, Malacca and Singapore,] which makes it certain that it repairs to this favoured place for the purpose of spawning. The Trubu, about a cubit long, is taken in 3 and 4 fathoms water on a mud bank. About 300 boats are engaged at all seasons in the fishery with the exception of four days during dead neap tides. The roes are an article of trade seaways, and the dried fishes are sent into the interior of Sumatra. The Rajah of Siak draws a revenue from this fishery of 72,000 guilders yearly, receiving a certain duty upon the quantity taken. From the rate and amount of this duty it is ascertained that the quantity of fish caught yearly amounts to between fourteen and fifteen millions. It seems a little remarkable that the spirit of European monopoly never should have fastened upon so promising an object of gain. The fishery, from its peculiar nature, is probably quite inexhaustible, and might unquestionably be prodigiously improved by European skill and industry, and this too not only without detriment, but probably to the great improvement of the revenue of the native prince, as well as the essential benefit of the surrounding population" In the Malayan markets the roe is called "Telur ikan," the fish-roe "par excellence." Like the preparation of fermented fish and shell-fish, "Balachan," it is largely used by the Malays and Chinese to season and make their food palatable and it is no less a favourite relish with Europeans. W. T. Lewis, Esq., Resident Counsellor, Penang, who has observed the process of preparation in Sumatra, describes it as follows. The fresh roe is thoroughly salted, and next partially dried, so as to retain a slight moisture, in which state it is by hundreds closely placed in casks, and thus exported. In the Malayan Settlements the price is from 3 to 4 Spanish Dollars per hundred. The dealers there export considerable quantities to China, after having taken the precaution to repack the roes between layers of salt, and to sprinkle them with arrack. To dress them, they are soaked for about half an hour in water, and then fried. As the roe appears in commerce, it is of an elongated flat shape, measuring from 6 to 8 inches in length, about 2 in breadth, and $\frac{3}{4}$ of an inch in depth, of a deep amber colour. The single eggs are larger than those of A. ilisha.

The Engraulis brownii, (Gmelin) inhabits the sea and estuaries of the Malayan Peninsula and Islands, China sea, New Zealand, Madura, Java, Sumatra, Bombay, Coromandel, Bay of Bengal, Gangetic estuaries, Isle of France Australia, New York, Havanah, Jamaica, Vera Cruz, Martinique, Barbadoes, St. Christopher, Rio Janeiro. Total length: 6 inch.

In Java, Sumatra and the Straits of Malacca, large quantities are preserved both for home consumption and exportation to China and India. The delicious condiment is famed under the denomination of "Red-fish," (Ikan-merah of the Malays,) or "Malacca-fish," and is used as a relish. Mr. W. T. Lewis, Asst. Res. Counsellor, Penang, mentions that it is prepared at Bencoolen as follows. After the heads have been removed, the fishes (those of middling size are preferred), are cleansed, salted (in the proportion of one to eight parts of fish), and deposited in flat glazed earthen vessels. In the latter they are for three days submitted to pressure by means of stones placed on thin boards or dried plaintain leaves. The fishes are next freed from salt and saturated with vinegar of Cocoa Palm toddy, after which are added powdered ginger and black pepper (the latter mostly entire), and some brandy and powdered "Red rice." After having been kept for three days, a little more vinegar is added before placing the fishes in well closed jars or bottles. They should be kept four or five months before being used. The expense of a quart bottle of the condiment is about 30 cents, the selling price one Spanish

Dollar. "Red rice" is the variety of Oryza sativa called glutinosa (pulut, or bras sepulut of the Malays) steeped in an infusion of cochineal. In the Straits Settlements, red rice is imported from China, and sells at the rate of 10 cents. of a Dollar per lb. The Chinese settlers in the Straits prepare a similar red condiment with slices of Polynemus indicus and P. tetradactylus and also prawns.

Equula insidiatrix, (Bloch), this species is at all seasons very abundant in the Straits of Malacca, and numbers are dried and consumed by the natives.

Equula longimana, (Cantor,) is very abundant in the Straits of Malacca at all seasons, and quantities, both fresh and dried, are consumed by the natives.

Gazza equulæformis, (Ruppell,) in the Straits of Malacca, this species is very numerous at all seasons, and forms like the rest an article of food.

Clupeonia perforata, (Cantor,) inhabits the Sea of Penang, Malayan Peninsula, Singapore, and Sumatra. Total length : 5⅝ inch. They are of delicate flavour and pass in the Settlements of the Straits under the denomination of 'Sardines,' in imitation of which they are sometimes preserved in oil. It has a resemblance to Alausa argyrochloris, Cuv. et Val. (vol. XX. p. 440).

The general form, the yellow dorsal fin with a small black spot, give it a certain resemblance to Meletta venenosa, Cuv. et Val. (vol. XX. p. 377). Some specimens of Clupeonia perforata, procured by Mr. W. T. Lewis, Assist. Resid. Councillor, Penang, were accompanied by the following account of a phænomenon witnessed by that gentleman during his official residence at Bencoolen. In 1822 great numbers of what was supposed to be this identical species, presented the unusual appearance of having red eyes. Many natives after having eaten these fishes, were suddenly attacked with violent vomiting, which in cases where remedies were not immediately applied, was known within an hour to terminate fatally. At the same time such of these fishes with the ordinary silvery eyes, were as formerly eaten with impunity. This phænomenon recurred at Bencoolen during the seasons of 1823 and 1825, but not of 1824. It was surmised that the poisonous fishes had fed on a gelatinous substance which at that season exudes from the beautifully coloured coral reefs on that part of the coast of Sumatra. It is, however, more probable that the poisonous fishes were shoals of Meletta venenosa, an inhabitant of the Seychelles and the neighbouring seas, which happened in those seasons to visit Sumatra. M. Valenciennes describes this fish as being poisonous, and producing effects as noted above. In the Straits of Malacca, Clupeonia perforata has never been known to produce bad effects.

Dussumiera acuta, Cuv. and Val. XX. 467. Pl. 606. the Tamban bulat of the Malays.

Head above, back and upper third of the sides deep glossy blue, bordered by a longitudinal band of pale copper-red ; the rest of the head and body shining silvery ; dorsal hyaline. Of this, single individuals occur at Penang at all seasons, but numbers from June to September. It is highly valued for its delicate flavour, and passes commonly as a 'Sardine.' The latter denomination it shares, however, with Clupeonia perforata, (vide supra,) with which it is also confounded by the Malays under the common name of Ikan tamban. Both species have been prepared as 'Sardines a huile.'

The Saurus nehereus, of Buchanan Hamilton, has the upper part of its head, back and sides light grey or dust-coloured, hemi-transparent like gelatine, with minute starlike black and brownish dots the anterior part of the abdomen is pale silvery bluish ; rest whitish ; cheeks and opercles pale silvery bluish, dotted like the body ; fins transparent, coloured like the body but more closely dotted, so as to appear pale blackish. It inhabits the Sea of the Malayan Peninsula and Islands, Chusan, Woosung, Canton, Madura, Java, Sumatra, Tenasserim, mouths of the Ganges, Vizagapatam, Bay of Bengal, Bombay, Malabar. The total length is 11 inch. The fish is of most voracious habits, gorging itself with its own species and other fishes of nearly its own size, and with Crustacea (shrimps). It is frequently taken with the stomach and the jaws expanded with prey. It is very short-lived, more so than either S. trachinus or S. myops, and the whole body becomes at certain seasons brilliantly phosphorescent. In the Straits of Malacca it is at all times very numerous, although less so than it is at the Sandheads or in the mouths of the Ganges. Although very rich, it is a great delicacy immediately after it is taken. Salted and dried it is also highly valued, and in this state it occurs in commerce under the denomination of "Bombay Ducks," the "Bummaloh" of Bengal, and the Bamiah of Bombay, large quantities of which are annually exported from Bombay and the Malabar coast to all parts of India.

Hemiramphus russelli of Cuv. and Val. the Toda pendek of the Malays [Pendek, short.) The Malays thus denominate all the species of Hemiramphus, to distinguish them from those of Belone (Toda) of the Malays.

At Penang H. Russelli is numerous at all seasons, and larger individuals occur at irregular intervals. They appear at European tables under the appellation of "Guard-fish."

Plagusia potous, Cuvier. The Ikan ledah of the Malays, is of excellent flavour, and, like Plagusia trulla, passes at European tables under the denomination of "Sole." the species are all distinguished for their tenacity of life. The fishermen at Penang assert that some species of Plagusia shoal at certain seasons.

Hippocampus mannulus and H. comes, of the Penang seas, when drying assume the figure of a horse head and are known to all as the Sea-horse.

Of the Torpedinidæ, several genera and species occur, viz., Narcine Indica, Astrape dipterygia, Temera Hardwickii and Cysteocercus temeræ, Dr. Cantor says, large individuals of Narcine are at Penang of rare occurrence, but younger, from 3 to 6 inches in length, are taken at all seasons. In or out of water they may be handled with impunity. Several species of fishes introduced in a jar filled with sea-water and containing a large Narcine shewed no consequences from the contact, nor did they appear to avoid the Torpedo. The food of this and the other Malayan Torpedinidæ consists of Crustacea and Testacea.

Plotosus anguillaria, and Pl. albilabris both occur in the Seas of the Malay peninsula. At Penang, the latter species is less numerous than the former. Both are eaten by the poorer class of natives. The wounds of both are equally dreaded.

The species of Tetrodon are capable of inflating the abdomen, and in this state, when taken or handled, they emit a grating sound. They are also remarkable for tenacity of life, which they are capable of sustaining for several hours after having been taken out of their element. They have a peculiar disagreeable odour, resembling that of the Gobioidæ, which continues for several years in specimens preserved in spirits of wine. In the Malayan countries they are considered highly poisonous, and are even objected to as manure.

Batrachus grunniens, (Linne). The natives attribute poisonous qualities to these fishes, and reject them even as manure. The creaking sound they emit has been noted by Buchanan. They are capable of living a considerable time out of their element.

Cacodoxus argus, (Linn.) Is eaten by the natives, though many reject it on account of its reputed disgusting habits. In several which were examined in the estuaries of the Ganges, and at Penang, the stomach contained remains of small fishes and crustacea. According to Bennett, it is, in Ceylon, angled for on hooks baited with a kind of sea-weed ("Pendah,") of which this fish appears to be particularly fond.

Echenneis naucrates, (Linn.) Occurs at Malacca. The Malays consider this fish to be powerful manure for fruit trees. (Low, *Dissert. of Penang*, 179).

Raconda russelliana, Gray. At Penang individuals from 4 to 6 inches in length are numerous at all seasons, although less so than they are at the Sandheads and the mouth of the Ganges. The Bengal fishermen denominate the species "Potassah-Fessah" or "Phasah." "Fessah" or "Phasah," as Buchanan Hamilton observes, is, in Bengal, a generic term, particularly applied to Engraulis phasah (Buchan), and E. telarah, (Buch.) It is a heavy swimmer, and like the rest of the Clupeoidæ, expires immediately on leaving its element. It is chiefly consumed in a dried state.

Leuciscus rasbora, (Buchan. Ham.) Is numerous at Penang, in rivulets and in rice fields, when they are flooded.

Teuthis, (*Linne* 1766.) All the species of this genus are supposed by the Malays of the Straits to be highly poisonous, they are not eaten, but set aside among offal of fish to be used as manure.

The Arius genus of fishes, of the Ganges, Malay and Javanese seas, furnish isinglass. The Arius arius of Dr. Buchanan Hamilton, inhabits the Gangetic estuaries, near Pondicherry, and the estuaries near Penang, the Malay peninsula and Singapore. It is 1 foot and 10 inches long; forms an article of food, and more than any other of the siluridæ contributes to the isinglass of Indian commerce.

The Arius militaris. *Linn.* Is a foot and a half long, inhabits the Coromandel and Malabar coasts, the Ganges, Irawadi, and the seas and estuaries of the Malay peninsula. Its air vessel is preserved as isinglass.

The Arius truncatus Cuv. and Val. is under a foot in length. It occurs in the seas of Penang and the Malay Peninsula, but is so rare that it furnishes little of the isinglass of commerce.

The bodies of the genus Chanda (Chandi, Hind. silver) are more or less diaphonous. The Macropodus pugnax of Cantor occurs numerously at the foot of hills at Penang Like the rest of the family it is capable of living for sometime out of water. The Siamese inhabitants with whom this species is a great favourite, keep them in jars with

water, where the larvæ of musquitoes is their food, and denominate them "Pla kat," Pla, fish; kat, a fighter. The variety is noticed by Lieut-Col. Jas. Low, i. e., the fighting fish, although they live peaceably together. The real fish however, the exhibition of whose combats is a popular amusement with the Siamese, appears to be a variety of the present species, produced by artificial means, like the varieties of the golden carp of China, and Dr. Cantor names it Macropodus pugnax, Var. (Plate II. Fig. 4.) Pla-kat of the Siamese. When the fish is in a state of quiet with the fins at rest, the dull colours present nothing remarkable. But if two are brought within sight of each other, or if one see its own image in a looking glass, the little creature becomes suddenly excited, the raised fins and the whole body shine with metallic colours of dazzling beauty, while the projected gill membrane, waving like a black frill round the throat, adds something grotesque to the general appearance. In this state it makes repeated darts at its real or reflected antagonist. But both, when taken out of each other's sight instantly become quiet. This description was drawn up in 1840 at Singapore, where a gentleman had been presented with several by the king of Siam. They were kept singly in glasses with water, fed with larvæ of musquitoes, and had thus lived for many months. The Siamese are as infatuated with the combats of these fishes as Malays are with their cock fights, and stake considerable sums, and sometimes their own persons and their families. The license of exhibiting fish fights is farmed, and affords a considerable annual revenue to the king of Siam.

Sir J. E. Tennant tells us that in the hot springs of Kannea, in the vicinity of Trincomalie, the water flows at a temperature varying at different seasons from 85° to 115°. In the stream formed by these wells, M. Raynaud found and forwarded to Cuvier two fishes which he took from the water at a time when his thermometer indicated a temperature of 37° Reaumur, equal to 115° of Fahrenheit. The one was an Apogon, the other an Ambassis, and to each, from the heat of its habitat, he assigned the specific name of "thermalis."

A loach, Cobitis thermalis, and a carp, Nuria thermoicos, were also found in the hot springs of Kannea, at a heat 40° cent., 114° Fahrenheit, and a roach, Leuciscus thermalis, when the thermometer indicated 50° cent., 122° Fahr. Fish have been taken from a hot spring at Pooree when the thermometer stood at 112° Fahr., and as they belonged to a carnivorous genus, they must have found prey living in the same high temperature. (*Journ. Asiatic Soc. of Beng.* Vol. VI. p. 465.) Fishes have been observed in a hot spring at Manilla which raises the thermometer to 187°, and in another in Barbary, the usual temperature of which is 172°; and Humboldt and Bonpland, when travelling in South America, saw fishes thrown up alive from a volcano, in water that raised the temperature to 210°, being two degrees below the boiling point. *Patterson's Zoology Pt. II. p.* 211; *Yarrell's History of British Fishes, Vol. I. In p.* 16 *quoted in Tennant's Sketches of the Nat. Hist. of Ceylon, p.* 359. *Cantor in B. As. S. J.*

SUB-CLASS I. TELEOSTEI.

ORDER I. ACANTHOPTERYGII. *Fam.* II. BERYCIDÆ.

Monocentris japonicus, *C. & V.*, Japan.
Beryx delphini, *C. & V.*, Indian Ocean.
Myripristis prilinius, *C. & V.*, Isle of France, Indian Ocean, Pacific.
kuntee, *C. & V.*, Isle of France, Coromandel.
bleekeri, *Gunth.*, Banda.
leignathos, *Valen.*, New Ireland.
parvidens, *Bleek.*, Amboyna.
murdjan, *Forsk.*, Red Sea, India, Amboyna.
adustus, *Bleek.*, Amboyna.
microphthalmus, *Bleeker*, Amboyna.
vittatus, *C. & V.*, Isle of France.
japonicus, *C. & V.*, Japan, Isle of France.
hexagonus, *C. & V.*, Isle of France, Boeroe.
botche, *Bl.*, Batavia.
violaceus *Bl.*, Banda.
Holocentrum macropus, *Gunth.*, Isle of France.
pœcilopterum, *Bleeker*, Cocos Islands.
microstoma, *Gunth.*, Amboyna.
rubrum, *Forsk.*, Red Sea, India, Amboyna, China, Japan, Phillippines, Louisiade.
laticeps, *C. & V.*, Batavia.
punctatissimum, *C. & V.*, Sumatra, Caroline Islands.
stercus muscarum, *C. & V.*, Sea of Guam.
spiniferum, *C. & V.*, Red Sea, E. Africa, Indian Ocean, Pacific.
binotatum, *Q. & G.*, New Guinea, Guam.
caudimaculatum, *Rüpp.*, Red Sea, Ceylon.
tiercoides, *Bleek.*, Amboyna.
spinosissimum, *T. & Sch.*, Japan.
diadema, *Lacép.*, Red Sea, Madagascar, Ceylon, China, Archipelago.
melanotopterum, *Bleeker*, Celebes.
violaceum, *Bleek.*, Amboyna.
cornutum, *Bleek.*, Ceram rivers, Amboyna.
sammara, *Forsk.*, *Rüpp.*, Red Sea, Cape of Good Hope, India, Amboyna, Sumbava.
operculare, *C. & V.*, N. Ireland, Banda.

lævc, *Gunth.*, Amboyna, Louisiade Archipelago, Salomon Islands.
leonoides, *Bleek.*
binotatum, *Bleek.*
Rhynchichthys pelamidis, *C. & V.*, Indian Ocean.
brachyrhynchus, *Bleek.*, Amboyna.
Heterophthalmus katoptron, *Bl.*, Manado.

Fam. III. PERCIDÆ. *First Group.* PERCINA.

Percichthys ciliata, *K. & v. H.*, Java.
Lates calcarifer, *Bl.*, (L. nobilis *C. V.*), mouths of E. Indian rivers, China.
Cnidon chinensis, *Mull. & Trosch.*, Manilla.
Psammoperca waigiensis, *Bleeker*, China, Waigiou, Australia.
Percalabrax japonicus, *T. & S.*, China, Japan.
Etelis carbunculus, *C. & V.*, Seychelles, Isle of France.
Niphon spinosus *C. & V.*, Japanese Seas.
Enoplosus armatus, *C. & V.*, Australian Seas.

Second Group. SERRANINA.

Aprion virescens, *C. & V.*, Seychelles.
Centropristis hirundinaceus, *C. & V.*, Japan.
Anthias borbonius, *C. & V.*, Isle of France.
rasor, *Rich.*, Australian Seas.
schlegelii, *Gunth.*, Japan.
cichlops, *Bl.*, (Priaman) Sumatra.
pleurotænia *Bl.*, Amboyna.
cheirospilos, *Bl.*, Amboyna.
Anyperodon leucogrammicus, *Rein.*, Seychelles, Moluccas.
Serranus louti, *Forsk.*, Red Sea, Isle of France, Ceylon, Sumatra, Timor, Moluccas, Waigiou.
flavimarginatus, *Rüpp.*, Red Sea.
rhyncholepis, *Bleek.*, Celebes.
brunneus, *Bl.*, Chinese Sea.
kawamebari, *T. & Sch.*, Japan.
lanceolatus, *Bl.*, Bay of Bengal, Batavia, Samarang.
albofuscus, *Lacép.*, *Bleek.*, Sea of Boeroe.
sexfasciatus, *C. & V.*, Javanese Sea.
oceanicus, *C. & V.*, Red Sea, Isle of France.
trimaculatus, *C. & V.*, Japan, China, Cape.
diacanthus, *C. & V.*, Bay of Bengal, Malabar, China, Louisiade.
stigmapomus, *Richard.*, China Sea, N. W. Australia.
boenack, *Bl.*, Sunda, Molucca Seas.
semipunctatus, *C. & V.*, Pondicherry.
tigrinus, *C. & V.*, East Indies ?
argus, *Bl.*, East Indies.
rogaa, *C. & V.*, Red Sea.
zananella, *C. & V.*, Javanese Sea.
pachycentrum, *C. & V.*, Ceylonese Sea.
erythræus, *C. & V.*, Isle of France.
microprion, *Bleeker*, Java, China, Amboyna, Louisiade Archipelago.
cyanostigmatoides, *Bleeker*, Java, Amboyna.
cyanostigma, *K. & v. H.*, Java, Amboyna.
miniatus, *Rüpp.*, Red Sea, Mozambique.
aurantius, *C. & V.*, Sumatra, Seychelles.
sexmaculatis, *Rüpp.*, Red Sea.
nigripinnis, *Bleeker*, Sea of Batjan.
hemistictus, *Rüpp.*, Red Sea.
guttatus, *Peters*, Red Sea, Mozambique, Isle of France, Ceylon, China, Batjan, Borabora, Polynesia, Sandwich Islands.
sonnerati, *C. & V.*, Ceylon, Pondicherry, Sumatra, Louisiade Archipelago.
urodelus, *C. & V.*, India, Amboyna, Caroline and Kokos Islands.
analis, *C. & V.*, New Ireland.
zanana, *C. & V.*, Amboyna.
limbatus, *C. & V.*, Island of Guam.
nouleny, *C. & V.*, Coast of Coromandel.
lutra, *C. & V.*, Isle of France.
goldmanni, *Bleeker*, Sea of Groot Oby.
pavoninus, *C. & V.*, Bombay.
angularis, *C. & V.*, Isle of France, Ceylon.
suillus, *C. & V.*, Bay of Bengal, Coromandel, Gangetic estuaries, Java, Phillippines.
fuscoguttatus, *Rüppell*, Red Sea, Mozambique.
altivelioides, *Bleek.*, Sea of Batavia.
polyphekadion, *Bleeker*, Sea of Batavia.
salmonoides, *C. & V.*, Red Sea, Isle of France, Batavia.
epistictus, *T. & Schleg.*, Japanese Seas.
bataviensis, *Bleeker*, Amboyna, Japan.
alboguttatus, *C. & V.*, Amboyna.
polystigma, *Bleeker*, Amboyna.
moara, *T. & Sch.*, Japanese Seas.
marginalis, *C. & V.*, Java, China, Japan, Amboyna, Timor, Louisiade Archip.
amblycephalus, Amboyna.
melanotænia, Amboyna.
horridus, *C. & V.*, Pinang, Java.
sebæ, *Bleeker*, Amboyna, Chinese Seas.
summana, *C. & V.*, Red Sea.
micronotatus, *Rüpp.*, Red Sea.
tumilabris, *C. & V.*, Seychelles.
hoevenii, *Bleek.*, Batavia, Amboyna.
bontoo, *Cuv. Régne, Anim.*, Madras, Vizagapatam, Java.
celebicus, *Bleeker*, Celebes.
variolosus, *C. & V.*, Sunda Sea, Pacific.
hoedtii, *Bleeker*, Amboyna.
akaara, *T. & Sch.*, Japanese Sea.
hexagonatus, *Gunth.*, Red Sea, India, N. Australia, Pacific, African coast.
Var. (*a*) hexagonata, *Var.* (*b*) merra.
tsirimenara, *Tem. & Sch.*, Japanese Sea.
punctatissimus, *Gunth.*, China.
flavo-cæruleus, *Q. & G.*, Mozambique, Isle of France, Ceylon.

melanurus, *Gunth.*, Suez.
gilberti, *Richardson*, N. Australia, China Seas, Torres Straits, Amboyna, Batavia, Sumbava.
nebulosus, *C. & V.*, Java Seas.
bontoides, *Bleeker*, Amboyna.
macrospilos, *Bleeker*, Batjan.
areolatus, Red Sea, Mozambique, Japan.
awoara, *Temm. & Sch.*, Japan, China.
geographicus, *K. & v. H.*, Java.
reticularis, *K. & v. H.*, Java.
gaimardi, *Bleeker*, Batavia, New Guinea.
chlorostigma, *C. & V.*, Seychelles.
cylindricus, *Gunth.*, Madagascar.
altivelis, *C. & V.*, India, Port Essington, China.
quoyanus, *C. & V.*, Moluccas, Amboyna, Celebes.
dermopterus, *T. & Sch.*, Japanese Seas.
formosus, *C. & V.*, Coromandel coast, Madras, China Seas, Batavia.
latifasciatus, *T. & Sch.*, Japanese Seas.
morrhua, *C. & V.*, Isle of France.
biguttatus, *C. & V.*, Trincomalee.
pœcilonotus, *T. & Sch.*, Japan.
lemniscatus, *C. & V.*, Ceylon.
urophthalmus, *Bleeker*, Batoe Sea.
lineatus, *C. & V.*, Pondicherry, China.
amboiensis, *Bleeker*, Ceylon, Amboyna.

Plectropoma maculatum, *C. & V.*, Red Sea, Singapore, Batavia, Macassar, Halmaheira.
leopardinum, *C. & V.*, Red Sea, Australia, Java, Japan, Louisiade Archipelago.
oligacanthus, *Bleeker*, Java, Batavia.
melanoleucum, *C. & V.*, Mozambique, Mauritius.
susuki, *C. & V.*, China, Japan.
unicolor, *Gunth.*, East Indies.

Grammistes orientalis, *Bleeker*, Mauritius, India, Australia, Indian Ocean, Phillippines.

Aulacocephalus schlegelii, *Gunth.*, Mauritius and Japanese Seas.

Diploprion bifasciatum, *K. & v. H.*, Madras, Java, China, Japan.

Myriodon waigiensis, *Q. & G.*, Waigiou, Port Essington.

Pogonoperca ocellata, *Gunth.*, Amboyna.

Genyoroge nigra, *Gunth.*, Red Sea.
macolor, *Gunth.*, Amboyna, Celebes, N. Guinea.
sebæ, *Gunth.*, Mozambique, Pondicherry, Java, Amboyna, Waigiou, Louisiade Archipelago.
bengalensis, *Gunth.*, Red Sea, Mauritius, Indian Seas, Polynesia.
cæruleovittata, *Gunth.*, Mauritius.
octovittata, *Gunth.*, Mauritius.
gibba, *Gunth.*, Red Sea, Mozambique.
notata, *Cantor*, Bay of Bengal, Pinang.
marginata, *Gunth.*, Mozambique, Ceylon, Amboyna, Louisiade Archipelago.
bottonensis, *Gunth.*, Sumatra, Amboyna, N. Guinea.
rivulata, *Gunth.*, Red Sea, Malabar and Coromandel Coast, China, Japan.
cæruleopunctata, *Gunth.*, Sumatra, Coromandel.
melanura, *Gunth.*, Red Sea.
amboinesis, *Gunth.*, Amboyna.
melanospilos, *Gunth.*, Celebes.
fulva, *Gunth.*, Otaheiti.
civis, *Gunth.*, Seychelles.
spilura, Ceylon.

Mesoprion microchir, *Bleek.*, Amboyna Sea.
sparus, *Gunth.*, Japan Sea.
carponotatus, *Rich.*, N. Australia.
bohar, *Gunth.*, Red Sea, E. Africa.
caudalis, *C. & V.*, Vanicolo Islands.
bitæniatus, *Gunth.*, Celebes.
waigiensis, *Gunth.*, Waigiou, Pt. Essington.
chrysotænia, *Bl.*, Batavia Seas.
argentimaculatus, *Gunth.*, Red Sea.
lineatus, *Gunth.*, Waigiou, Molucca, Java.
gembra, *C. & V.*, Bay of Bengal, Moluccas.
borensis, *Gunth.*, Borabora Island.
erythrinus, *Gunth.*, Red Sea.
rangus, *C. & V.*, Java, Ceylon, Coromandel coast, Malay Peninsula.
madras, *C. & V.*,
johnii, *C. & V.*, Pacific, China, India, Malaya, Australia.
fuscescens, *C. & V.*, China, Celebes, Batjan.
fulviflamma, *Bleek.*, Red Sea, Seychelles, Java, Amboyna, China.
annularis, *C. & V.*, Indian Ocean, Red Sea, Chinese and Japanese Seas.
malabaricus, *Bleek.*, Padang, Sumatra Seas.
erythropterus, *C. & V.*, Batavia, Sumbava.
lineolatus, *Gunth.*, Red Sea, Amboyna.
timoriensis, *Gunth.*, Timor, Japan.
dodecacanthus, *Bleek.*, Amboyna.
dodecacanthoides, *Bleek.*, Amboyna, Madras.
vitta, *Bleek.*, Japan, China, Java, Amboyna, Louisiade, Waigiou, N. Australia.
bleekeri, *Gunth.*, Batavia, Amboyna.
enneacanthus, *Bleek.*, Batavia.
semicinctus, *C. & V.*, Waigiou, Rauwack, Amboyna.
quinquelineatus, *C. & V.*, Red Sea, Java.
decussatus, *C. & V.*, Java, Phillippines.
pomacanthus, *Bleek.*, Amboyna.

Glaucosoma burgeri, *Richards.*, Japan, Houtman's Abrothos, S. W. Australia.

Fourth Group. PRIACANTHINA.

Priacanthus boops, *C. & V.*, St. Helena, Mozambique.
japonicus, *Langsdorf*, Cape, China, Japan.
niphonicus, *C. & V.*, Japan.

blochii, *Bleek*, Amboyna; Sumatra.
benmebari, *T. & S.*, Japan.
hamruhr, *C. & V.*, Red Sea.
carolinus, *C. & V.*, Carolines, Banda Neira.
schmittii, *Bleek.*, Padang Sea.
holocentrum, *Bleek.*, Batavia, Sumatra.
macracanthus, *C. & V.*, Amboyna; Batavia; Japan.
dubius, *T. & S.*, Japan.
tayenus, *Rich.*, Chinese Sea.
speculum, *C. & V.*, Seychelles.

Fifth Group. APOGONINA.

Ambassis, small fishes, living in the fresh and brackish waters and seas of the Indian Region, N. Australia, Dalmatia.
robustus, *Gunth.*, Borneo.
commersonii, *C. & V.*, Red Sea, Isle of France, India, Australia.
urotænia, *Bleek.*, Amboyna, Wahai.
apogonoides, *Bleek.*, Borneo rivers.
kopsii, *Bleek.*, Singapore.
batjanensis, *Bleek.*, Fresh waters of Batjan, Amboyna.
dussumieri, *C. & V.*, Malabar, Pinang, Java, China, Celebes, Amboyna, Isle of France, Seychelles.
thermalis, *C. & V.*, Warm springs of Cania, Ceylon.
nalua, *C. & V.*, Java, Pinang, Bengal.
interrupta, *Bleek.*, Batavia, Wahai and Ceram Seas.
buruenses, *Bleek.*, Rivers of Boeroe.
wollffii, *Bleek.*, Rivers of Borneo.
vachellii, *Richard*, Sea of Canton.
macracanthus, *Bleek.*, Sea of Batavia.
macrolepis, *Gunth.*, River Kapuas (Borneo)
alta, *C. & V.*, Bengal.
ranga, *C. & V.*, Mouth of the Ganges.
oblonga, *C. & V.*, Fresh waters of Bengal.
bogoda, *C. & V.*, Mouth of the Ganges.

Apogon heptastigma, *Ehrenb.*, Red Sea.
hyalosoma, *Bleek.*, Batavia, Sumbawa, Amboyna, Sumatra.
thermalis, *C. & V.*, Warm springs of Cania (Ceylon.)
pœcilopterus *K. & H.*, Javanese Sea.
godini, *Bleek.*, Coast of Sumatra.
axillaris, *Val.*, Ascension Island.
leptacanthus, *Bleek.*, Sea of Ternate.
nigromaculatus, *H. & J.*, New Guinea.
orbicularis, *K. & v. H.*, Java, Ceram.
nematopterus, *Bleek.*, Sea of Manado.
trimaculatus, *C. & V.*, Buru, Moluccas.
rhodopterus, *Bleek.*, Singapore.
koilomatodon, *Bleek.*, Ternate, Moluccas.
margaritophorus, *Bleek.*, Batjan.
tæniatus, *Ehren.*, Djetta (Red Sea.)
amboiensis, *Bleek.*, Amboyna rivers.
sangiensis, *Bleek.*, Sea of Sangi.
ceramensis, *Bleek.*, Sea of Wahai (Ceram.)
nigripinnis, *C. & V.*, China, India, Japan.
tæniopterus, *Bennett.*, Isle of France.
monochrous, *Bleek.*, Manado, Amboyna, Feejee.
maculosus, *C. & V.*, Indian Seas.
enneastigma, *Rüppell*, Massaua (Red Sea.)
ruppellii, *Gunth.*, Australian Seas.
novæ guineæ, *Valen.*, Java, Batavia, New Guinea.
cupreus, *Ehrenb.*, Red Sea.
hoevenii, *Bleek.*, Amboyna Sea.
truncatus, *Bleek.*, Batavia.
bifasciatus, *Rüppell.*, Red Sea, China.
timoriensis, *Bleek.*, Timor, Kupang.
bandanensis, *Bleek.*, Banda Sea.
annularis, *Rüppell.*, Red Sea. Mozambique, Indian Ocean.
lineatus, *T. & Sch.*, Japanese Sea.
quadrifasciatus, *Valen.*, Java, Chinese Seas, Feejee, Mozambique.
semilineatus, *T. & Sch.*, Japanese Sea.
chrysopomus, *Bleek.*, Sea of Macassar.
kalosoma, *Bleek.*, Sea of Banka.
frenatus, *Valen.*, New Guinea.
kallopterus, *Bleek.*, Sea of Manado.
fasciatus, *Q. & G.*, Feejee, Australia, Molucca, Mozambique.
cyanosoma, *Bleek.*, Lawajong, (Solor.)
multitæniatus, *Bleek.*, Bima, Sumbava.
hartzfeldii, *Bleek.*, Sea of Amboyna
chrysotænia, *Bl.*, Batavia.
melas, *Bl.*, Sumbava, Celebes, Amboyna.
cantoris, *Bl.*, Riouw.
lineolatus, *Ehr.*, Red Sea.
fucatus, *Cant.*, Sea of Pinang.
macropterus, *K. & v. H.*, Java.
bleekeri, *Bl.*, Batavia, Padang, Amboyna.
macropteroides, *Bl.*, Sea of Lepar.
buruensis, *Bl.*, Sea of Boeroe.
zosterophorus, *Bl.*, Sea of Manado.

Apogonichthys gracilis, *Bl.*, Ternate.
auritus, *Gunth.*, Mauritius, Red Sea.
polystigma, *Bl.*, Ceram, Sumatra.
amblyuropterus, *Gunth.*, Wahai, Ceram.
glaga, *Bl.*, Javan, Japan, Singapore.
carinatus, *Bl.*, Japan and China.
perdix, *Bl.*, Sea of Floris.
aprion, *Gunth.*, N. Australia Coasts.

Chilodipterus octovittatus, *C. & V.*, Red Sea; Indian Ocean.
lineatus, *Gunth.*, Red Sea.
quinquelineatus, *C. & V.*, Society Islands, Amboyna, Red Sea.
apogonoides, *Bl.*, Sea of Manado.
amblyuropterus, *Bl.*, Sea of Boeroe.

Scombrops chilodipteroides, Japan.
Acropoma Japonicum, *Gthr.*, Japan.

Sixth Group. GRYSTINA.

Odontonectes erythrogaster, *Gunth.*, Indian Seas.

Dules caudovittatus, *C. & V.*, Isle of France.
tæniurus, *C. & V.*, China, Java.
fuscus, *C. & V.*, Mauritius, Mozambique.
marginatus, *C. & V.*, Java, Amboyna, Vanicolo, Feejee.
rupestris, *C. & V.*, Fresh waters of Mauritius, Celebes, Amboyna, Feejee, Ooalaw.
guamensis, *C. & V.*, Sea of Guam.
bennetti, *Bl.*, Ceylon.
ambiguus, *Gunth.*, Australia.
vanicolensis, *C. & V.*,

Fam. 5. PRISTIPOMATIDÆ.

Therapon theraps, *C. & V.*, India, China, False Bay.
obscurus, *C. & V.*, Pinang.
squalidus, *C. & V.*, Indian Ocean.
virgatus, *Gunth.*, Bay of Bengal.
ellipticus, *Gunth.*, Australia rivers.
cancellatus, *Gunth.*, Java, Celebes.
cinereus, *C. & V.*, India.
unicolor, *Gunth.*, Australia rivers.
servus, *Gunth.*, Red Sea, E. Africa, Indian Seas, N. Australia.
trivittatus, *Cant.*, Indian Seas.
ghebul, *Ehren.*, Red Sea, Java.
oxyrhynchus, *T. & S.*, Japan, China.
quadrilineatus, *C. & V.*, Java, China.
cuvieri, *Bl.*, Australia, Timor.
argenteus, *Gunth.*, Cape, Indian Ocean, Moluccas.
microlepis, *Rüpp.*
Helotes sexlineatus, *C. & V.*, Australia.
polytænia, *Bl*, Halmaheira.
Pristipoma nigrum, *C. & V.*, Pinang, Manilla.
hasta, *C. & V.*, Red Sea, E. Africa, Indian Seas, N. Australia.
nageb, *Rüpp.*, Red Sea, Sunda.
punctulatum, *Rüpp.*, Red Sea.
dussumieri, *C. & V.*, Coromandel Coast.
argenteum, *C. & V.*, Red Sea.
argyreum, *Bl.*, *C. & V.*, Coromandel, Sumatra, Batavia.
paikeeli, *C. & V.*, Coromandel, Pinang.
maculatum, *Gunth.*, Red Sea, Coromandel to New Guinea.
auritum, *C. & V.*, Siam, Pinang.
therapon, *Bl.*, Batavia.
stridens, *Rüpp.*, Red Sea.
japonicum, *C. & V.*, China, Japan.
Hapalogenys nigripinnis, *T. & S.*, China.
mucronatus, *Gunth.*, Chinese Seas.
Diagramma gibbosum, *H. & J.*, Samoa, Polynesia.
crassispinum, *Rüpp.*, Red Sea.
affine, *Gunth.*, N. W. Australia, Archipelago.
griseum, *C. & V.*, Malabar Coast.
pertusum, *Gunth.*, Japanese Sea.
centurio, *C. & V.*, Seychelles.
shotaf, *Rüpp.*, Red Sea.
gaterina, *C. & V.*, Red Sea.
pardalis, *K. & v. H.*, Javanese Sea.
punctatum, *Ehrenb.*, Red Sea, Trincomalee, Java, Vanicolo, China Sea.
cinctum, *T. & S.*, China, Japan Seas.
chætodonoides, *Gunth.*, Batavia.
pica, *C. & V.*, Otaheiti.
orientale, *Gunth.*, Ceylon, Bali.
pictum, *C. & V.*, Pondicherry, Pinang, Java, Amboyna, China, Japan.
balteatum, *K. & v. H.*, Java.
pœcilopterum, *C. & V.*, Pondicherry, Trincomallee, Moluccas, Japan.
lessonii, *C. & V.*, Waigiou, Amboyna.
albovittatum, *Rüpp.*, Red Sea, Manado.
lineatum, *C. & V.*, Ceylon, Pinang.
radja, *Bl.*, Amboyna.
sebæ, *Bl.*, Batavia, Banda Neira.
goldmanni, *Bl.*, Ternate.
hæmatochir, *Bl.*, Ternate.
polytænia, *Bl.*, Macassar, N. Australia.
polytænioides, *Bl.*, Solor, Amboyna.
chrysotænia, *Bl.*, Macassar, Celebes.
reticulatum, *Gunth.*, Chinese Seas.
nitidum, *Gunth.*, Australia.
Hyperoglyphe porosa, *Richards*, Australia.
Lobotes auctorum, *Gunth.*, Atlantic, Bay of Bengal, Sunda, Molucca, China.
Datnioides spolota, *Bl.*, Ganges mouth, Rivers of Borneo, and Sumatra.
microlepis, *Bl.*, Borneo rivers.
Gerres poeti, *C. & V.*, Mahe, Sunda.
subfasciatus, *C. & V.*, Port Jackson.
ovatus, *Gunth.*, Australia.
abbreviatus, *Bl.*, Batavia, Amboyna.
filamentosus, *C. & V.*, Pinang, Sunda, Moluccas, New Guinea.
punctatus, *C. & V.*, Pondicherry, China.
japonicus, *Bl.*, Japan, China.
acinaces, *Bl.*, Batavia.
kapas, *Bl.*, Batavia.
oyena, *Gunth.*, Red Sea, Isle of France, Sunda, Japan.
macrosoma, *Bl.*, Gilolo, Amboyna.
argyreus, *C. & V.*, Red Sea, Waigiou, Strong, Tanna, Port Jackson.
oblongus, *C. & V.* Ceylon.
Scolopsis japonicus, *Gunth.*, Red Sea, Pondicherry, China.
margaritifer, *C. & V.*, Batavia, Waigiou.
ciliatus, *Lacép.*, Java, Amboyna, New Guinea, Vanicolo.
auratus, *Cant.*, Java, Sumatra, Pinang.
torquatus, *C. & V.*, Batavia, Moluccas.
bilineatus, *C. & V.*, Amboyna, Celebes.
bimaculatus, *Rüpp.*, Red Sea, Ceylon, China.
inermis, *T. & S.*, Japan.
monogramma, *K. & v. H.*, Java, Moluccas.
phæops, *Gunth.*, Isle of France.
temporalis, *Gunth.*, Waigiou, Vanicolo, New Guinea, Louisiade.

personatus, *C. & V.*, Java, Sumatra.
frenatus, *C. & V.*, Seychelles, Mauritius.
cancellatus, *Gunth.*, Polynesia, Sumatra.
bleekeri, *Gunth.*, Sea of Solor.
ghanam, *Gunth.*, Red Sea.
pectinatus, *Gunth.*, Java.
longulus, *Rich.*, N. W. Australia.
leucotænia, *Bl.*, Banka.
leucotænioides, *Bl.*, Manado, Celebes.
caninus, *C. & V.*, New Guinea.

Heterognathodon bifasciatus, *Bl.*, Sumbawa.
hellmuthii, *Bl.*, Solor.
xanthopleura, *Bl.*, Batavia, Amboyna.
macrurus, *Bl.*, Batavia.
nemurus, *Bl.*, Macassar.
microdon, *Bl.*, Batavia, Amboyna, Louisiade.

Dentex argyrozona, *C. & V.*, Cape.
præorbitalis, *Gunth.*, Cape.
rupestris, *C. & V.*, Cape.
nufar, *Ehren.*, Red Sea.
hypselosoma, *Bl.*, Japan.
griseus, *T. & S.*, Japan, Java, Sumatra.
microdon, *Bl.*, Bulucomba, Celebes.
rivulatus, *Rüpp.*, Red Sea.
multidens, *C. & V.*, Red Sea.
hasta, *C. & V.*, Malabar Coast.
cynodon, *Bl.*, Archipelago.

Synagris furcosus, *Gunth.*, Trincomalee, Amboyna, Louisiade, Australia.
tæniopterus, *C. & V.*, Australia, Moluccas.
mulloides, *Bl.*, Sibogha, Sumatra.
upeneoides, *Bl.*, Banka.
zysron, *Bl.*, Nias.
ovenii, *Bl.*, Macassar.
metopias, *Bl.*, Amboyna.
hexodon, *Q. & G.*, Timor.
peronii, *C. & V.*, Moluccas.
variabilis, *Ehrenb.*, Red Sea.
luteus, *C. & V.*, Pondicherry.
celebicus, *Gunth.*, Macassar, Louisiade.
nematopus, *Gunth.*, Bulucomba, Celebes.
japonicus, *Gunth.*, Batavia.
filamentosus, *Gunth.*, Red Sea, Pondicherry.
nemurus, *Gunth.*, Amboyna.
nematophorus, *Gunth.*, Padang, Sumatra.

Pristipomoides typus, Sibogha, W. Sumatra.

Pentapus aurolineatus, *C. & V.*, Isle of France, Moluccas, Louisiade Archip.
vitta, *Q. et G.*, Australia Coasts.
vittatus, *C. & V.*, East Indies.
nubilus, *Gunth.*, Pinang.
unicolor, *C. & V.*, East Indies.
setosus, *C. & V.*, Sea of Batavia.
paradiseus, *Gunth.*, Polynesia, Sumatra.

Chætopterus dubius, *Gunth.*, Japan.

Apharcus furcatus, *Gunth.*, Isle of France.
rutilans, *C. & V.*, Red Sea.

Smaris balteatus, *C. & V.*, Ceylon.

Cæsio lunaris, *Ehrenb.*, Red Sea, Batavia, New Ireland.
xanthonotus, *Bl.*, Batavia.
pisang, *Bl.*, Amboyna, Batavia.
pinjalo, *Bl.*, Batavia.
maculatus, *C. & V.*, Amboyna, Vanicolo, China, Madagascar.
cærulaureus, *Lacép.*, Red Sea, Mauritius, Ceylon.
striatus, *Rüpp.*, Red Sea.
chrysozona, *K. & v. H.*, Moluccas.
argenteus, *C. & V.*, East Indies.
tile, *C. & V.*, Caroline Islands.
cylindricus, *Gunth.*, Madagascar.
gymnopterus, *Bl.*, Ternate.

Erythrichthys schlegelii, *T. & S.*, Japan.
leucogrammicus, *Gunth.*, Sunda, Moluccas.

Pentaprion gerreoides, Batavia, Sunda.

Fam. 6. MULLIDÆ.

Upeneoides vittatus, *Gunth.*, Red Sea, Indian Seas.
tragula, *Gunth.*, Indian Archipelago, China.
sulphureus, *Bl.*, Red Sea, Archipelago, China.
moluccensis, *Bl.*, Amboyna.
bensasi, *Bl.*, Japan.
sundaicus, *Bl.*, Indian Archipelago.

Mulloides flavolineatus, *Lacép.*, Red Sea, China.
zeylonicus, *C., & V.*, Trincomalee, N. Guinea.
japonicus, *Gunth.*, Japan.

Upeneus barberinus, *C. & V.*, Red Sea, Indian Seas.
macronemus, *Gunth.*, Red Sea.
barberinoides, *Bl.*, Ceram.
indicus, *Gunth.*, Indian Seas.
spilurus, *Bl.*, Japan.
pleurospilos. *Bl.*, Japan, Amboyna.
brandesii, *Bl.*, Banda-Neira, Mauritius.
malabaricus, *C. & V.*, Malabar, Philippine Islands.
trifasciatus, *C. & V.*, Indian Ocean to Polynesia.
cyclostoma, *Gunth.*, Red Sea, Indian Ocean, Indian Archipelago.
oxycephalus, *Bl*, Manado, Isle of France.
chrysopleuron, *Bl.*, Japan, China.
jansenii, *Bl.*, Manado, Amboyna.
dubius, *T. & S.*, Japan.
bilineatus, *C. & V.*, Amboyna.

Fam. 7. SPARIDÆ.

First Group. CANTHARINA.

Cantharus grandoculis, *C. & V.*, Seychelles.
cæruleus, *C. & V.*, Guam Sea, Mariannes.
maculatus, *C. & V.*, Indian Ocean.
lineolatus, *C. & V.*, Indian Ocean.

Box. One species from E. Indies.

Crenidens forskalii, *C. & V.*, A vegetable feeder, Red Sea, Mozambique.
Girella punctata, *Gray*, China, Japan.

Third Group. SARGINA.

Sargus capensis, *Smith*, Cape.
noct, *Ehrenb.*, Red Sea, Mediterranean.
auriventris, *Peters*, Mozambique.

Fourth Group. PAGRINA.

Lethrinus rostratus, *K. & v. H.*, Sunda, Moluccas.
amboinensis, *Bl.*, Amboyna.
nematacanthus, *Bl.*, Japan, Louisiade.
richardsonii, *Gunth.*, China Sea.
reticulatus, *C. & V.*, N. Guinea, Banda.
latifrons, *Rüpp.*, Red Sea, Indian Seas.
harak, *Rüpp.*, Red Sea, Indian Seas.
ramak, *Rüpp.*, Red Sea, Ceylon.
cocosenses, *Bl.*, Nova Selma, Kokos.
kallopterus, *Bl.*, Manado.
nebulosus, *C. & V.*, Red Sea, Seychelles, Mozambique.
opercularis, *C. & V.*, Batavia, Bantam, Samarang.
xanthotænia, *Bl.*, Java, Sumatra.
leutjanus, *Bl.*, Sumatra.
glyphodon, *Gunth.*, Louisiade Archipelago.
mahsena, *Gunth.*, Red Sea.
mahsenoides, *C. & V.*, Batavia, Amboyna, Philippines.
hæmatopterus, *T. & S.*, Japan.
latidens, *C. & V.*, N. Guinea.
Sphærodon grandoculis, *Rüpp.*, Red Sea.
heterodon, *Gunth.*, Halmaheira, Amboyna.
Pagrus laniarius, *C. & V.*, Cape.
unicolor, *C. & V.*, New Zealand, Australia, China.
major, *T. & S.*, Japan, China.
tumifrons, *T. & S.*, Japan Sea.
cardinalis, *Gunth.*, China, Japan.
filamentosus, *C. & V.*, Mauritius.
spinifer, *C. & V.*, Red Sea, Indian Seas.
Chrysophrys laticeps, *C. & V.*; cristiceps, *C. & V.*; and gibbiceps, *C. & V.*, Cape.
sarba, *C. & V.*, Red Sea, Isle of France, Moluccas.
haffara, *C. & V.*, Red Sea.
bifasciata, *C. & V.*, Red Sea, Indian Seas.
aries, *T. & S.*, China, Java.
hasta, *Gunth.*, Bay of Bengal, China, Japan.
calamara, *C. & V.*, Ind. Archipelago.
berda, *Rüpp.*, Red Sea.
australis, *Gunth.*, Australia.

Fifth Group. PIMELEPTERINA.

Pimelepterus fuscus, Cape, Red Sea.
waigiensis, *Q. & G.*, New Guinea, Java, Amboyna.
ternatensis, *Bl.*, Ternate.
tahmel, *Rüpp.*, Red Sea, Indian Ocean and Archipelago to New Guinea.

Fam. 8. SQUAMIPENNES.

First Group, CHÆTODONTINA.

Chætodon strigangulus, *Soland.*, From the Red Sea to Polynesia.
trifascialis, *Q. & G.*, Guam, Batoe.
setifer, *Bl.*, Red Sea, Indian Sea, Polynesia.
auriga, *Forsk.*, Red Sea.
ephippium, *C. & V.*, Moluccas, Polynesia.
semeion, *Bleek.*, Sea of Kokos.
biocellatus, *C. & V.*, Buru, Timor, Ooalan.
nesogallicus, *C. & V.*, Indian Ocean and Archipelago.
ocellatus, *Bl.*, East Indies.
modestus, *Schleg.*, Japan and China.
tallii, *Bleek.*, Sea of Banda-Neira.
unimaculatus, *Bl.*, Moluccas, Polynesia,
bennettii, *Bleek.*, Molucca Sea.
speculum, *K. & H.*, Molucca Sea.
quadrimaculatus, *Gray*, Sandwich Islands.
meyeri, *Schneid.*, Molucca Sea.
ornatissimus, *Soland.*, Moluccas, Polynesia.
fremblii, *Benn.*, Sandwich Islands.
falcula, *Bl.*, Sea of Batoe.
dizoster, *C. & V.*, Sea of Mauritius.
octofasciatus, *Gm.*, East Indian Seas.
ulietensis, *C. & V.*, Amboyna, Ternate, Ulietea.
humeralis, *Gthr.*, Sandwich Islands.
collaris, *Bl.*, Japan?
prætextatus, *Cant.*, Sea of Pinang.
reticulatus, *C. & V.*, Polynesia.
kleinii, *Bl.*, Indian Ocean and Archipelago.
reinwardtii, *Gthr.*, Molucca Sea.
vittatus, *Schneid.*, Red Sea to Polynesia.
fasciatus, *Forsk.*, Red Sea, China.
pictus, *Forsk.*, Red Sea, Indian Ocean and Archipelago.
lunula, *Lacép.*, Indian Ocean and Archipelago, Polynesia.
vagabundus, *L.*, Red Sea to Polynesia.
guttatissimus, *Benn.*, Sea of Ceylon.
punctato-fasciatus, *Gr.*, Sea of Banda.
rafflesii, *Benn.*, Molucca Sea, New Ireland.
oxycephalus, *Bleek.*, Sea of Ternate.
mesoleucus, *Forsk.*, Red Sea.
dorsalis, *Reinw.*, Red Sea to Polynesia.
ocellicauda, *C. & V.*, Indian Ocean.
areus, *Schleg.*, Sea of Japan.
xanthurus, *Bleek.*, Sea of Amboyna.
lineolatus, *C. & V.*, Red Sea, Sea of Floris.
selene, *Bleek.*, Lawajong, Solor, Amboyna.
miliaris, *Q. & G.*, Sandwich Islands.
baronessa, Sunda and Moluccas.
larvatus, *Ehrenb.*, Red Sea.
tau-nigrum, *C. & V.*, Guam Sea.

blackburni, *Desjard.*, Mauritius.
nigripinnis, *Pet.*, Mozambique.
citrinellus, *Brouss.*, Moluccas, Polynesia.
xanthocephalus, *Benn.*, Ceylon Sea.
zoster, *Benn.*, Mauritius Sea.
chrysozonus, *K. & v. H.*, Moluccas, China.
oligacanthus, *Bleek.*, Indian Archipelago.
strigatus, *Langsd.*, China Sea and Japan.
polylepis, *Bleek.*, Amboyna Sea.
sexfasciatus, *Richards*, W. Australia.

Chelmo rostratus, *L.*, Indian Seas, Australia.
marginalis, *Rich.*, W. Coast of Australia.
longirostris. *Brouss.*, Mauritius, Polynesia.

Heniochus macrolepidotus, *L.*, Mauritius, E. Indian Seas, N. W. Coast of Australia.
monoceros, *C. & V.*, Mauritius Sea.
chrysostoma, *Parkins*, Archipelago.
varius, *C. & V.*, Moluccas.

Holacanthus annularis, *Bl.*, Indian Seas.
pseudannularis, *Bleek.*, Sea of Batavia.
arcuatus, *Gray.*, Sandwich island.
leucopleura, *Bleek.*, Lawajong, Solor, Amboyna.
lepidolepis, *Bleek.*, Sea of Batavia.
diacanthus, *Bodd.*, Indian Ocean, Archipelago.
melanospilos, *Bleek.*, Amboyna Sea.
bispinosus, *Gthr.*, Amboyna Sea.
sexstriatus, *K & v. H.*, Moluccas.
navarchus, *C. & V.*, Amboyna, Banda.
bi-color, *Bl.*, E. Indian Archipelago.
trimaculatus, *C. & V.*, Moluccas.
xanthometopon, *Bleek.*, Sumatra Sea.
xanthurus, *Benn.*, Ceylon Sea.
vrolikii, *Bleek.*, Ceram Sea and Amboyna.
nox, *Bleek.*, Amboyna Sea.
septentrionalis, Japan Sea.
imperator, *Bl.*, Indian Ocean, Archipelago.
nicobariensis, *Schn.*, Archipelago.
semicirculatus, *C. & V.*, Archipelago, Polynesia.
striatus, *Rüpp.*, Red Sea.
alternans, *C. & V.*, Sea of Madagascar.
cæruleus, *Ehrenb.*, Red Sea.
mesoleucus, *Bl.*, E. Indian Archipelago.
chrysocephalus, *Bleek*, Sea of Batavia.
melanosoma, *Bleek.*, Lawajong, Solor.

Scatophagus argus, *L.*, Indian Seas, China.
bougainvillii, *C. & V.*, East Indies.
ornatus, *C. & V.*, Rivers of Amboyna.

Ephippus orbis, *Bl.*, East Indian Seas.

Drepane punctata, *L.*, E. Indian Seas, N. W. Coast of Australia.

Second Group, SCORPIDINA.

Scorpis æquipinnis, *Rich.*, Australia.

Third Group, TOXOTINA.

Toxotes jaculator, *Pall.*, India, Polynesia.
microlepis, *Gthr.*, Siam.

Fam. 9. CIRRHITIDÆ.

Cirrhites forsteri, *Schneid.*, E. Coast of Africa, Cape Seas, to the Pacific.
punctatus, *C. & V.*, Indian Ocean.
arcatus, *Park.*, Mauritius to the Pacific.
amblycephalus, *Bleek.*, Sea of Sengi.
aprinus, *C. & V.* Sea of Timor.
fasciatus, *C. & V.* Coast of Pondicherry.
cinctus, *Gthr.*, Madagascar, Mauritius, and Sandwich island.

Cirrhitichthys oxyrhynchus, *Bleek.*, Goram.
graphidopterus, *Bleek.*, Sea of Amboyna.
maculatus, *Lacép.*, Red Sea and Mauritius to the Pacific.
oxycephalus, *Bleek.*, Sea of Amboyna.
aureus, *Schleg.*, China, Japan.

Oxycirrhites typus, *Bleek.*, Amboyna, Mauritius.

Chilodactylus macropterus, *Forst.*, Australia.
zonatus, *C. & V.*, China, Japan,
quadricornis, *Gthr.*, Japan.
gibbosus, *Banka.*, W. Australia.

Fam. 10. TRIGLIDÆ.

First Group, HETEROLEPIDINA.

Chirus hexagrammus, *Pall.*, Japan, Gulf of Georgia.
lagocephalus, *Pall.*, Kuriles.
octogrammus, *Pall.*, Kamtschatka, Kuriles.

Agrammus schlegelii, *Gthr.*, Sea of Japan.

Second Group, SCORPÆNINA.

Sebastes capensis, *Gm.*, Cape Seas.
inermis, *C. & V.*. Japan, N. W. America.
pachycephalus, *Schleg.*, Japan, China.
ventricosus, *Schleg.*, Japan.
maculatus, *C. & V.*, Cape Seas.
bougainvillii, *C. & V.* Indian Ocean.
marmoratus, *C. & V.*, Japan, China.
strongensis, *C. & V.*, Archipelago, Polynesia.
longiceps, *Rich.*, China.
serrulatus, *Rich.*, China.
minutus, *C. & V.*, Polynesia.
polylepis, *Bleek.*, Amboyna, Sumatra.

Scorpæna picta, *K. & v. H.*, Archipelago.
polyprion, *Bleek.*, Indian Seas,
erythræa, *C. & V.*, Red Sea.
cardinalis, *Soland.*, Australia.
haplodactylus, *Bleek.*, Banda, Ceram.
panda, *Rich.*, W. Australia.
diabolus, *C. & V.*, Indian Ocean, Archipelago, Otaheiti.
nesogallica, *C. & V.*, Mauritius.
gibbosa, *Schneid.*, China, Amboyna.
cirrhosa, *Thumb.*, India, China, Japan Seas
chiliopristа, *Rüpp.*, Red Sea.
laniaria, *C. & V.*, Guam Sea.

Pterois volitans, *L.*, E. Africa, Indian Seas, Australia.

lunulata, *Schleg.*, Japan.
kodipungi, *Bleek.*, India, Archipelago, Australia.
antennata, *Bl.*, Indian Ocean, Archipelago.
cincta. *Rüpp.*, Red Sea, Navigator and Pearl Island.
miles, *Benn.*, Red Sea, Indian Ocean.
zebra, *C. & V.*, Indian Ocean, Archipelago.
brachyptera, *C. & V.*, Ceram, Amboyna.
heterura, *Bleek.*, Amboyna.

Pteroidichthys amboinensis, *Bleek.*, Amboyna, N. Celebes.

Tænianotus triacanthus, *Lacép.*, Amboyna.

Apistus alatus, *C. & V.* Indian Seas.
israelitarum, *Ehrenb.*, Red Sea.

Enneapterygius pusillus, *Rüpp.*, Red Sea.

Pentaroge marmorata, *C. & V.*, Timor, Australia, Van Diemen's Land.

Tetraroge barbata, *C. & V.*, Moluccas.
amblycephalus, *Bleek.*, Sea of Padang.
rubripinnis, *Schleg.*, Sea of Japan.
macracanthus, *Bleek.*, Sea of Wahai, N. Ceram.
binotata, *Peters.*, Mozambique.
longispinis, *C. & V.*, Indian Seas.
crista-galli, *Gthr.*, Philippine Island.
tænianotus, *C. & V.*, Indian Seas.
dermacanthus, *Bleek.*, Wahai, N. Ceram.
echinata, *Cant.*, Pinang.

Prosopodasys trachinoides, *C. & V.*, Indian Seas.
dracæna, *C. & V.*, Malabar Coast.
depressifrons, *Rich.*, Japan, Java.
asperrimus, *Gthr.*, East Indies.
niger *C. & V.*, Pondicherry; Amboyna.
zollingeri, *Bleek.*, Indian Archipelago.
leucogaster, *Rich.*, China, Amboyna.
cottoides, *L.*, China, Borneo, Java, N. Zealand.

Aploactis aspera, *Rich.*, Japan, China.

Trichopleura mollis, *Rich.*, China Sea.

Amphiprionichthys apistus, *Bleek.*, Kokos.

Synancidium horridum, *L.*, India, Australia, St. Helena.
erosum, *Langsd.*, Japan.

Synanceia verrucosa, *Schneid.*, Red Sea, Indian Ocean, Archipelago, Polynesia.
asteroblepa, *Rich.*, New Guinea, Borneo.

Micropus maculatus, *Gray.*, Owaihi, Hao.
unipinna, *Gray.*, Pacific.

Minous monodactylus, *Schn.*, Indian Ocean, E. Indian Seas.
pusillus, *Schleg.*, Sea of Japan.
trachycephalus, *Bleek.*, Manado, Celebes.

Pelor filamentosum, *C. & V.*, Mauritius.
cuvieri *Gray.*, Seas of China and Sumatra.
maculatum, *C. & V.*, Sea of Waigiou.
didactylum, *Pall.*, New Ireland, Ceram.
japonicum, *C. & V.*, China, Japan.
aurantiacum, *Schleg.*, Sea of Japan.

Chorismodactylus multibarbis, *Rich.*, Seas of China and Madras.

Third Group. COTTINA.

Podabrus centropomus, *Rich.*, Island of Quelpart in the Straits of Korea.
cottoides, *Rich.*, Sea of China.

Centridermichthys fasciatus, *Heck.*, Japan, mouth of the Yangtsee-Kiang-Kow in north of China, Philippine Islands.

Hemilepidotus trachurus, *Pall.*, Kamtschatka, Kuriles.

Polycaulus elongatus, *C. & V.*, Indian Seas.

Platycephalus insidiator, *Forsk.*, Red Sea, Coasts of C. Africa, through Indian Seas to N. W. Australia.
grandispinis, *C. & V.*, India.
punctatus, *C. & V.*, Trincomalee, Batavia, Vanicolo.
quoyi, *Bleek.*, Ternate, Amboyna.
malabaricus, *C. & V.*, India.
japonicus, *Tiles.*, China and Japan.
guttatus, *Schleg.*, Japan.
isacanthus, *C. & V.*, Waigiou, Buru.
serratus, *C. & V.*, Trincomalee.
polyodon, *Bleek.*, Batavia.
malayanus, *Bleek.*, Padang.
tentaculatus, *Rüpp.*, Red Sea.
nematophthalmus, *Gthr.*, Australian Seas.
cirronasus, *Rich.*, Botany Bay.
tuberculatus, *C. & V.*, Trincomalee, Madras.
scaber, *Gm.*, Indian Ocean.
neglectus, *Trosch.*, Indian Seas.
suppositus, *Trosch.*, Indian Ocean.
bataviensis, *Bleek.*, Batavia.
pristis, *Peters.*, Mozambique.
macrolepis, *Bleek.*, Japan.
bobossok, *Bleek.*, Batavia.
pristiger, *C. & V.*, N. Guinea, Celebes, Ternate, Java.
celebicus, *Bleek.*, Manado, Celebes.
asper, *C. & V.*, Japan, China.
spinosus, *Schleg.*, Japan.

Hoplichthys langsdorffii, *C. & V.*, Japan, China.

Bembras japonicus, *C. & V.*, Sea of Japan.
curtus, *Schleg.*, Sea of Japan.

Prionotus japonicus, *Bleek.*, Sea of Japan.

Lepidotrigla papilio, *C. & V.*, Indian Ocean.
burgeri, *Schleg.*, Japan, Chinese Seas.

Trigla hemisticta, *Schleg.*, Sea of Japan.
pleuracanthica, *Rich.*, Sydney Cove.
kumu, *Less.*, New Zealand to China.

Fourth Group. CATAPHRACTI.

Agonus acipenserinus, *Tiles.*, Kamtschatka, N. W. America.
dodekaedrus, *Tiles.*, Kamtschatka.
rostratus, *Tiles.*, Kamtschatka, Kuriles.
stegophthalmus, *Tiles.*, Kuriles.
quadricornis, *C. & V.*, Kamtschatka.

Peristethus laticeps, *Schleg.*, Amboyna.
orientale, *Schleg.*, Japanese Sea.
molucconse, *Bleek.*, Moluccas.
rieffeli, *Kaup.*, East Indies.
Dactylopterus orientalis, *Lacép.*, Indian Ocean, Archipelago.
macracanthus, *Bleek.*, Moluccas.
chirophthalmus, *Bleek.*, Banda-Neira.

Fam. 11. TRACHINIDÆ.

First Group. URANOSCOPINA.

Uranoscopus cognatus, *Cant.*, Pinang.
affinis, *C. & V.*, Indian Ocean.
guttatus, *C. & V.*, Pondicherry.
bicinctus, *Schleg.*, Japan, China, Amboyna.
asper, *Schleg.*, China, Japan.
filibarbis, *C. & V.*, Indian Ocean.
Anema elongatum, *Schleg.*, Japan.
inerme, *C. & V.*, E. Indian Seas.

Second Group. TRICHININA.

Percis nebulosa, *C. & V.*, Mauritius, Sharks' Bay, New Holland, Depuch Island.
punctulata, *C. & V.*, Mauritius.
hexophthalma, *Ehr.*, Red Sea to Louisiade.
cylindrica, *Bl.*, Moluccas, Chinese Sea.
xanthozona, *Bleek.*, Batavia.
pulchella, *C. & V.*, Japan.
cancellata, *C. & V.*, India, Louisiade.
tetracanthus, *Lacép.*, Java, Amboyna, Feejee.
millepunctata, *Gthr.*, Ceylon Coast.
sexfasciata, *Schleg.*, Japan Sea.
Sillago sihama, *Forsk.*, Red Sea, Indian Seas.
japonica, *Schleg.*, Moluccas, Japan.
maculata, *Q. & G.*, Australia, Archipelago.
punctata, *C. & V.*, Australian Seas.
ciliata, *C. & V.*, Australian Seas.
macrolepis, *Bleek.*, Batavia, Bali.
chondropus, *Bleek.*, Moluccas.
domina, *C. & V.*, Bay of Bengal, Archipel.
Trichodon stelleri, *C. & V.*, Kamtschatka.
Latilus argentatus, *C. & V.*, Japan, China.
doliatus, *C. & V*, Mauritius.

Fourth Group. PSEUDOCHROMIDES.

Opisthognathus nigromarginatus, *Rüpp.*, Red Sea, Coast of Pondicherry.
solorensis, *Bleek.*, Sea of Lawajong, Solor.
rosenbergii, *Bleek.*, Sea of Nias.
Pseudochromis olivaceus, *Rüpp.*, Red Sea.
fuscus, *M. & T.*, Archipelago.
xanthochir, *Bleek.*, Sea of Manado.
adustus, *M & T.*, Philippine Island.
flavivertex, *Rüpp.*, Red Sea.
tapeinosoma, *Bleek*, Amboyna.
polyacanthus, *Bleek.*, Ternate.
Cichlops cyclophthalmus, *M. & T.*, Sunda.
melanotænia, *Bleek.*, Macassar.
spilopterus, *Bleek.*, Macassar.
Pseudoplesiops typus, *Bleek.*, Sea of Goram.

Fam. 12. SCIÆNIDÆ.

First Group. SCOMBRINA.

Umbrina dussumieri, *C. & V.*, East Indies.
amblycephalus, *Bleek.*, Amboyna.
russellii, *C. & V.*, Vizagapatam, India, China.
macroptera, *Bleek.*, Priaman, Sumatra.

Sciæna diacanthus, maculata, *Schneid.*, Tranquebar, Pondicherry, Malabar.
macrophthalmus, *Bleek.*, Batavia, Bantam, Samarang, Pasuruan.
sina, *C. & V.*, Pondicherry, Malabar, Japan.
dussumieri, *C. & V.*, Malabar, Pinang, Malayan Peninsula, Singapore, China.
trachycephalus, *Bleek.*, Rivers of Bandjermassing, Borneo.
hypostoma, *Bleek.*, Padang, Sumatra.
goldmanni, *Bleek.*, Batjan.
microdon, *Bleek.*, Batavia, Samarang, Surabaja.
vogleri, *Bleek.*, Sumatra.
borneonsis, *Bleek.*, Rivers Bandjermassing, Borneo.
brevidorsalis, *Gthr.*, East Indies.

Corvina cuja, *Buch. Ham.*, Ganges, Japan.
miles, *C. & V.*, Bombay Seas, Ceylon, Coromandel, Tenasserim, Pinang, Java.
coitor, *Buch. Ham.*, Ganges, Irrawadi.
polycladiscus, *Bleek.*, Rivers Bandjermassing, Borneo.
axillaris, *C. & V.*, Malabar.
carutta, *Bloch.*, Tranquebar, Pondicherry, Pinang.
plagiostoma, *Bleek.*, Sea of Madura.
belangerii, *C. & V.*, Malabar, Pinang, Malayan Peninsula, Singapore, Borneo.
lobata, *C. & V.*, Malabar.
semiluctuosa, *C. & V.*, Goa, Pondicherry, China.
albida, *C. & V.*, Malabar, Chinese Sea.
jubata, *Bleek.*, Rivers of Bandjermassing, Borneo.

Otolithus æquidens, *C. & V.*, Cape Seas.
ruber, *Schneid.*, Coromandel, Malabar, Malayan Peninsula.
argenteus, *K. & H.*, China, Japan, Ceylon, Malabar.
maculatus, *K. & H.*, Pinang, Malayan Peninsula, Singapore, Batavia.
bispinosus, *C. & V.*, Rangoon.
lateoides, *Bleek.*, Batavia.

Collichthys lucida, *Rich.*, Chinese Sea.
biaurita, *Cant.*, Chusan, Pinang, Malay Peninsula, Singapore, Borneo, Tenasserim.
pama, *Buch. Ham.*, Bay of Bengal.

Fam. 13. POLYNEMIDÆ.

Polynemus multifilis, *Schleg.*, Borneo rivers and seas.
paradiseus, *L.*, Indian Seas.
macronemus, *Bleek.*, Borneo.
melanochir, *C. & V.*, Batavia.
heptadactylus, *C. & V.*, Indian Seas.
multiradiatus, *Gthr.*, Chinese Sea.
hexanemus, *C. & V.*, Indian Seas.
xanthonemus, *C. & V.*, Coromandel.
sexfilis, *C. & V.*, Mauritius.
kuru, *Bleek.*, Ternate.
sextarius, *Bl.*, Indian Seas.
pfeifferæ, *Bleek.*, Sea of Priaman, Sumatra.
indicus, *Shaw*, Indian Seas, Australia.
tæniatus, *Gthr.*, Amboyna, Guatalcana.
plebejus, *L.*, Indian Seas, South Sea.
tetradactylus, *Shaw*, Indian Seas.
tridactylus, *Bleek.*, Batavia.

Fam. 14. SPHYRÆNIDÆ.

Sphyræna jello, *C. & V.*, Red Sea, Cape, Bay of Bengal, Pinang, Java, Amboyna.
forsteri, *C. & V.*, Batavia, Calcutta, New Guinea, Otaheite.
japonica, *C. & V.*, Japan.
commersonii, *C. & V.*, Java, Moluccas, Hindostan.
nigripinnis, *Schleg.*, Japan.
dussumieri, *C. & V.*, Indian Ocean, Mauritius.
obtusata, *C. & V.*, Red Sea, Mauritius, Bay of Bengal, Indian Ocean, Moluccas, Port Jackson.
langsar, *Bleek.*, Batavia, Batjan.
brachygnathus, *Bleek.*, Batavia, Batjan
flavicauda, *Rüpp.*, Red Sea.
agam, *Rüpp.*, Red Sea.

Fam. 15. TRICHIURIDÆ.

Trichiurus savala, *Cuv.*, Indian Seas.
japonicus, *Schleg.*, Japan.
muticus, *Gray*, China.
haumela, *Forsk.*, Indian Ocean, Archipelago.
lajor, *Bleek.*, Sea of Manado.
Thyrsites prometheoides, *Bleek.*, Amboyna.

Fam. 16. SCOMBRIDÆ.

First Group. SCOMBRINA.

Scomber pneumatophorus, *Dela R.*, Mediterranean, Cape of Good Hope, Atlantic.
janesaba *Bleek.*, Japan.
australasicus, *C. & V.*, Australia, Amboyna.
loo, *C. & V.*, Moluccas to Polynesia.
moluccensis, *Bleek.*, Amboyna.
chrysozonus, *Rüpp.*, Red Sea.
kanagurta, *Cuv.*, Red Sea, Indian Seas.
brachysoma, *Bleek.*, Batavia.
microlepidotus, *Rüpp.*, Red Sea, Pinang, China.
tapeinocephalus, *Bleek.*, Japan.
Thynnus affinis, *Cant.*, Pinang.
tonggol, *Bleek.*, Batavia.
thunnina, *C. & V.*, E. Indies, Mediterranean, Atlantic.
pelamys, *C. & V.*, Atlantic, Indian Ocean.
albacora, *Lowe.*, Atlantic.
pacificus, *C. & V.*, Indian Ocean.
bilineatus, *Rüpp.*, Red Sea.
Pelamys orientalis, *Schleg.*, Japan.
nuda, *Gthr*, Red Sea.
chilensis, *C. & V.*, Pacific.
Auxis rochei, *Risso.*, Mediterranean, Atlantic, Indian Archipelago.
tapeinosoma, *Bleek.*, Japan.
Cybium commersonii, *Lacép.*, E. Africa Indian Seas.
lineolatum, *C. & V.*, Indian Seas.
interruptum, *C. & V.*, Pondicherry.
guttatum, *Schneid.*, Indian Seas.
niphonium, *C. & V.*, Japan.
croockewitii, *Bleek.*, Banka.
flavo-brunneum, *Smith.*, Cape Seas.
sara, *Benn.*, Loo-choo.
Elacate nigra, *Bl.*, Indian Seas, America.
Echeneis albescens, *Schleg.*, China, Japan.
brachyptera, *Lowe.*, Madeira, N. America, Brazil, Japanese, China Seas, Sumatra.
scutata, *Gthr.*, Indian Ocean.

Second Group. NOMEINA.

Nomeus peronii, *C. & V.*, Java.
Ditrema læve, *Gthr.*, Sea of Japan.

Third Group. CYTTINA.

Zeus faber, *L.*, Mediterranean, Atlantic coast of Europe, Australian Seas.
japonicus, *C. & V.*, Japan.
capensis, *C. & V.*, Cape Seas.

Fourth Group. STROMATEINA.

Stromateus atous, *C. & V.*, Indian Seas.
cinereus, *Bl.*, Indian Seas.
argenteus, *Bl.*, Indian Seas.
niger, *Bl.*, Indian Seas.

Fifth Group. CORYPHÆNINA.

Coryphæna hippurus, *L.*, Mediterranean, Atlantic, Indian Ocean, Pacific.
scomberoides, *Lacép.*, Macassar, Pacific.
Brama-dussumieri, *C. & V.*, Indian Ocean.
orcini, *C. & V.*, Indian Ocean.
Poteraclis velifer, *Ball.*, Indian Ocean.
Schedophilus maculatus, *Gthr.*, China Seas,
Mene maculata, *Schneid.*, Indian Seas.

Fam. 17. CARANGIDÆ.

First Group. CARANGINA.

Carangichthys typus, *Bleek.*, Celebes.
Caranx rottleri, *Bl.*, Red Sea, Indian Seas.
macrosoma, *Bleek.*, Batavia.
muroadsi, *Schleg.*, Ternate.

kurra, *C. & V.*, Batavia, Red Sea, Coromandel.
kurroides, *Bleek.*, Amboyna.
kiliche, *C. & V.*, Pondicherry.
maruadsi, *Schleg.*, Japan, China.
crumenophthalmus, *Bl.*, W. Africa, Atlantic coasts of Tropical America, Red Sea, Indian Ocean, Polynesia.
hasseltii, *Bleek.*, Sunda, Moluccas, Red Sea.
torvus, *Jen.*, Seas of Otaheiti, Batavia.
gymnostethoides, *Bleek.*, Batavia.
novæ Guineæ, *C. & V.*, New Guinea.
boops, *C. & V.*, Batavia, Amboyna, Vanicolo.
lioglossus, *Gthr.*, Batavia, Sumatra.
djeddaba, *Forsk.*, Red Sea, Pondicherry, Pinang Sea.
calla, *C. & V.*, Red Sea, Indian Ocean, Archipelago.
macrurus, *Bleek.*, Batavia.
xanthurus, *K. & v. H.*, Seychelles to New Guinea.
malam, *Bleek.*, Batavia.
brevis, *Bleek.*, Batavia.
plagiotænia, *Bleek.*, Amboyna.
ire, *C. & V.*, Pondicherry, Madras.
præustus, *Benn.*, Batavia, Sumatra.
malabaricus, *Schneid.*, Red Sea, Indian Seas, Australia.
talamparoides, *Bleek.*, Seas of Sibogha, Sumatra, Ceylon.
equula, *Schleg.*, Japan.
hemigymnostethus, *Bleek.*, Batavia.
bajad, *Forsk.*, Red Sea, Batavia.
fulvoguttatus, *Forsk.*, Red Sea.
ferdau, *Forsk.*, Red Sea.
broekmeyeri, *Bleek.*, Java.
leptolepis, *C. & V.*, Archipelago, Australia.
helvolus, *Forst*, Red Sea, Atlantic.
uraspis, *Gthr.*, Amboyna.
speciosus, *Forsk*, Red Sea, India to N. Holland.
ruppellii, *Gthr.*, Red Sea.
melampygos, *C. & V.*, Mauritius, Polynesia.
jarra, *C. & V.*, Coromandel, Sumatra, Amboyna.
cynodon, *Bleek.*, Batavia.
sansum, *Forsk.*, Red Sea, Mauritius, Coromandel.
carangus, *Bl.*, Indian Ocean, Archipelago, W. Africa to Atlantic, America.
hippos, *L.*, Indian Seas, Pacific, Australia, Atlantic, America.
atropus, *Schneid.*, Indian Seas.
ophthalmotænia, *Bleek.*, Amboyna.
oblongus, *C. & V.*, Archipelago, Polynesia.
chrysophryoides, *Bleek.*, Batavia, Seychelles.
dinema, *Bleek.*, Batavia.
armatus, *Forsk.*, Red Sea, Indian Seas, N. Guinea.
ciliaris, *Bl.*, Red Sea, Indian Seas.
gallus, *L.*, Red Sea, Indian Seas.

Micropteryx chrysurus, *L.*, W. Africa, Atlantic, America, Coast of Condicherry.

Seriola dumerilii, *Risso.*, Mediterranean, Japan, China.
lalandii, *C. & V.*, Brazil, Atlantic, Cape of Good Hope, Japanese Sea.
quinqueradiata, *Schleg.*, Japan.
tapeinometopon, *Bleek.*, Lawajong, Solor.
nigro-fasciata, *Rüpp.*, Red Sea, Indian Ocean, Archipelago, Louisiade.
intermedia, *Schleg.*, Japan.
dussumieri, *C. & V.*, Gulf of Bengal.
gigas, *Gthr.*, Australia.

Seriolichthys bipinnulatus, *Q. & G.*, Batavia, Amboyna, Keeling Island, New Guinea.

Nauclerus compressus, *C. & V.*, Moluccas.
brachycentrus, *C. & V.*, Indian Ocean, Moluccas.

Porthmeus argenteus, *C. & V.*, Indian Ocean, Cape.

Chorinemus lysan, *Forsk.*, Red Sea, N. W. Australia.
tala, *C. & V.*, Malabar.
toloo, *C. & V.*, Red Sea, East Indies.
tol, *C. & V.*, Indian Seas.
sancti Petri, *C. & V.*, Indian Seas, Africa.
orientalis, *Schleg.*, Japan.

Trachynotus ovatus, *L.*, Indian Ocean, Archipelago to Australia, America to Africa.
baillonii, *Lacép.*
oblongus, *C. & V.*, Pondicherry, Java, Sumatra.
melo, *Rich.*, China, Japan.

Psettus argenteus, *L.*, Red Sea, Indian Seas, Australia, Polynesia.
falciformis, *Lacép.*, Red Sea, Vanicolo, China.

Platax vespertilio, *Bl.*, Africa, Indian Seas.
orbicularis, *Forsk.*, Red Sea, Archipelago, N. W. Australia.
boersii, *Bleek.*, Maccassar.
raynaldi, *C. & V.*, Ceylon, Pondicherry.
xanthopus, *Bleek.*, Batavia.
arthriticus, *Bell.*, Pinang, Batavia, Amboyna.
teira, *Forsk.*, Indian and Chinese Seas.

Zanclus cornutus, *L.*, Indian Ocean, Archipelago, Polynesia.

Psenes javanicus, *C. & V.*, Java, Amboyna.
leucurus, *C. & V.*, Indian Ocean, Port Jackson, Pacific.
guamensis, *C. & V.*, Guam.
anomalus, *Schleg.*, Japan.

Equula fasciata, *Lacép.*, Red Sea, Indian Ocean, Archipelago.

edentula, *Bl.*, Red Sea, India, Australia.
caballa, *C. & V.*, Red Sea, Indian Seas.
dussumieri, *C. & V.*, Indian Seas.
gerreoides, *Bleek.*, Batavia.
nuchalis, *Schleg.*, China, Japan.
bindoides, *Bleek.*, Archipelago.
splendens, *Cuv.*, Red Sea, Indian Seas.
daura, *Cuv.*, Indian Seas.
oblonga, *C. & V.*, Red Sea, Java, Timor.
lineolata, *C. & V.*, Indian Seas.
leuciscus, *Gthr.*, Amboyna.
rivulata, *Schleg.*, Japan.
insidiatrix, *Bl.*, Indian Seas.
interrupta, *C. & V.*, Indian Seas, N. W. Australia.
parviceps, *C. & V.*, Mauritius.
longimanus, *Cant.*, Malayan Peninsula.
Gazza minuta, *Bl.*, Indian Seas.
equulæformis, *Rüpp.*, Red Sea, Indian Seas.
argentaria, *Forsk.*, Sumatra, Tanna.
Lactarius delicatulus, *C. & V.*, Indian Seas.

Second Group. KURTINA.

Pempheris compressus, *White.*, Australia.
otaitensis, *C. & V.*, Archipelago, Polynesia.
mangula, *C. & V.*, Indian Ocean, Archipelago, Sea of Vanicolo.
molucca, *C. & V.*, India, China, Japan.
Kurtus indicus *Bl.*, Indian Seas.

Fam. 18. XIPHIIDÆ.

Histiophorus gladius, *L.*, Tropical Seas.
orientalis, *Schleg.*, Japan.
immaculatus, *Rüpp.*, Red Sea.
herschelii, Table Bay.

Fam 19. GOBIIDÆ.

First Group. GOBIINA.

Gobius nudiceps, *C. & V.*, Cape.
genivittatus, *Bleek.*, Otaheite.
oligolepis, *Bleek.*, Java, Madura, Sumatra.
cyclopterus, *C. & V.*, New Ireland.
oplopomus, *C. & V.*, Massuah, Red Sea.
lineatus, *Jenyns.*, Chatham Island.
ophthalmoporus, *Bleek.*, Amboyna.
obscurus, *Peters.*, Mozambique.
elegans, *K. & v H.*, Pinang, Bombay, Java, New Guinea, Vanicola.
baliurus, *C. & V.*, Java, Amboyna, Celebes.
atherinoides, *Peters.*, Mozambique.
puntangoides, *Bleek.*, Archipelago.
hemigymnopomus, *Bl.*, Macassar, Biliton.
biocellatus, *C. & V.*, Pondicherry.
ornatus, *Rüpp.*, Red Sea, Archipelago, Philippine Island, N. W. Australia.
giuris, *B. H.*, East Indies.
viridi-punctatus, *C. & V.*, Coromandel, Bombay.
sublitus, *Cant.*, Pinang.
albo-punctatus, *C. & V.*, Red Sea, Indian Ocean, Feejee, Port Essington.
nebulo-punctatus, *C. & V.*, Red Sea, Mozambique, Trussan, W. Sumatra.
nox, *Bleek.*, Sumatra, Nias, Solar.
filosus, *C. & V.*, Mauritius.
apogonius, *Cant.*, Pinang.
sadanundio, *B. H.*, Hoogly, Calcutta.
criniger, *C. & V.*, Australia, N. Guinea, Archipelago, Pinang, Malabar.
cocosensis, *Bleek.*, Sea of New Selma.
polycynodon, *Bleek.*, Pasuruam.
reichii, *Bleek.*, Padang, Sumatra.
sumatranus, *Bleek.*, Padang, Sumatra.
phaiospilosoma, *Bleek.*, Java, Madura.
semidoliatus, *C. & V.*, Vanicolo, Red Sea.
hoevenii, *Bleek.*, Rivers of Sambas, Borneo.
tambujon, *Bleek.*, Rivers of Panimbang, Tjihiwong, Java, Bali.
javanicus, *Bleek.*, Rivers of S. Java, Booroo.
borneensis, *Bl.*, Bandjermassing, Borneo, Sumatra.
melanurus, *Bleek.*, Java, Biliton.
oxypterus, *Bleek.*, Lake Grati, Java.
echinocephalus, *Rüpp.*, Massuah, China.
bitelatus, *C. & V.*, Red Sea.
notacanthus, *Bleek.*, Goram.
caninoides, *Bl.* Amboyna, Celebes, Booroo.
ophthalmotænia, *Bl.* Selma, Celebes, China.
chinensis, *Osbeck.*, China, Java Rivers.
caninus, *C. & V.*, Archipelago, China.
venenatus, *C. & V.*, Pondicherry, Kurrachee.
cyanomus, *Bleek.*, Madura, Banka, Java.
chlorostigmatoides, *Bleek.*, Madura, Java, Borneo.
frenatus, *Gthr.*, Australia.
cyanoclavis, *Cant.*, Pinang.
brevirostris, *Gthr.*, China.
cauerensis, *Bleek.*, Caurer, Sumatra.
bontii, *Bleek.*, Rivers of Madura, Java.
phaiomelas, *Bleek.*, Madura, Java.
xanthosoma, *Bleek.*, Celebes, Booroo, Amboyna, Ceram, Goram.
baliuroides, *Bl.*, Sumanah, E. Madura.
gymnauchen, *Bleek.*, Rivers of Jeddo.
pleurostigma, *Bleek.*, Java.
gastrospilus, *Bleek.*, Batavia.
microphthalmus, *Gthr.*, Australia.
acutipinnis, *C. & V.*, Malabar.
spectabilis, *Gthr.*, East Indies.
signatus, *Pet.*, Mozambique.
polynema, *Bleek.*, China, Japan, Madras.
margariturus, *Richards.*, Macao.
temminckii, *Bleek.*, Java.
mystacinus, *C. & V.*, Java.
tentacularis, *C. & V.*, Java, Madura, Sumatra.
ophthalmonema, *Bleek.*, Ternate.
microlepis, *Bl.*, Pinang, Java, Madura, China.
papuensis, *C. & V.*, Australia, N. Guinea, Java.

belosso, *Bl.*, Rivers of Banten, Java, Nias.
æneo-fuscus, *Peters.*, Mozambique.
ocellaris, *Brouss.*, Mauritius, Otaheiti.
grammepomus, *Bleek.*, Java, Celebes, Borneo, Bali, Booroo, Amboyna, Sumatra, Batjan, Ceylon, Madras.
gymnopomus, *Bl.*, Seas of Priaman, Java.
brunneus, *Schleg.*, Nagasaki Bay.
xanthozona, *Bleek.*, Rivers of Java, Borneo.
sphinx, *C. & V.*, Guinea, Archipelago.
phalæna, *C. & V.*, Archipelago, Vanicolo.
semicinctus, *Benn.*, Mauritius.
albomaculatus, *Rüpp.*, Massuah.
decussatus, *Bleek.*, Rivers Nias, Celebes, Booroo.
bynoensis, *Richards.*, W. Australia, Philippines, Biliton, Java.
cæruleopunctatus, *Rüpp.*, Massuah.
cyanotænia, *Bleek.*, Batavia.
niveatus, *C. & V.*, Java.
cryptocentrus, *C. & V.*, Massuah, Red Sea.
russus, *Cant.*, Pinang.
voigtii, *Bleek.*, Celebes, Nias, Sumatra, N. Holland.
polyophthalmus, *Bleek.*, Batavia.
knutteli, *Bleek.*, China, Japan.
arabicus, *Gm.*, Red Sea.
fontanesii, *Bl.*, Bulucumba, Celebes, Amboyna.
gymnocephalus, *Bleek.*, Batavia.
petrophilus, *Bleek.*, Java, Bali, Sumatra, Timor, Goram.
stigmothonus, *Rich.*, Canton.
flavimanus, *Schleg.*, Nagasiki Bay.
hexanoma, *Bleek.*, Nagasaki, Sea of Niphon.
ommaturus, *Rich.*, Yangtze Kiang, Canton, Amoy.
hasta, *Shchleg.*, Japan.
virgo, *Schleg.*, Nagasaki Bay.

Apocryptes lanceolatus, *Schn.*, Indian Seas.
dentatus, *C. & V.*, Pondicherry, Bengal.
borneensis, *Bleek.*, Bandjermassing Rivers.
bato, *Buch. Ham.*, Ganges, Hooghly, Calcutta.
serperaster, *Rich.*, China Seas.
rictuosus, *C. & V.*, Madras, Pondicherry.
macrolepis, *Bleek.*, Bandjermassing Rivers.
nexipinnis, *Cant.*, Pinang.
henlei, *Bleek.*, Java, Madura.
madurensis, *Bleek.*, Java, Madura.
glyphidodon, *Bleek.*, Batavia.
brachypterus, *Bleek.*, Lake Grati, Pasuan, Java.

Gobiosoma macrognathos, *Bl.*, River Jeddo.

Gobiodon citrinus, *Rüpp.*, Red Sea.
rivulatus, *Rüpp.*, Jubal Isld., Red Sea.
quinque-strigatus, *C. & V.*, Tongatabou, Solar, Booroo, Goram, Sumbawa.
ceramensis, *Bleek.*, China, Wahai, Borneo, Amboyna, Feejee.
histrio, *K., & v. H.*, Sunda, Friendship Isld.
heterospilos, *Bleek.*, Kajeli.
micropus, *Gthr.*, China.
erythrophaios, *Bleeker.*

Trimmophorichthys trigonocephalus, *Gill.*, China.
barbatus, *Gthr.*, China.

Sicydium lagocephalum, *Kolr.*, Rivers of Mauritius, Bourbon.
laticeps *C. & V.* Bourbon Rivers.
stimpsoni, *Gill.*, Rivers Hilo, Hawaii.
xanthurum, *Bleek.*, Rivers Sumatra, Bali.
micrurum, *Bleek.*, Rivers Amboyna, Bali.
macrostetholepis, *Bl.* Rivers Sumatra, Aneiteum.
parvei, *Bl.*, Moluccas, Rivers Garut, W. Java.
cynocephalum, *C. & V.*, Archipelago.
microcephalum, *Bl.*, Rivers Banten, Java.
gymnauchen, *Bleek.*, Manado.
zosterophorum, *Bl.*, Rivers Boleling, Bali.
balinense, *Bleek.*, Rivers Boleling, Bali.

Lentipes concolor, *Gill.*, Rivers Hilo, Hawii.

Periophthalmus koelreuteri, *Schn.*, Red Sea, Seychelles to Australia, W. Pacific.
chrysospilos, *Bleek.*, Karang, Hadji, Banka.
schlosseri, *Pall.*, East Indies.

Boleophthalmus boddaertii, *Pall.*, East-Indies, China, Japan.
pectinirostris, *Gm.*, Pinang, China, Japan.
dussumieri, *C. & V.*, Bombay.
sculptus, *Gthr.*, India.
viridis, *Buch. Ham.*, East Indies.

Eleotrisophiocephalus, *K. & v. H.*, Seychelles, N. Ireland, Pinang, Archipelago, Philippines.
cantoris, *Gthr.*, Pinang, Amboyna, Ceram, Celebes, Nias.
porocephaloides, *Bleek.*, Rivers Priaman.
aporos, *Bleek.*, Gilolo, Ternate, Fejee, Borneo, Amboyna.
hoedtii, *Bl.*, Amboyna, Booroo, Timor, Nias.
macrolepidota, *Bl.*, East Indies.
madagascariensis, *C. & V.*, Madagascar.
mogurnda, *Richards.*, Port Essington.
gobioides, *C. & V.*, New Zealand.
obscura, *Schleg.*, Nagasaki, China.
oxycephala, *Schleg.*, China, Japan.
hasseltii, *Bl.*, Anjer, Java, Kajeli, Boeroe.
butis, *Buch. Ham.*, East Indies.
amboinensis, *Bl.*, Amboyna, Celebes, Booroo.
melanostigma, *Bleek.*, Java, Madura, Sumatra, Borneo.
caperata, *Cant.*, Rivers Bourbon, Benculen, Sumatra, Onalan.
leuciscus, *Bleek.*, Sumatra.
tænionotopterus, *Bleek.*, Rivers Bali.
cyanostigma, *Bleek.*, Sea of Booroo, Kokos.
fornasini, *Bianc.*, Mozambique.
gyrinoides, *Bl.*, Rivers of Priaman, Celebes.
marmorata, *Bleek.*, Siam, Bandjermassing, Borneo, Palembang, Sumatra.

canina, *Bleek.*, Madura, Java.
periophthalmus, *Bleek.*, Batavia.
fusca, *Schn.*, Madagascar, Mauritius, Polynesia.
melanosoma, *Bleek.*, Wahai, Sumatra, Booroo, Ceram.
belobrancha, *C. & V.*, Celebes, Batjan, Ceram.
tænioptera, *Bleek.*, Rivers Bali, Batjan.
sinensis, *Lac.* China, Java, Bintang, Oualan.
urophthalmus, *Bl.*, Rivers Bandjermassing.
urophthalmoides, *Bleek.*, Borneo, Sumatra.
siamensis, *Gthr.*, Siam.
macrodon, *Bleek.*, Calcutta.
muralis, *Q. & G.*, Archipelago, Philippines.
sexguttata *C. & V.*, Ceylon, Archipelago.
strigata, *C. & V.*, Java, Amboyna, Celebes, Booroo, Otaheite.
helsdingenii, *Bleek.*, Goram Sea.
heteroptera, *Bl.*, Bandjermassing Rivers.
microlepis, *Bleek.*, Banda, Nias.

Asterropteryx semipunctatus, *Rüpp.*, Massaua.

Second Group. AMBLYOPINA.

Amblyopus cæculus, *C. & V.*, Bengal, China.
gracilis, *C. & V.*, Pondicherry, Surabaya.
brachygaster, *Gthr.*, East Indies.
hermannianus, *Lacép.*, Bengal, Hindostan, China.
tænia, *Gthr.*, East Indies.
urolepis, *Bleek.*, Rivers Palembang, Sumatra.

Third Group. TRYPAUCHENINA.

Trypauchen vagina, *Schn.*, Indian Seas.
microcephalus, *Bleek.*, Sungi-duri, Borneo.

Trypauchenichthys typus, *Bleek.*, Sungi-duri.

Fourth Group. CALLIONYMINA.

Platypctra aspro, *K. & v. H.*, Wanderer Bay.

Callionymus curvicornis, *C. & V.*, Bourbon, China, Japan.
huguenii, *Bleek.*, Nagasaki Sea.
lunatus, *Schleg.*, Japan.
hindsii, *Richards.*, Pacific.
sagitta, *Pall.*, Bourbon, East Indies.
attivelis, *Schleg.*, Bay of Ohomura.
calauropomus, *Richards.*, N. W. Australia.
filamentosus, *C. & V.*, Celebes, Amboyna.
schaapii, *Bleek.*, Banka Sea.
longecaudatus, *Schleg.*, China, Japan, Ceram, Amboyna, Celebes.
simplicicornis, *C. & V.*, Sea of Guam.
goramensis, *Bleek.*, Goram Sea.
lineolatus, *C. & V.*, Bourbon, Pondicherry, Madras.
ocellatus, *Pall.*, Archipelago.
marmoratus, *Pet.*, Mozambique.
opercularis, *C. & V.*, River Arian-Coupant.
opercularioides, *Bleek.*, Padang, Sumatra, Batjan.

Vulsus dactylopus, *Benn.*, Amboyna, Celebes.
Luciogobius guttatus, *Gill.*, Japan.
Oxymetepon typus, *Bleek.*, Sea of Timor.

Fam. 21. OXUDERCIDÆ.

Oxuderces dentatus, *Valenc.*, Macao.

Fam. 22. BATRACHIDÆ.

Batrachus grunniens, *Bl.*, Amboyna, India, Ganges.
trispinosus, *Gthr.*, Bombay, Singapore, Pinang.
dussumieri, *C. & V.*, Malabar.
dubius, *White.*, Australia.
diemensis, *Lesueur.*, Australia, Timor, Ceram, Banka.

Fam. 23. PEDICULATI.

Lophius setigerus, *Wahl.*, China, Japan.
Antennarius marmoratus, *Gthr.*, six varieties,
pictus, raninus, gibbus, marmoratus, Atlantic, Indian Oceans.
hispidus, *Schn.*, Indian Seas.
pinniceps, *Commers.*, Indian Seas.
tridens, *Schleg.*, China, Japan.
moluccensis, *Bleek.*, Amboyna, Goram Sea.
coccineus, *Less.*, Mauritius.
lindgreeni, *Bleek.*, Banka Sea.
urophthalmus, *Bleek.*, Singapore, Riou, Australia.
commersonii, *Lacép.*, Indian Ocean.
horridus, *Bleek.*, Archipelago.
melas, *Bleek.*, Amboyna.
nummifer, *Cuv.*, Indian Seas, Red Sea.
notophthalmus, *Bleek.*, Archipelago.
biocellatus, *Cuv.*, Atlantic, Amboyna.
caudimaculatus, *Rüpp.*, Red Sea.
chironectes, *Lacép.*, Banda Neira, Amboyna.
polyophthalmus, *Bl.*, Banda Neira, Goram.
phymatodes, *Bleek.*, Amboyna.
leprosus, *Bleek.*, Amboyna.
bigibbus, *Lacép.*, Mauritius, Madagascar to New Ireland, Sandwich Islands.
Halieutæa stellata, *Wahl.*, China, Japan.

Fam. 24. BLENNIIDÆ.

Blennius semifasciatus, *Rüpp.*, Red Sea.
cornifer, *Rüpp.*, Djetta, Red Sea.
sinensis, *Gthr.*, China Sea.
Petroscirtes tapeinosoma, *Bleek.*, Amboyna.
rhinorhynchus, *Bleek.*, Celebes, Amboyna, Ceram, Goram.
amblyrhynchus, *Bleek.*, Amboyna.
tæniatus, *Q. & G.*, Amboyna, Goram, N. Guinea Guam.
filamentosus, *C. & V.*, N. Guinea, Amboyna.
punctatus, *C. & V.*, Bombay, Australia.
kallosoma, *Bleek.*, Sea of Biliton.
elongatus, *Peters.*, Mozambique.

striatus, *Bleek.*, Siam.
Trichogaster fasciatus, *Schn.*, Bengal, Hindostan.
unicolor, *C. & V.*, Calcutta.
Betta trifasciata, *Bleek.*, Banka, Biliton.
pugnax, *Cant.*, Pinang, Malay Peninsula, Archipelago.

Fam. 36. LUCIOCEPHALIDÆ.

Luciocephalus pulcher, *Gray.*, Biliton, Borneo, Rivers Banks.

Fam. 37. ATHERINIDÆ.

First Group. ATHERININA.

Atherina forskalii, *Rüpp.*, Red Sea, Pinang.
bleekeri, *Gthr.*, Japan.
afra, *Peters.*, Mozambique.
valenciennesii, *Bleek.*, Padang, Batavia, Singapore.
pinguis, *Lacép.*, Africa, Bombay, Australia.
lacunosa, *Forst.*, Archipelago, Waigiou.
duodecimalis, *Bleek.*, Archipelago.
endrachtensis, *Q. & G.*, N. Holland, N. Guinea.
brachyptera, *Bleek.*, Banda Neira.

Fam. 38. MUGILIDÆ.

Mugil cephalotus, *Cuv.*, Red Sea, Pondicherry, China, Japan.
hæmatochilus, *Schleg.*, Japan, China.
subviridis, *C. & V.*, Malabar, Madras.
nepalensis, *Gthr.*, Nepal.
sundanensis, *Bleek.*, Archipelago.
strongylocephalus, *Rich.*, Chinese Sea.
parsia, *Buch. Ham.*, Bengal.
belanak, *Bleek.*, Rivers of Archipelago.
planiceps, *C. & V.*, Ceylon, Bengal, Hindustan, China.
longimanus, *Gthr.*, Archipelago.
kelaartii, *Gthr.*, Ceylon, Philipines.
engeli, *Bleek.*, Java, Sumatra, Bali.
cantoris, *Bleek.*, River Hoogly.
affinis, *Gthr.*, Amoy, China.
ophuysenii, *Bleek.*, Sumatra.
cunnesius, *C. & V.*, Red Sea, Indian Seas.
speigleri, *Bleek.*, Java, Borneo, Halmaheira.
waigiensis, *Q. & G.*, Red Sea, Indian Ocean, Archipelago, Australia, Polynesia.
suppositus, *Gthr.*, Pinang River.
axillaris, *Bleek.*, Archipelago, Guinea, Mauritius.
bleekerii, *Gthr.*, Banka Rivers.
ceylonensis, *Gthr.*, Ceylon.
troschelii, *Bleek.*, Java, Sumatra, Borneo, Ceylon.
borneensis, *Bleek.*, Archipelago.
oligolepis, *Bleek.*, Borneo, Sumbawa.
decem-radiatus, *Gthr.*, Batavia, Timor.
labiosus, *C. & V.*, Red Sea, Timor, Sumatra.
nigro-strigatus, *Gthr.*, Borneo, St. Vincent's.
heterochilus, *Bleek.*, Batjan, Celebes, Ceram, Java.
crenilabis, *Forsk.*, Red Sea.
macrochilus, *Bleek.*, Kokos Island, Java.
ruppellii, *Gthr.*, Red Sea.
corsula, *Buch, Ham.*, Ganges.
Agonostoma plicatile, *C. & V.*, Celebes, Aneiteum, Comera Island.
oxyrhynchum, *C. & V.*, Celebes, Batjan, Sumatra.
telfairii, *Benn.*, Mauritius, Comoro Island.
dobuloides, *C. & V.*, Mauritius.

Fam. 39. OPHIOCEPHALIDÆ.

Ophiocephalus punctatus, *Bl.*, Ceylon.
gachua. *Buch. Ham.*, Indian Archipelago.
kelaartii, *Gthr.*, Ceylon.
rhodotænia. *Bleek.*, Sambas Rivers, Borneo.
mystax, *Bleek.*, Banka Rivers.
melanosoma, *Bleek.*, Borneo, Banka, Nias.
melanopterus, *Bleek.*, River Kapuas, Borneo.
cyanospilos, *Bleek.*, Rivers Telork, Sumatra.
striatus, *Bl.*, East Indies.
polylepis, *Bleek.*, Rivers of Solok, Sumatra.
bankanensis, *Bl.*, Banka, Borneo.
lucius, *K. & v. H.*, Archipelago.
siamenses, *Gthr.*, Siam.
barca, *Buch. Ham.*, Bengal.
nigricans, *C. & V.*, East Indies.
grandinosus, *C. & V.*, China, Maissour.
marulius, *Buch. Ham.*, Bengal, Hindostan, Ceylon.
pseudomarulius, *Gthr.*, India.
marulioides, *Bleek.*, Sambas, Borneo.
pleurophthalmus, *Bleek.*, Bandjermassing Rivers, Palembang, Sumatra.
argus, *Cant.*, China, Chusan.
maculatus, *Lacép.*, China.
micropeltes, *K. & v. H.*, Siam, Archipelago.
Channa orientalis, *Schn.*, Ceylon.

Fam. 40. TRICHONOTIDÆ.

Trichonotus setigerus, *Schn.*, Celebes, Ceram.

Fam. 41. CEPOLIDÆ.

Cepola schlegelii, *Bleek.*, Japan.
abbreviata, *C. & V.*, Moluccas, Pinang, China.
krusensternii, *Schleg.*, Sea of Nagasaki.
mesoprion, *Bleek.*, Sea of Nagasaki.
marginata, *C & V.*, Sea of Japan.
limbata, *C. & V.*, Japan.

Fam 42. GOBIESOCIDÆ.

Cotylis fimbriata, *M. & T.*, Red Sea, Indian Ocean.

Fam 44. CENTRISCIDÆ.

Amphisile scutata, *L.*, India & China Seas.
punctulata, *Bianc.*, Red Sea, Mozambique.
strigata, *Gthr.*, Java, Banda.

Fam 45. FISTULARIDÆ.

Fistularia serrata, *Bl.*, Mozambique, China, N. Holland.
Aulostoma Chinense, *L.*, Mozambique to Pacific.
Rhynchobdella aculeata, *Bl.*, East Indies.

Fam. 46. MASTACEMBELIDÆ.

Mastacembelus pancalus, *Buch. Ham.*, Bengal.
zebrinus, *Blyth.*, Maulmein
aleppensis, *Schn.*, River Kowik, Affghanistan.
unicolor, *K. & v. H.*, Java.
erythrotænia, *Bleek.*, Borneo Rivers.
argus, *Gthr.*, Siam.
armatus, *Lacép.*, Ceylon, Bengal, Chusan.
maculatus, *Reinw.*, Bilitong, Java, Sumatra.

ORDER II. ACANTHOPTERYGII PHARYNGOGNATHI.

Fam. I. POMACENTRIDÆ.

Numerous in the tropical parts of the Indian and Pacific Oceans, several in the tropical Atlantic, a few extending N. to Mediterranean and Japan, to S. Australia and E. to America. They feed chiefly on small marine animals, and those with compressed teeth appear to feed on the small Zoophytes or even on marine plants, covering the coral-banks round which the Pomacentridæ and Choetodontidæ abound.

Amphiprion bifasciatus, *Bl.*, *Schn.*, Archipelago, N. Guinea.
intermedius, *Schleg.*, Moluccas.
trifasciatus, *C. & V.*, Moluccas.
sebæ, *Bleek.*, Batavia, Sumatra.
clarkii, *Benn.*, Mozambique to China.
xanthurus, *C. & V.*, Ile of France, Batavia.
chrysogaster, *C. & V.*, Mauritius, Bourbon.
fusciventer, *Benn.*, Mauritius.
percula. *Lacép.*, China to Australia.
bicinctus, *Rüpp.*, Red Sea.
melanopus, *Bl.*, Amboyna.
tricolor, *Gthr.*, Port Essington.
rosenbergii, *Bleek.*, Doreh, (N. Guinea).
perideraion, *Bleek.*, Groot Oby, Amboyna.
akallopisos, *Bleek.*, Sea of Priaman.
ephippium, *Bl.*, Indian Ocean, Archipelago.
Premnas biaculeatus, *Bl.*, Archipelago.
Dascyllus aruanus, *L.*, E. Africa to Polynesia.
trimaculatus, *Rüpp.*, E. Africa to Archipelago.
marginatus, *Rüpp.*, Red Sea.
xanthosoma, *Bleek.*, Archipelago.
cyanurus, *Rüpp.*, Massaua.
polyacanthus, *Bleek.*, Sangi, Batjan, Amboyna.
Lepidozygus tapeinosoma, *Blkr.*, Ternate.
Pomacentrus annulatus, *Peters.*, Mozambique.
nematopterus, *Bleek.*, Archipelago.
bifasciatus, *Bleek.*, Floris, Ternate, Booroo.
albofasciatus, *Schleg.*, Archipelago.
fasciatus, *C. & V.*, Archipelago.
trimaculatus, *C. & V.*, Archipelago, China.
chrysopœcilus, *K. & v. H.*, Archipelago.
notophthalmus, *Bleek.*, Archipelago.
violascens, *Bleek.*, Nias, Sumbava.
cyanomus, *Bleek.*, Java, Nias.
polynema, *Bleek.*, Priaman.
cyanostigma, *Rüpp.*, Massaua.
tæniurus, *Bleek.*, Biliton, Amboyna.
simsiang, *Bleek.*, Batavia.
pavo, *Bl.*, Moluccas, Mozambique.
prosopotænia, *Bleek.*, Singapore, Molucca Sea.
cæruleus, *Q. & G.*, Ile of France.
melanotus, *Bleek.*, Manado.
melanopterus, *Bleek.*, Archipelago Rivers.
trilineatus, *Ehrenb.*, Red Sea, Mozambique, Moluccas.
tæniometopen, *Bleek.*, Archipelago.
bankanensis, *Bleek.*, Archipelago, China.
rhodonotus, *Bleek.*
scolopsis, *Q. & G.*, Ile of France, Archipelago, Polynesia.
dorsalis, *Gill.*, Japan, China.
chrysurus, *Brouss.*, Amboyna.
punctatus. *Q. & G.*, Red Sea, Ile of France, Bola Bola.
cyanospilus, *Blkr.*, Archipelago.
moluccensis, *Blkr.*, Archipelago.
interorbitalis, *Gthr.*, Archipelago.
littoralis, *K. & v. H.*, Mauritius Archipelago, Polynesia, Australia, India.
Glyphidodon cœlestinus, *Soland.*, Red Sea to Polynesia.
schlegelii, *Bleek.*, Celebes, Ternate, Goram.
septemfasciatus, *C. & V.*, Mauritius to Philippines and China.
bengalensis, *C. & V.*, Indian Seas.
affinis, *Gthr.*, Chinese Sea.
sordidus, *Forsk.*, Indian Seas.
breviceps, *Schleg.*, Sumatra.
trifasciatus, *Bleek.*, Archipelago.
albofasciatus, *Hambr.*, Poulolaut, Borneo.
xanthozona, *Bleek.*, Archipelago.
oxyodon, *Bleek.*, Celebes.
sparoides, *C. & V.*, Mauritius, Mozambique.
bonang, *Blkr.*, Java, Sumatra.
sculptus, *Peters.*, Mozambique.
melas, *K. & v. H.*, Red Sea, Archipelago, N. Hebrides.

aureus, *K. & v. H.*, Java, Celebes, Amboyna.
leucogaster, *Blkr.*, Java, Amboyna, Banda.
ternatensis, *Bleek.*, Ternate.
batjanensis, *Bleek.*, Batjan, Booroo.
xanthurus, *Blkr.*, Flores, Sangi, Amboyna, Ceram.
melanopus, *Blkr.*, Java.
xanthonotus, *Blkr.*, Bawean.
behnii, *Blkr.*, Java.
leucozona, *Blkr.*, Java.
lacrymatus, *Q. & G.*, Java, Sangi, Ternate and Guam.
floridentus, *Gthr.*
antjerius, *K. & v. H.*, From Africa to Archipelago and Polynesia.
plagiometopon, *Blkr.*, Singapore, Java.
unimaculatus, *C. & V.*, Archipelago.
uniocellatus, *Q. & G.*, Timor, Vanicolo, Fiji.
assimilis, *Gthr.*, Batjan, Amboyna, Goram, Borneo, Philippines.
azureus, *Q. & G.*, Timor, Friendly Ids.
dispar, *Gthr.*
amboinensis, *Bleek.*, Amboyna.
limbatus, *C. & V.*, Bourbon.

Parma microlepis, *Gthr.*, N. S. Wales
squamipinnis, *Gthr.*, Australia.

Heliastes axillaris, *Benn.*, Mauritius.
cinerascens, *C. & V.*, Moluccas.
xanthochir, *Bleek.*, Archipelago.
analis, *C. & V.*, Amboyna.
cæruleus *C. & V.*, N. Guinea, Ulea, Moluccas.
frenatus, *C. & V.*, Guam.
xanthurus, *Bleek.*, Banda Neira.
notatus, *Schleg.*, China, Japan.
lepidurus, *C. & V.*, Guinea, Archipelago.
ternatensis, *Bleek.*, Ternate, Booroo, Goram.

Fam. 2. LABRIDÆ.

Marine fishes of temperate and tropical regions. Feeding chiefly on mollusca. The Scarina are herbivorous as well as carnivorous.

Second Group. CHŒROPINA.

Choerops macrodon, *Lacép.*, Archipelago, N. Australia.
ommopterus, *Richards.*, China, Australia, Moluccas.
leucozona, *Bleek.*, Biliton.
anchorago, *Bl.*, Amboyna.
japonicus, *C. & V.*, Japan, China.
oligacanthus, *Bleek.*, Archipelago.
cyanodon, *Richards.*, Australia.
rubescens, *Gthr.*, Australia, Houtman's Abrothos, 'Rockfish' of the Colonists.

Third Group. JULIDINA.

Xiphochilus, *Bleek.*, Indian Ocean, Archipelago.
typus, *Bleek.*, Nias.
robustus, *Gthr.*, Mauritius.
Semicossyphus, *Gthr.*, Japan, California.
reticulatus, *C. & V.*, Japan.
Trochocopus opercularis, *Guich*, Mauritius.
Pteragogus opercularis *Pet.*, Mozambique.
taniops, *Pet.*, Mozambique.
Cossyphus mesothorax, *Bl.*, Moluccas,
axillaris, *Benn.*, Mauritius, Madagascar, Ulea, Hebrides.
leucosticticus, *Benn.*, Mauritius.
diana, *Lacép.*, Mozambique, Mauritius, Sumatra, Batjan, Amboyna.
macrurus, *Lacép.*, Mauritius.
bilunulatus, *Lacép.*, Ile of France, Amboyna.
atrolumbus, *C. & V.*, Mauritius.
anthioides, *Benn.*, Amboyna.
opercularis, *Bourbon?* Madagascar?
unimaculatis, *Gthr.*, Australia.
gouldii, *Richards.*, Australia.
Labrichthys celidota. *Forst.*, N. Zealand, Australia.
rubiginosa, *Schleg.*, China, Japan.
luculenta, *Rich.*, Australia, Norfolk Isld.
cyanotænia, *Bleek*, Floris.
parila, *Richards.*, Australia.
gymnogenis, *Gthr.*, Australia.
unilineata, *Guich.*, Guam.
Labroides dimidiatus, *C. & V.*, Red Sea, Amboyna, Goram.
paradiseus, *Bleek*, Archipelago.
quadrilineatus, *Rüpp.*, Red Sea.
xanthurus, *Bleek.*, Amboyna.
Duymæria aurigaria, *Richards.*, China.
flagellifera, *C. & V.*, Japan.
spilogaster, *Bleek.*, Nagasaki.
filamentosa, *Pet.*, Mozambique.
enneacanthus, *Bleek.*, Amboyna.
nematoptera, *Bleek.*, Banda Neira.
Cirrhilabrus temminckii, *Bleek.*, Japan.
solorensis, *Bleek.*, Solor, Banda.
cyanopleura, *Bleek.*, Batavia.
Cheilinus trilobatus, *Lacép.*, Africa to China, N. Hebrides.
mossambicus, *Gthr.*, Mozambique.
ceramensis, *Bleek.*, Archipelago, N. Hebrides.
punctatus, *Benn.*, Mauritius, Mozambique.
chlorurus. *Bl.*, Ceylon, N. Hebrides.
oxycephalus, *Bleek.*, Batoe, Floris, Batjan, Amboyna.
undulatus, *Rüpp.*, Red Sea, Batavia.
fasciatus, *Bl.*, Red Sea, Indian Seas.
quinquecinctus, *Rüpp.*, Red Sea.
lunulatus, *Forsk.*, Red Sea.
mentalis, *Rüpp.*, Massaua.

lacrymans, *C. & V.*, Java.
orientalis, *Gthr.*, Batjan.
arenatus, *C. & V.*, Mauritius, Java.
celebicus, *Bleek.*, Archipelago.
oxyrhynchus, *Bleek.*, Archipelago.
hoevenii, *Bleek.*, Amboyna.

Pseudocheilinus hexatænia, *Bleek.*, Amboyna, Goram.

Epibulus insidiator, *Pall.*, Indian Ocean, Archipelago.

Anampses cæruleo-punctatus, *Rüpp.*, Red Sea, Mauritius.
meleagris, *C. & V.*, Mauritius, Amboyna.
melanurus, *Bleek.*, Amboyna.
twistii, *Bleek.*, Amboyna.
amboinensis, *Bleek.*, Amboyna.
diadematus, *Rüpp.*, Red Sea, Mauritius.
viridis, *C. & V.*, Mauritius.
geographicus, *C. & V.*, Amboyna.
pterophthalmus, *Bleek.*, Amboyna.

Hemigymnus fasciatus, *Thunb.*, Mauritius to Archipelago.
sexfasciatus, *Rüpp.*, Red Sea.
melanopterus, *Bl.*, Singapore, Archipelago, Goram, Australia.
leucomos, *Bleek.*, Biliton.

Stethojulis strigiventer, *Benn.*, Africa to Australia.
trilineata, *Schn.*, Archipelago.
albovittata, *Bonnat.*, Madagascar, Archipelago, Sandwich Island.
renardi, *Bleek.*, Archipelago.
interrupta, *Bleek.*, Archipelago.
axillaris, *Q. & G.*, Archipelago, Madagascar, Sandwich Island.
kalosoma, *Bleek.*, Archipelago.
phekadopleura, *Bleek.*, Archipelago.

Platyglossus dussumieri, *C. & V.*, China, Indian Ocean.
chloropterus, *Bl.*, Java, Banka, Celebes.
javanicus, *Bleek.*, Karangbollong, Java, Singapore
geoffroyii, *Q. & G.*, Sandwich Island, Celebes, Ulea.
bicolor, *Schn.*, Java, Singapore, Pinang.
scapularis, *Benn.*, Africa to Archipelago.
hortulanus, *Lacép.*, Africa to Polynesia.
corbis, *C. & V.*, East Indies.
opercularis, *Gthr.*, Feejee, Amboyna.
papilionaceus, *C. & V.*, Vanicolo.
melanurus, *Bleek.*, Archipelago.
schwarzii, *Bleek.*, Archipelago.
hyrtelii, *Bleek.*, Pinang, Java, Nias, Celebes, Sanga.
knerii, *Bleek.*, Archipelago.
miniatus, *K. & v. H.*, Archipelago, Australia.
pseudominiatus, *Bleek.*, Archipelago.
nebulosus, *C. & V.*, Red Sea, India.
pœcilus, *Richards.*, Archipelago.
kawarin, *Bleek.*, Celebes, Timor.
trimaculatus, *Q. & G.*, Vanicolo, Archipelago.
binotopsis, *Bleek.*, Archipelago.
hoevenii, *Bleek.*, Archipelago.
chrysotænia, *Bleek.*, Java, Sumatra.
timorensis, *Bleek.*, Timor.
notopsis, *K. & v. H.*, Java, Sumatra, Batu.
solorensis, *Bleek.*, Solor, Amboyna.
prosopeion, *Bleek.*, Amboyna.
guttatus, *Bl.*, Archipelago.
amboinensis, *Bleek.*, Amboyna.
leparensis, *Bleek.*, Archipelago.
modestus, *Bl.*, Archipelago.
bimaculatus, *Rüpp.*, Red Sea.
hartzfeldii, *Bl.*, Celebes, Ternate, Amboyna.
ceylonicus, *Benn.*, Ceylon.
pardaleocephalus, *Bleek.*, Sumatra, Bali.
kallochroma, *Bleek.*, Sumatra, Nias.
vrolikii, *Bleek.*, Batu, Nias, Banka.
podostigma, *Bl.*, Floris, Booroo, Amboyna.
marginatus, *Rüpp.*, Red Sea, Mauritius, Ceylon, Archipelago.
notophthalmus, *Bleek.*, Java, Celebes, Goram, Timor, Guinea.
tenuispinis, *Gthr.*, China.
pyrrhogramma, *Schleg.*, Japan.
poecilopterus, *Schleg.*, Japan, China.

Leptojulis cyanopleura, *Bleek.*, Batavia.
pyrrhogrammatoides, *Bllkr.*, Batavia.

Pseudojulis girardi, *Bleek.*, Boleling.

Novacula argentimaculata, *St.*, Cape, Brazil.
javanica, *Bleek.*, Java.
cyanifrons, *C. & V.*, Pondicherry.
tæniurus, *Lacép.*, Mauritius.
vanecolensis, *Q. & G.*, Vanicolo, N. Hebrides, Celebes, Floris, Timor.
hoedtii, *Bleek.*, Celebes, Sangi, Amboyna.
altipinnis, *Rüpp.*, Djetta.
macrolepidota, *Bl.*, Mozambique, Archipelago, Guinea, Waigiou.
bimaculata, *Rüpp.*, Massaua.
pavo, *C. & V.*, Bourbon, Mauritius, Cocos, Ternate, Sandwich Islds.
dea, *Schleg.*, Japan.
tetrazona, *Bleek.*, Bali.
kallosoma, *Bleek.*, Amboyna, Bali.
pentadactyla, *L.*, Archipelago, China.
punctulata, *C. & V.*, China.
twistii, *Bleek.*, Ternate.
melanopus, *Bleek.*, Amboyna.
spilonotus, *Bleek.*, Amboyna.

Julis lunaris, *L.*, Africa to Polynesia.
cupido, *Schl.*, Japan, Batavia.
amblycephalus, *Bleek.*, Ceylon, Java, Celebes, Sangi, Amboyna.
melanochir, *Bleek.*, Amboyna.
aneitensis, *Gthr.*, Australia, Hebrides, Norfolk Island.
genivittata, *Gthr.*, Mauritius, Red Sea.
melanoptera, *Gthr.*, Hab

umbrostigma, *Rüpp.*, Rod Sea to Sandwich Islands, China Sea.
abhortani, *C. & V.*, Mauritius.
matthæi, *C. & V.*, Mauritius.
hebraica, *Lacép.*, Mauritius, Madagascar, Mozambique.
jansenii, *Bleek.*, Archipelago, Feejee, Hebrides.
trilobata, *Lacép.*, Africa, Polynesia.
purpurea, *Forsk.*, Red Sea, Bombay.
guntheri, *Blkr.*, Cape, Celebes, Sangi.
dorsalis, *Q. & G.*, Africa to Polynesia.
schwanefeldii, *Bleek.*, Sumatra.
caudalis, *Poey.*, Cuba.

Gomphosus cæruleus, *La.*, Indian Seas, Sumatra.
tricolor, *Q. & G.*, Indian Seas, Pacific.
varius, *Lacép.*, Mauritius, Polynesia.
melanotus, *Bleek.*, Java, Kokos.
notostigma, *Bleek.*, Java.

Cheilio inermis, *Forsk.*, Africa to Pacific.

Coris variegata, *Rüpp.*, Red Sea, Amboyna.
batuensis, *Bleek*, Batoe.
cuvieri, *Benn.*, Mauritius, New Hebrides.
gaimardi, *Q. & G.*, Sandwich Is. Timor.
pulcherrima, *Gthr.*, Celebes, Amboyna, Tahitti, Hebrides.
formosa, *Benn.*, Ceylon.
aygula, *Lac.*, Red Sea, Mauritius, Australia.
annulata, *Lacép.*, Indian Ocean.
cingulum, *Lac.*, N. Hebrides, Red Sea, Mauritius.
greenoughii, *Benn.*, Sandwich Islands, Celebes, Booroo.
oxyrhyncha, *Bleek.*, Kazeli Sea.
caudimacula, *Q. & G.*, Maurit. Mozambique.
auricularis, *C. & V.*, Australia.
heteroptera, *Bleek.*, Amboyna.

Cymolutes prætextatus, *Q. & G.*, Celebes, Amboyna, Java, Mauritius.

Fourth Group. PSEUDODACINA.

Pseudodax moluccensis, *C. & V.*, Celebes, Amboyna, Java.

Fifth Group. SCARINA.

Scarichthys auritus, *K. & v. H.*, Seychelles to New Hebrides.
cæruleopunctatus, *Rüpp.*, Red Sea, Archipelago.

Callyodon viridescens, *Rüpp.*, Red Sea.
carolinus, *C. & V.*, Timor, Carolines, Ceylon.
genistriatus, *C. & V.*, Celebes, Banda.
brachysoma, *Bleek.*, Amboyna, Ternate.
japonicus, *C. & V.*, Japan.
spinidens, *Q. & G.*, Archipelago, Waigiou.

Pseudoscarus bicolor, *Rüpp.*, Red Sea, Celebes.
pulchellus, *Rüpp.*, Red Sea, Mauritius, Java, Celebes.
harid, *Forsk.*, Djetta, Java, Kokos.
viridis, *Bl.*, Louisiade, Celebes.
chrysopoma, *Bleek.*, East Indies.
dimidiatus, *Bleek.*, Guinea.
javanicus, *Bleek.*, Java.
rivulatus, *C. & V.*, East Indies.
pyrrhostethus, *Rich.*, Indian Seas, Red Sea.
maculosus, *Lac.*, Mauri., Mozambique.
dussumieri, *Bleek.*, Java.
hypselopterus, *Bleek.*, Java.
capitaneus, *C. & V.*, Mauri., Mozambique.
macrochilus, *Bleek.*, Halmaheira.
æruginosus, *Bleek.*, Archipelago.
tricolor, *Bleek.*, Java, Celebes, Amboyna.
rubro-violaceus, *Bleek.*, Java, Moluccas.
forsteni, *Bleek.*, Celebes.
ghobban, *Forsk.*, Red Sea.
collana, *Rüpp.*, Red Sea.
bataviensis, *Bleek.*, Batavia.
schlegelii, *Bleek.*, Celebes.
pentazona, *Bleek.*, Celebes.
sumbawensis, *Bl.*, Archip., Mauritius.
moensi, *Bleek.*, Celebes.
sexvittatus, *Rüpp.*, Djetta.
latus, *Ehrenb.*, Red Sea.
ocellatus, *C. & V.*, Carolines.
nuchipunctatus, *C. & V.*, Indian Ocean, Archipelago.
janthochir, *Bl.*, Java, Celebes, Ternate, N. (Ireland.)
cyanognathus, *Bleek.*, Java.
octodon, *Bleek.*, Buton.
singaporensis, *Bleek.*, Singapore, Java.
microrhinus, *Bleek.*, Java, Celebes.
strongylocephalus, *Bleek.*, Java.
microchilus, *Bleek.*, Java.
niger, *Rüpp.*, Djetta.
xanthopleura, *Bleek.*, Java.
troschelii, *Bleek.*, Java.
celebicus, *Bleek.*, Celebes, Chinese Sea.
chlorodon, *Jenyns.*, Kokos Island.
pectoralis, *C. & V.*, Djetta.
muricatus, *C. & V.*, Java.
caudofasciatus, *Gthr.*, Mauritius.
rhoduropterus, *Bleek.*, Celebes.
quoyi, *Bleek.*, New Ireland, Ternate.
cyanotænia, *Bleek.*, Java.
capistratoides, *Bleek.*, Java.
gymnognathus, *Bleek.*, Java.
gibbus, *Rüpp.*, Mohila.

Sixth Group. ODACINA.

Odax balteatus, *C. & V.*, Van Diemen's Land, Australia.
frenatus, *Gthr.*, Australia.
semifasciatus, *C., & V.*, Indian Ocean.
richardsonii, *Gthr.*, Australia.
radiatus, *Q. & G.*, Australia.

Fam 4. GERRIDÆ.

Gerres longirostris, *Rüpp.*, Cape.

poeti, *C. & V.*, Indies.
abbreviatus, *Blkr.*, Archipelago.
philippinus, *Gthr.*, Philippines.
kapas, *Blkr.*, Archipelago.
limbatus, *C. & V.*, Coromandel, Pinang.
punctatus, *C. & V.*, Pondicherry, China.
japonicus, *Blkr.*, Japan, China.
filamentosus, *C. & V.*, India, Australia.
macracanthus, *Blkr.*, Java, Nias, Banka.
oyena, *Forsk.*, Red Sea, Indian Ocean, Archipelago.
acinaces, *Blkr.*, Java, Kokos.
argyreus, *Forst.*, Red Sea, Waigiou, Strong, Tanna, Jackson.
macrosoma, *Blkr.*, Archipelago.
oblongus, *C. & V.*, Ceylon.

Fam. 5. CHROMIDES.

Etroplus suratensis, *Bl.*, Malabar, Coromandel, Ceylon.
maculatus, *Bl.*, Malabar.
Chromis mossambicus, *Pet.*, Mozambique.

Order III. ANACANTHINI.

A. Anacanthini Gadoidei.

Fam. 3. GADIDÆ.

Lotella phycis, *Schleg.*, Japan.
Motella pacifica, *Schleg.*, Japan.
Bregmaceros macclellandii, *Thomps.*, China, Philippines, the Ganges.

Fam. 4. OPHIDIIDÆ.

First Group. BROTULINA.

Brotula multibarbata, *Schleg.*, Japan, Celebes, Amboyna, Booroo, Archipelago.
burbonensis, *Kaup.*, Bourbon.
Sirembo imberbis, *Schleg.*, Japan.
armatus, *Schleg.*, Japan.
Xiphogadus setifer, *Swains.*, Vizagapatam.
Dinematichthys iluocœteoides, *Blk.*, Batoe, Nias, Goram.

Third Group. FIERASFERINA.

Fierasfer homei, *Rich.*, Australia, Archipelago, Feejee.
neglectus, *Peters.*, Ibo, Mozambique.
gracilis, *Bleek.*, Banda, Amboyna.
lumbricoides, *Bleek.*, Ceram.
Encheliophis, *Mull.*, Philippines.
vermicularis, *Mull.*, Philippines.

Fourth Group. AMMODYTINA.

Bleekeria kallolepis, *Gthr.*, Madras.

Fifth Group. CONGROGADINA.

Congrogadus subducens, *Richards.*, Australia, Banka, Laper.
nebulatus, *Bleek.*, Singapore.
Haliophis guttatus, *Rüpp.*, Red Sea.

Fam. 5. MACRURIDÆ.

Macrurus japonicus, *Schleg.*, Japan.

Fam. 6. ATELEOPODIDÆ.

Ateleopus japonicus, *Bleek.*, Oomura, Japan.

B. Anacanthini Pleuronectoidei.

Fam. 7. PLEURONECTIDÆ.

Psettodes erumei, *Bl.*, China.
Tephritis sinensis, *Lacép.*, China.
Arnoglossus aspilus, *Blkr.*, Java, Bali, Sumatra
Samaris cristatus, *Gray*, China.
Hemirhombus guineensis, *Bleek.*, N. Guinea.
Pseudorhombus russellii, *Gray*, Africa to Australia, China, India, Archipelago.
cinnamoneus, *Schleg.*, Nagasak.
javanicus, *Bleek.*, Java.
triocellatus, *Bl.*, Indian Seas.
pentophthalmus, *Gthr.*, China.
olivaceus, *Schleg.*, Japan, China.
oligolepis, *Bleek.*, Nagasaki.
Rhomboidichthys pavo, *Bleek.*, China, Kokos, Hebrides.
pantherinus, *Rüpp.*, Africa to Feejee.
myriaster, *Schleg.*, Japan, Celebes.
assimilis, *Gthr.*, China.
grandisquama, *Sch.*, China, Japan, N. W. America.
Pleuronectes stellatus, *Pall.*, Kamtschatka, Vancouver, California.
asperrimus, *Schleg.*, Japan.
variegatus, *Schleg.*, Japan.
Solea japonica, *Schleg.*, Japan.
hartzfeldii, *Blkr.*, Amboyna.
humilis, *Cant.*, Pinang, Java, Bintang.
ovata, *Richards.*, China.
trichodactylus, *L.*, Amboyna.
indica, *Gthr.*, Madras.
Pardachirus marmoratus, *Lacép.*, Africa.
pavoninus, *Lacép.*, Indies, Pinang, Singapore, Moluccas.
Liachirus nitidus, *Gthr.*, China.
Synaptura savignyi, *Kaup.*, Naples.
pan, *H. B.*, Ganges, Bintang, Singapore, Biliton.
foliacea, *Richards.*, China.
marmorata, *Blkr.*, Solor.
cinerascens, *Gthr.*, Ceylon.
heterolepis, *Blkr.*, Amboyna.
aspilos, *Blkr.*, Singapore.
albomaculata, *Kaup.*, Coromandel.
commersoniana, *Cant.*, Indies.
pectoralis, *Kaup.*, Cape.
orientalis, *Schn.*, Indies.
zebra, *Bl.*, India, China.
multifasciata, *Kaup.*, India.
japonica, *Blkr.*, Nagasaki.
quagga, *Kaup.*, China.
panoides, *Bleek.*, Bandjermassing, Singapore.
macrolepis, *Bleek.*, Singkawang, Borneo.

melanorhyncha, *Bleek.*, Rivers of Sumatra, Borneo, Gamboja.
Æsopia cornuta. *Cuv.*, India.
Plagusia marmorata, *Bleek.*, Red Sea, India, Amboyna.
bilineata, *Cant.*, Malay Peninsula, Archi.
japonica, *Schleg.*, Japan.
Cynoglossus kopsii, *Blkr.*, Archipelago.
waandersii, *Blkr.*, Sumatra.
feldmanni, *Blk.*, Rivers of Pengaron.
abbreviatus, *Gray*, China.
trigrammus, *Gthr.*, China.
microlepis, *Blkr.*, Bandjermassing Rivers.
xiphoideus, *Gthr.*, Siam.
macrolepidotus, *Bl.*, Java, Sumatra, Banka.
melampetalus, *Richards.*, China.
oligolepis, *Blkr.*, Batavia.
sumatrensis. *Blkr.*, Sumatra, Benkulen.
kaupii, *Blkr.*, Benkulen.
quadrilineatus, *Lacép.*, Archipelago.
lida, *Blkr.*, Java, Celebes.
borneensis, *Blkr.*, Singkawang, Borneo.
oxyrhynchus, *Bl.*, Java, Borneo, Amboyna.
bengalensis, *Blkr.*, Ganges.
brachyrhynchus, *Bl.*, Java, Singapore, Celebes.
puncticeps, *Richards.*, China, Archipelago.
brevis, *Gthr.*, Ganges.
elongatus, *Gthr.*, Indian Seas, Pinang.
lingua, *H. B.*, Ganges.
melanopterus, *Blkr.*, Java, Sumatra, Bali.
cantoris, *Blkr.*, Malay Peninsula.
capensis, *Kaup.*, Cape.
trulla, *Cant.*, Malay Peninsula.
grandisquamis, *Cant*, Pinang.
hamiltonii, *Gthr.*, Ganges, Pinang.

ORDER IV. PHYSOSTOMI.
Fam. 1. SILURIDÆ.
First Sub-family.
SILURIDÆ HOMALOPTERÆ.
First Group. CLARIINA.

Clarias magur, *H. B.*, Bengal, Khasya, Archip.
macrocephalus, *Gthr.*, Siam.
fuscus, *Lacép.*, China.
abbreviatus, *C. & V.*, Macao.
melanoderma, *Bl.*, Java, Sumatra, Banka, Borneo.
teysmanni, *Blkr.*, Java, Ceylon.
liacanthus, *Bl.*, Sumatra, Banka, Nias, Borneo.
brachysoma, *Gthr.*, Ceylon.
nieuhofii, *C. & V.*, Archipelago.
Heterobranchus tapeinopterus, *Blkr.*, Banka and Borneo.
laticeps, *Peters.*, Mozambique.

Second Group. PLOTOSINA.

Plotosus anguillaris, *Bl.*, Africa to Japan, Polynesia.
canius, *Ham. Buch.*, Bengal, Archipelago.
limbatus, *C. & V.*, Hindostan.
Copidoglanis albilabris, *C. & V.*, Archipelago.
Third Group. CHACINA.

Chaca lophioides, *C. & V.*, Bengal, Borneo, New Guinea.
bankanensis, *Bl.*, Sumatra, Borneo, Banka.
buchanani, *Gthr.*, Ganges.

Second Sub-family.
SILURIDÆ HETEROPTERÆ.
Fourth Group. SILMINA.

Saccobranchus singio, *Ham. Buch.*, Bengal, Cochin-China.
fossilis, *Bl.*, Hindostan, Nepal, Khasya.
microps, *Gthr.*, Ceylon.
microcephalus, *Gthr.*, Ceylon.
Silurus asotus, *L.*, China, Japan.
afghana, *Gthr.*, Afghanistan.
cochinchinensis, *C. & V.*, Cochin-China.
malabaricus, *C. & V.*, Malabar.
Silurichthys phaiosoma, *Blkr.*, Banka, Biliton, Borneo.
hasseltii, *Blkr.*, Java.
langhur, *Heek.*, Cashmere.
Wallago attu, *Schn.*, Bengal, Hindostan, Dekkan, Java.
leerii, *Blkr.*, Sumatra, Banka, Borneo.
Belodontichthys macrochir, *Blkr.*, Sumatra, Borneo.
Eutropiichthys vacha, *Ham. Buch.*, Bengal.
Cryptopterus mononema, Java.
limpok, *Blkr.*, Sumatra, Borneo.
amboinensis, *Gthr.*, Amboyna.
schilbeides, *Blkr.*, Sumatra, Borneo.
bicirrhis, *C. & V.*, Java, Sumatra, Borneo.
macrocephalus, *Blkr.*, Sumatra.
lais, *Blkr.*, Borneo.
micropus, *Blkr.*, Sumatra, Borneo.
micronema, Java, Sumatra, Borneo.
hexapterus, *Blkr.*, Java, Sumatra, Borneo.
micropogon, *Blkr.*, Borneo, Sumatra.
bleekeri, *Bocourt.*, Siam.
leptonema, *Blkr.*, Sumatra.
gangeticus, *Peters.*, Ganges.
Callichrous bimaculatus, *Bl.*, Java, Sumatra, Borneo.
ceylonensis, *Gthr.*, Ceylon.
pabda, *Ham. Buch.*, Bengal.
anastomus, *C. & V.*, Hoogly.
liacanthus, *Blkr.*, Sumatra, Banka.
pabo, *Ham. Buch.*, Brahmaputra.
hypophthalmus, *Blkr.*, Java, Sumatra.
macronema, *Blyth.*, Bandjermassing.
Eutropius obtusirostris, *Gthr.*, India.
murius, *Ham. Buch*, Mahananda River.
depressirostris, *Pet.*, Mozambique.
Hemisilurus heterorhynchus, *Blkr.*, Sumatra.
scleronema, *Blkr.*, Java.
Ailia bengalensis, *Gray*, Bengal.
affinis, *Gthr.*, Himalayas, Assam.
Schilbichthys garua, *Ham. Buch.*, Bengal.

Lais hexanema, *Blkr.*, Java, Sumatra, Borneo.
Pseudeutropius brachypopterus, *Bl.*, Palembang, Sumatra.
atherinoides, *Bl.*, Bengal.
mitchelli, *Gthr.*, Madras.
megalops, *Gthr.*, Central India.
longimanus, *Gthr.*, India.
goongwaree, *Sykes.*, Mota Mola River, Dekkan.

Pangasius buchanani, *C. & V.*, Ganges.
djambal, *Blkr.*, Java.
macronema, *Blkr.*, Borneo, Java.
rios, *Blkr.*, South Borneo.
micronema, *Blkr.*, Java.
nasutus, *Blkr.*, Borneo.
juaro, *Blkr.*, Sumatra, Borneo.

Helicophagus typus, *Blkr.*, Sumatra.
waandersii, *Blkr.*, Sumatra.

Silondia gangetica, *C. & V.*, Bengal, Dekkan.

Fourth Sub-family.

SILURIDÆ PROTEROPTERÆ.

Sixth Group. BAGRINA.

Macrones cavasius, *Ham. Buch.*, Dukhun, Mysore, Pondicherry, Bengal.
elongatus, *Gthr.*, Singapore.
nigriceps, *C. & V.*, Java, Sumatra, Borneo.
leucophasis, *Blyth.*, Burmese rivers.
aor, *Ham. Buch.*, East Indian Continent.
lamarrii, *C. & V.*, Ganges.
gulio, *Ham. Buch.*, East Indies.
nemurus, *C. & V.*, Java, Sumatra, Banka, Borneo.
planiceps, *K. & v. H.*, Java, Sumatra.
tengara, *Ham. Buch.*, East Indies.
wolffii, *Blkr.*, Borneo, Sumatra, Siam.
wyckii, *Blkr.*, River Tjitarum, Java.
batasio, *Ham. Buch.*, River Tista.
affinis, *Blyth.*, Tenasserim.
tengana, *Ham. Buch.*, Brahmaputra.
keletius, *C & V.*, Hooghly.
itchkeea, *Sykes.*, Dukhun.

Pseudobagrus aurantiacus, *Schleg.*, Japan.
vachellii, *Richards.*, China.
fulvi-draco, *Richards.*, China.

Liocassis longirostris, *Gthr.*, Japan.
crassilabris, *Gthr.*, China.
pœcilopterus, *K. & v. H.*, Java.
micropogon, *Blkr.*, Sumatra, Banka, Biliton, Borneo.
stenomus, *K. & v. H.*, Java, Sumatra.

Bagroides melanopterus, *Blkr.*, Sumatra, Borneo.
macropterus, *Blkr.*, Sumatra, Palembang, Moarakompeh.
macracanthus, *Blkr.*, Sumatra.

Bagrichthys hypselopterus, *Blkr.*, Sumatra. Borneo.

Rita crucigera, *Owen.*, Bengal.
pavimentata, *Val.*, Bengal.
hastata, *Val.*, Hindostan.
kuturnee, *Sykes.*, Beema River, Dukhun.
manillensis, *C. & V.*, Manilla.

Acrochordonichthys platycephalus, *Blkr.*, Sumatra.
melanogaster, *Blkr.*, Sumatra, Palembang.
rugosus, *Blkr.*, Java, Sumatra.
pleurostigma, *Blkr.*, Java.
zonatus, *Blkr.*, Java.
ischnosoma, *Blkr.*, Java.

Akysis variegatus, *Blkr.*, Java.
macronema, *Blkr.*, Sumatra, Lahat.

Olyra longicaudata, *M'Clell.*, Khasya.

Branchiosteus laticeps, *M'Clell.*, Khasya.

Amiurus cantonensis, *C. & V.*, China.

Seventh Group. PIMELODINA.

Pimelodus javus, *C. & V.*, Java.

Eighth Group. ARIINA.

Arius thalassinus, *Rüpp.*, Red Sea, East Indies.
gagorides, *C. & V.*, Calcutta.
sagor, *Ham. Buch.*, Bengal, Pinang, Archipelago.
doroides, *C. & V.*, Bengal, Pondicherry.
leptaspis, *Blkr.*, New Guinea.
arioides, *C. & V.*, Bengal.
truncatus, *C. & V.*, Siam, Pinang, E. I.
cœlatus, *C. & V.*, East Indies.
sinensis, *C. & V.*, China.
venosus, *C. & V.*, Archipelago.
utik, *Blkr.*, Java.
leptonotacanthus, *Blkr.*, Madura.
melanochir, *Blkr.*, Sumatra, Borneo.
stormii, *Blkr.*, River Mussi, Sumatra.
sumatranus, *Benn.*, Sumatra.
dussumierii, *C. & V.*, Malabar, Ceylon.
kirkii, *Gthr.*, Zambesi.
tonggol, *Blkr.*, Java, Sumatra, Bintang, Banka.
argyropleuron, *K. & v. H.*, Java, Sumatra.
macrocephalus, *Blkr.*, Java.
liocephalus, *Blkr.*, Java, Singapore, Celebes.
polystaphylodon, *Blkr.*, Java, Sumatra.
goniaspis, *Blkr.*, Sumatra.
maculatus, *Thunb.*, East Indies.
pidada, *Blkr.*, Java, Sumatra.
macracanthus, *Gthr.*, Siam.
gagora, *Ham. Buch.*, Ganges.
falcarius, *Richards.*, China.
macronotacanthus, *Blkr.*, Java, Sumatra, Pinang.
cochinchinensis, *Gthr.*, Cochin-China.
microcephalus, *Blkr.*, Bandjermasing.
venaticus, *Richards.*, Australia.
vertagus, *Richards.*, Australia.

Hemipimelodus borneensis, *Blkr.*, Sumatra, Borneo.

peronii, *C. & V.*, India.
Ketengus typus, *Blkr.*, Pinang, Java, Madura, Sumatra, Borneo.
Osteogeniosis militaris, *L.*, East India, Ganges.
valenciennesii, *Blkr.*, Java, Banka, Pinang.
macrocephalus, *Blkr.*, Java, Madura Island.
Batrachocephalus mino, *Ham. Buch.*, Ganges, Java, Sumatra.

Ninth Group. BAGARINA.

Bagarius yarrellii, *Sykes.*, Dekkan, Madras, Ganjes, Java.
Glyptosternum trilineatum, *Blyth.*, Nepal.
gracile, *Gthr.*, Nepal.
platypogonoides, *Blkr.*, Sumatra.
lonah, *Sykes.*, Dekkan.
dekkanense, *Gthr.*, Dekkan.
platypogon, *K. & v. H.*, Java, Sumatra.
striatum, *M'Clell.*, Assam, Khasya.
pectinopterum, *M'Clell.*, Simla.
Hara aspera, *M'Clell.*, Chusan.
buchanani, *Blyth.*, River Kosi.
conta, *Ham. Buch.*, River Mahananda.
Amblyceps cœcutiens, *Blyth.*, Moulmein.
tenuispinis, *Blyth.*, Ghazipur.
mangois, *Ham. Buch.*, Behar.

Fifth Sub-family. SILURIDÆ STENOBRANCHIÆ.

Eleventh Group. RHINOGLANINA.

Callomystax gagata, *Ham. Buch.*, Ganges.

Sixth Sub-family.

SILURIDÆ PROTEROPODES.

Thirteenth Group. HAPOSTOMATINA.

Sisor rhabdophorus, *H. B.*, Bengal Rivers.
Erethistes pusillus, *M. & T.*, Assam.
Pseudecheneis sulcatus, *M'Clell.*, Khasya.
Exostoma labiatum, *M'Cl.*, Mishmee, Assam.
berdmorei, *Blyth.*, Tenasserim.

Eighth Sub-Family. SILURIDÆ BRANCHICOLÆ.

Fifth Group. TETRAGONOPTERINA.

Brachyalestes imberi, *Peters.*, Zambesi.
acutidens, *Peters.*, Africa, Zambesi, River Rovuma.

Sixth Group. HYDROCYONINA.

Hydrocyon lineatus, *Schleg.*, Africa.

Seventh Group. DISTICHODONTINA.

Distichodus schenga, *Peters.*, Mozambique.
mossambicus, *Pet.*, Mozambique.
macrolepis, *Gthr.*, Africa.

Eighth Group. ICHTHYBORINA.

Ichthyborus besse, *Joannis.*, Besse.

Fam. 5. SCOPELIDÆ. Pelagic or deep Sea fishes.

First Group. SAURINA.

Saurus altipinnis, *Gthr.*, China.
myops, *Forsters.*, Atlantic, Indian, Pacific.
Saurida tumbil, *Bl.*, Red Sea, Indian, Pacific.
nebulosa, *C. & V.*, Indian Ocean, Pacific.
argyrophanes, *Rich.*, China, Japan.
undosquamis, *Rich.*, Australia.
grandisquamis, *Gthr.*, Archipelago.
Harpodon nehereus, *Ham. Buch.*, India, China.
Scopelus boops, *Richards.*, Pacific.
dumerilii, *Blkr.*, Manado.
subasper, *Gthr.*, Pacific Ocean.
Scopelosaurus hoedti, *Blkr.*, Amboyna.

Fam. 7. SALMONIDÆ.

First Group. SALMONINA.

First Sub-generic Group. SALMONES.

XII. Trout from rivers of the Hindoo Koosh.

Salmo orientalis. M'Cli., Griffith (Calcutt. Journ. Nat. Hist. ii. p. 585, and iii. p. 283) mentions a trout found on the northern declivities of the Hindoo Koosh, and in the Bamean River, one of the tributaries of the Oxus, 11,000 feet above the level of the sea. This species appears to be the southernmost in Central Asia, and the nearest to the Indian region. There are no Salmonoids in Afghanistan or any of the countries to the south of the Hindoo Koosh. M'Clelland named this fish Salmo orientalis, which name cannot be retained, if the fish should prove to be a distinct species as it was given to another fish by Pallas.

Salmo purpuratus, *Pall.*, Pacific, Asia, America.

Second Sub-generic group. SALVELINI.

Oncorhynchus orientalis, *Suck.*, Kamtschatka.
sanguinolentus, *Pall.*, Kamtschatka.
lagocephalus, *Pall.*, Pacific, Bay of Okhotsk.
Brachymystax coregonoides, *Pall.*, Lake Baikal, Pacific.
Plecoglossus altivelis, *Schl.*, Japan, Formosa.
Hypomesus olidus, *Pall.*, California, Vancouver Island, Asia.
chenensis, *Basil.*

Second Group. SALANGINA.

Salanx chinensis, *Osbeck.*, China.
microdon, *Blkr.*, Jeddo Rivers.

Fam. 10. MORMYRIDÆ.

Mormyrus mucupe, *Ptrs.*, Mozambique.
longirostris, *Ptrs.*, Mozambique.
macrolepidotus, *Ptrs.*, Africa, River Rovuma.

catostoma, *Gthr.*, Rovuma River.

Fam. 14. SCOMBRESOCIDÆ.

Belone incisa, *C. & V.*, Indian Ocean.
platura, *Rüpp.*, Red Sea, Mauritius, East Indies.
melanotus, *Blkr.*, Archipelago.
schismatorhynchus, *Bl.*, Red Sea, Ind. Ocean.
annulata, *C. & V.*, Ind. Ocean, Friendly Id.
melanostigma, *C. & V.*, Red Sea.
ferox, *Gthr.*, Wales.
robusta, *Gthr.*, Red Sea.
liuroides, *Blkr.*, Archipelago.
natalensis, *Gthr.*, Africa.
caudimaculata, *Cuv.*, Indian Ocean, Australia, Amboyna.
strongylurus, *Blkr.*, India, China.
macrolepis, *Blkr.*, Nias.
urvillii, *C. & V.*, Vanicolo.
capensis, *Gthr.*, Cape of Good Hope,
anastomella, *C. & V.*, China, Japan.
liurus, *Blkr.*, Archipelago.
cancila, *B. H.*, Indian Ocean.
canciloides, *Blkr.*, Rivers of Borneo.
Scombresox saira, *Brevoort.*, Japan.
Hemirhamphus intermedius, *Cant.*, China, Australia, N. Zealand.
balinensis, *Blkr.*, Bali.
unifasciatus, *Rauz.*, Atlantic, America, Panama, Indian Ocean.
gaimardi, *Blkr.*, Archipelago, New Guinea.
georgii, *C. & V.*, Ind. Ocean, Archipelago.
cantoris, *Blkr.*, China, Archipelago.
sajori, *Schleg.*, Nagasaki.
melanurus, *C. & V.*, China, Celebes.
sinensis, *Gthr.*, China.
calabaricus, *Gthr.*, Africa.
dussumieri, *C. & V.*, Indian Ocean.
laticeps, *Gthr.*, Feejee Island.
russelli, *C. & V.*, Pinang, Malayan Peninsula, Coromandel.
gernaerti, *C. & V.*, China.
marginatus, *Forsk.*, Red Sea, Indian Ocean, Archipelago.
commersonii, *Cuv.*, Red Sea, Indian Ocean.
fasciatus, *Blkr.*, Solor Sea.
limbatus, *C. & V.*, Indian Ocean.
phaiosoma, *Blkr.*, Biliton Rivers.
pogonognathus, *Bl.*, Banka, Biliton Rivers.
amblyurus, *Blkr.*, Archipelago, Siam.
buffonis, *C. & V.*, Archipelago.
dispar, *C. & V.*, East Indies.
brevirostris, *Gthr.*, Archipelago.
fluviatilis, *Blkr.*, Rivers of Java.
brachynotopterus, *Blkr.*, River Hoogly.
sumatranus, *Blkr.*, Sumatra.
longirostris, *Cuv.*, Pondicherry.
cuspidatus, *C. & V.*, Indian Ocean.
Exocœtus micropterus, *C. & V.*, India, Australia.
monocirrhus, *Rich.*, China.
brevipinnis, *C. & V.*, Ireland.
rostratus, *Gthr.*, Sandwich Island.
brachypterus, *Rich.*, Otaheiti, China.
mento, *C. & V.*, Indian Seas.
evolans, *L.*, Mediterranean, Dimerara.
obtusirostris, *Gthr.*, New Orleans, India, Tropical and Sub-tropical Seas.
solandri, *C. & V.*, Indian Ocean, Seychelles.
furcatus, *Mitch.*, Atlantic, Indian Ocean.
speculiger, *C. & V.*, Indian Ocean, Australia.
katoptron, *Blkr.*, Sumatra.
arcticeps, *Gthr.*, China.
nigricans, *Benn.*, Atlantic, Indian, Pacific, Java.
altipinnis, *C. & V.*, Indian Ocean.
pœcilopterus, *C. & V.*, Archipelago, Formosa.
spilopterus, *C. & V.*, Celebes, Carolines.
oxycephalus, *Blkr.*, Archipelago.
brachysoma, *Blkr.*, Indian, Pacific Oceans, Zanzibar.
oligolepis, *Blkr.*, Archipelago.
opisthopus, *Blkr.*, Archipelago.
brachycephalus, *Gthr.*, China.
nigripinnis, *C. & V.*, Indian, Australia.

Fam. 15. CYPRINODONTIDÆ.

First Group. CYPRINODONTIDÆ CARNIVORÆ.

Cyprinodon cypris, *Lacép.*, Syria, Bagdad.
sophiæ, *Heck.*, Persia, Syria.
punctatus, *Heck.*, Nemek-Deria.
mento, *Heckr.*, Mosul.
Haplochilus panchax, *B. H.*, East Indies, Ganges, Pinang.
latipes, *Schleg.*, Japan.
javanicus, *Blkr.*, Java.
cyanophthalmus, *Blyth.*, Calcutta.
homalonotus, *Dum.*, Noss-Be, Madagascar.
playfairii, *Gthr.*, Seychelles.

Fam. 17. CYPRINIDÆ.

First Group. CATOSTOMINA.

Sclerognathus asiaticus, *Blkr.* China.

Second Group. CYPRININA.

Cyprinus carpio, *L.*, China, Formosa, Japan, Java, Amoy.
fossicola, *Richards*, China.
Carassius auratus, Nilsson, China, Japan, Formosa, India.
Catla buchanani, *C. & V.*, Bengal, Assam.
Cirrhina mrigala, *H. B.*, Bengal, Hindostan.
leschenaultii, *C. & V.*, India.
chinensis, *Gthr.*, China.
anisura, *M'Clell.*, Bengal.
diochilus, *M'Clell.*, Assam, Cachar.

Dangila ocellata, *Hackel.*, Sumatra, Borneo.
tæniata, *Gthr.*, Sumatra, Borneo.
cuvieri, *C. & V.*, Java, Sumatra, Borneo.
kuhlii, *C. & V.*, Batavia.
sumatrana, *Blkr.*, Sumatra, Philippines.
festiva, *Heck.*, Borneo.
Osteochilus melanopleurus, *Blkr.*, Sumatra, Borneo, Siam.
borneensis, *Blkr.*, Borneo.
hasseltii, *C. & V.*, Java, Sumatra, Borneo.
kappenii, *Blkr.*, Borneo.
kuhlii, *Blkr.*, Sumatra.
schlegelii, *Blkr.*, Sumatra, Borneo, Siam.
waandersii, *Blkr.*, Banka.
microcephalus, *Blkr.*, Java, Sumatra.
brachynotopterus, *Blkr.*, Sumatra.
vittatus, *C. & V.*, Java, Sumatra, Borneo.
triporus, *Blkr.*, Sumatra, Borneo.
kahajanensis, *Blkr.*, Borneo, Sumatra.
oligolepis, *Blkr.*, Banka.
spilurus, *Blkr.*, Borneo.
Labeo mesops, *Gthr.*, Africa.
nandina, *Ham. Buch.*, Bengal, Irawaddy.
macronotus, *M'Clell.* Bengal, Assam.
chrysophekadion, *Bl.*, Java, Sumatra, Siam.
fimbriatus, *Bloch.*, Madras.
leschenaulti, *C. & V.*, E. Ind. Continent.
calbasu, *Ham. Buch.*, Bengal.
parcellus, *Heck.*, Bombay.
rohita, *Ham. Buch.*, E. Indian Continent.
rouxii, *C. & V.*, Bombay.
kontius, *Jerdon*, Bowany River.
morala, *Ham. Buch.*, Bengal.
erythropterus, *v. Hass.*, Java.
diplostomus, *Heck.*, Cashmere.
ricnorhynchus, *M'Clell.* Himalaya Rivers.
falcatus, *Gray*, India.
pangusia, *Ham. Buch.*, Kosi, Cachar.
pleurotænia, *Blkr.*, Sumatra, Java.
dussumieri, *C. & V.*, India, Ceylon.
chalybeatus, *C. & V.*, Rangoon.
microlepidotus, *C. & V.*, Bengal, Nepal.
Barynotus microlepis, *Gthr.*, Borneo, Sumatra.
Tylognathus striolatus, *Gthr.*, Poona.
ariza, *Ham. Buch.*, India.
boga, *Ham. Buch.*, Bengal.
nanus, *Heck.*, Damascus.
falcifer, *C. & V.*, Java, Sumatra.
schwanefeldi, *Blkr.*, Java, Sumatra.
lehat, *Blkr.*, Java.
hispidus, *C. & V.*, Java.
heterorhynchus, *Blkr.*, Sumatra, Java.
Discognathus lamta, *Ham. Buch.*, Assam, Cachar, Nepal, Cossye River, Ganges, Gwalior, Deckan, Malabar.
macrochir, *Gthr.* Assam.
nasutus, *M'Clell.*, Khassyah.
variabilis, *Heck.*, Rivers of Syria, Tigris.
Crossochilus latius, *H. B.*, Bengal, Nepal, Assam.
gohama, *Ham. Buch.*, Bengal.
rostratus, *Gthr.*, Cossye River.
barbatulus, *Heck.*, Cashmere.
oblongus, *C. & V.*, Java, Sumatra.
cobitis, *Blkr.*, Java, Sumatra.
langii, *Blkr.*, Sumatra.
sada, *Ham. Buch.*, Brahmaputra.
reba, *Ham. Buch.*, East-Indian Continent, Siam, Cachar, Calcutta, Ganges, Cossye River, Chenab, Seharunpore, Loodianah, R. Cavery, Nilgherries, Ceylon.
Epalzeorhynchus callopterus, *Blkr.* Sumatra, Borneo.
Capoeta damascina, *C. & V.*, Syria, Palestine, Asia-Minor.
fratercula, *Heck.*, Damascus.
amir, *Heck.*, River Araxes.
umbla, *Heck.*, River Tigris.
trutta, *Heck.*, Syria, Tigris.
gracilis, *Keyserl.*, Persia.
heratensis, *Keyserl.*, Herat.
micracanthus, *Gthr.*, Bhotan, Punakha.
syriaca, *C. & V.*, Abraham's River.
aculeata, *C. & V.*, Persia.
macrolepis, *Heck.*, Araxes.
Barbus esocinus, *Heck.*, Tigris.
xanthopterus, *Heck.*, Tigris.
scheich, *Heck.*, Tigris.
barbulus, *Heck.*, Kara-Anatsch, Persia.
perniciosus, *Heck.*, Dam[illegible]us.
serra, *Ptrs.*, Cape.
burchelli, *Smith.*, Cape [illegible]ny.
spilopholis, *M'Clell.*, Be[illegible]
beavani, *Gthr.*, Cossye R[illegible]er.
clavatus, *M'Clell.* Sikkim.
paradoxus, *Gthr.*, Formosa.
grypus, *Heck.*, Tigris.
kotschyi, *Heck.*, Tigris.
enoplus, *Blkr.*, Java, Sumatra.
armatus, *C. & V.*, Java, Sumatra.
repasson, *Blkr.*, Sumatra.
macularius, *Blyth.*, Sitang River.
immaculatus, *M'Clell.* Bengal.
chrysopoma, *C. & V.* India, Cuttalai River, Poona.
pinnauratus, *Day*, Cochin.
spilurus, *Gthr.*, Ceylon.
laoensis, *Gthr.*, Cochin-China.
balleroides, *C. & V.* Habitat.
sarana, *Ham. Buch.*, Bengal, Assam.
rubripinnis, *C. & V.*, Java.
bramoides, *C. & V.*, Java, Borneo.
erythropterus, *Blkr.*, Java, Borneo.
javanicus, *Blkr.*, Java, Sumatra.
altus, *Gthr.*, Siam.
gonionotus, *Blkr.*, Java, Siam.
huguenini, *Blkr.*, Sumatra.
pleurotænia, *Blkr.*, Ceylon.
obtusirostris, *C. & V.*, Java, Sumatra, Borneo.
russellii, *Gthr.*, India, Indus.

polydori, *C. & V.*, Bombay.
platysoma, *Blkr.*, Java.
fasciatus, *Blkr.*, Sumatra, Banka, Borneo.
maculatus, *C. & V.*, Archipelago.
microps, *Gthr.*, Archipelago.
goniosoma, *Blkr.*, Sumatra.
tetrazona, *Blkr.*, Borneo.
lateristriga, *C. & V.*, Archipelago.
amblyrhynchus, *Blkr.*, Java.
micropogon, *C. & V.*, Mysore.
conirostris, *Gthr.*, Nilgherries.
dubius, *Day*, Bowany.
chilinoides, *M'Clell.*, Himalayas.
deauratus, *C. & V.*, Cavery.
spinulosus, *M'Clell.*, Sikkim.
gobioformis, *Kner.*, Java, Asia.
hexastichus, *M'Clell.*, Rivers of Himalaya.
soro, *C. & V.*, Java, Sumatra.
mosal, *Ham. Buch.*, Himalayas, Hindoo-Koosh.
macrocephalus, *M'Clell*, Assam.
macrolepis, *Heck.*, Kashmeer.
tambra, *C. & V.*, Java.
douronensis, *C. & V.*, Sumatra, Java, Borneo.
longispinis, *Gthr.*, Ceylon.
tambroides, *Blkr.*, Java, Sumatra.
arulius, *Jerdon.*, Travancore, Nilgherries.
schlegelii, *Gthr.*, Japan, Formosa.
cetopsis, *Kner.*, Shanghai.
kolus, *Sykes.*, Poona.
homogenes, *Gthr.*, Japan.
homozonus, *Gthr.*, Japan.
aphya, *Gthr.*, Java.
siaja, *Blkr.*, Sumatra, Borneo.
deventeri, *Blkr.*, Java.
heteronema, *Blkr.*, Borneo.
hampal, *Blkr.*, Java, Borneo, Sumatra, Malaya.
ampalong, *Blkr.*, Borneo, Sumatra.
fasciolatus, *Gthr.*, China.
sumatranus, *Blkr.*, Sumatra.
luteus, *Heck.*, Orontes, Tigris.
lineanthus, *Blkr.*, Java, Madras.
dorsalis, *Jerdon.*, Madras.
tetraspilus, *Gthr.*, Ceylon.
thermalis, *C. & V.*, Ceylon, Cachar.
chola, *Ham. Buch.*, Bengal, Assam.
sophoroides, *Gthr.*, Assam, Bengal.
amphibius, *C. & V.*, Bombay.
layardi, *Gthr.*, Ceylon.
brevis, *Blkr.*, Curabaya, Gombong, (Java.)
filamentosus, *C. & V.*, Ceylon, Cochin.
denisonii, *Day*, Malabar.
hamiltonii, *Day*, India.
bimaculatus, *Blkr.*, Ceylon.
oligolepis, *Blkr.*, Sumatra.
afer, *Peters.*, Cape.
bulu, *Blkr.*, Borneo., Siam, Sumatra.
waandersii, *Blkr.*, Java.
lawak, *Blkr.*, Java.
melanopterus, *Bl.*, Sumatra, Siam, Borneo.
apogon, *C. & V.*, Sumatra, Java, Borneo, Banka.
janthochir, *Blkr.*, Borneo.
proctozysron, *Blkr.*, Siam.
duvaucelii, *C. & V.*, Bengal.
sophore, *Ham. Buch.*, Bengal, Himalaya.
chrysopterus, *M'Clell.*, Bramaputra, Peshawar.
ticto, *H. B.*, Bengal, Assam, Himalaya.
conchonis, *Ham. Buch.*, Ganges.
terio, *Ham. Buch.*, Bengal.
puntio, *Ham. Buch.*, Bengal.
titius, *Ham. Buch.*, Bengal, Bramaputra, Assam.
phutunio, *Ham. Buch.*, Bengal.
gelius, *Ham. Buch.*, Bengal, Hooghly.
cumingii, *Gthr.*, Ceylon.
nigro-fasciatus, *Gthr.*, Ceylon.
vittatus, *Day*, Malabar.
modestus, *Kner.*, Madras.
cosuatis, *Ham. Buch.*, Bengal.
pyrrhopterus, *M'Clell.*, Assam.

Thynnichthys thynnoides, *Blkr.*, Borneo, Sumatra.
polylepis, *Blkr.*, Borneo, Sumatra.

Barbichtys, lævis, *C. & V.*, Java, Sumatra, Borneo.

Amblyrhynchichthys truncatus, *Blkr.*, Borneo, Sumatra.

Albulichthys albuloides, *Blkr.*, Sumatra, Borneo.

Oreinus plagiostomus, *Heck.*, Cashmere, Afghanistan.
sinuatus, *Heck.*, Cashmere, Punjab.
richardsonii, *Gray*, Nepal.

Schizothorax planifrons, *Heck.*, Cashmere.
micropogon, *Heck.*, Cashmere.
hügelii, *Heck.*, Cashmere.
curvifrons, *Heck.*, Cashmere.
niger, *Heck.*, Cashmere.
intermedius, *M'Clell.*, Afghanistan.
nasus, *Heck.*, Cashmere.
longipinnis, *Heck.*, Cashmere.
esocinus, *Heck.*, Cashmere, Afghanistan.
hodgsonii, *Gthr.*, Nepal.
ritchianus, *M'Clell.*, Afghanistan.
barbatus, *M'Clell.*, Cabul.
microlepis, *Kerserl*, Anardareh.

Ptychobarbus cornirostris, *Steindachner.*, Hanle, (Tibet.)

Schizopygopsis stolickæ, *Steindachn.*, Tibet.

Diptychus maculatus, *Steindachn.*, Himalayas, Tibet.

Pseudogobio brevirostris, *Gthr.*, Formosa.
esocinus, *Schleg.*, Japan.
sinensis, *Kner.*, Shanghai.
variegatus, *Schleg.*, Japan.

Bungia nigrescens, *Keyserl.*, Herat.

Pseudorasbora parva, *Schleg.*, Japan, China.

Third Group. RHOTEICHTHYINA.

Rhoteichthys microlepis, *Blkr.*, Borneo, Sumatra.

Fourth Group. LEPTOBARBINA.

Leptobarbus hoevenii, *Blkr.*, Sumatra, Borneo.

Fifth Group. RASBORINA.

Rasbora cephalotænia, *Blkr.*, Borneo, Banka, Biliton.
daniconius, *H. B.*, India, Archipelago.
lateristriata, *Van. Hass.*, Java, Sumatra, Borneo.
kallochroma, *Blkr.*, Borneo, Banka.
argyrotænia, *Blkr.*, Archipelago.
leptosoma, *Blkr.*, Sumatra.
buchanani, *Blkr.*, Assam, Bengal, Pinang.
sumatrana, *Blkr.*, Sumatra.
bankanensis, *Blkr.*, Banka.
nilgherriensis, *Day*, Nilgherries.
zanzibarensis, *Gthr.*, Rovuma.
elanga, *H. B.*, Assam, Bengal.
Luciosoma setigerum, *C. & V.*, Java, Sumatra.
spilopleura, *Blkr.*, Sumatra.
trinema, *Blkr.*, Sumatra, Borneo.
Nuria danrica, *H. B.*, India, Ceylon.
Aphyocypris chinensis, *Gthr.*, Chikiang.
Amblypharyngodon-mola, *H. B.*, Bengal, Assam.
pellucidus, *M'Clell.*, Bengal, Assam, Tennasserim.
melettinus, *C. & V.*, Bombay, Malabar, Ceylon.

Sixth Group. SEMIPLOTINA.

Cyprinion macrostomus, *Heck.* Tigris, Aleppo.
kais, *Heck.*, Tigris, Aleppo.
tenuiradius, *Heck.*, Araxes, Kara-Agatsch.
Semiplotus m'clellandii, *Blkr.*, Assam.

Seventh Group. XENOCYPRIDINA.

Xenocypris argentea, *Gthr.*, China.
Paracanthobrama guichenoti, *Blkr.*, China.
Mystacoleucus padangensis, *Blkr.*, Sumatra.

Eighth Group. LEUCISCINA.

Leuciscus lepidus, *Heck.*, Tigris.
coreensis, *C. & V.*, China.
rosetta, *C. & V.*, China.
fintella, *C. & V.*, China.
chevanella, *C. & V.*, China.
josella, *C. & V.*, China.
cupreus, *C. & V.*, China.
æneus, *C. & V.*, China.
vandella, *C. & V.*, China.
piceus, *Rich.*, China.
plenus, *Rich.*, China.
homospilotus, *Rich.*, China.
æthiops *Basil. Rich.*, China.
Ctenopharyngodon idellus, *C. & V.*, China.

Ninth Group. RHODEENA.

Achilognathus himantegus, *Gthr.*, Formosa.
limbatus, *Schl.*, Japan.
intermedius, *Schl.*, Japan.
melanogaster, *Blkr.*, Japan.
imberbis, *Gthr.*, China.
rhombeus, *Schl.*, Japan.
Rhodeus sinensis, *Gthr.*, China.
ocellatus, *Kenr.*, China.
Pseudoperilampus typus, *Blkr.*, Japan.

Tenth Group. DANIONINA.

Danio dangila, *H. B.*, Behar.
lineolatus, *Blyth.*, Sikkim.
micronema, *Blkr.*, Ceylon, India, Nilgherries, N. India.
alburnus, *Heck.*, Bombay.
malabaricus, *Jerdon*, Malabar.
nilgherriensis, *Day*, Nilgherries.
canarensis, *Jerdon*, Canara.
devario, *H. B.*, Bengal.
Pteropsarion bakeri, *Day*, Travancore.
æquipinnatus, *M'Clell*, Assam.
Aspidoparia sardina, *Heck.*, Assam, Bengal.
morar, *H.B.* Yamuna, Hista, Brahmaputra.
jaya, *H. B.*, Behar.
Barilius tileo, *H. B.*, Ganges, Brahmaputra.
radiolatus, *Gthr.*, India, Malva.
bendelisis, *Buch.*, Mysore, Ganges.
cocsa, *H. B.*, India, Simla, Nepal.
alburnus, *Gthr.*, Nepal, Himalayas.
morarensis, *Gthr.*, Gwalior.
bicirratus, *M'Clell.* Khyber, Cabul.
barna, *H. B.*, Ganges, Bramaputra, Jumna.
barila, *H. B.*, Bengal.
gatensis, *C. & V.*, India.
rugosus, *Day*, Nilgherries.
rerio, *H. B.*, Bengal.
zambezensis, *Ptrs.*, Zambezi.
sardella, *Gthr.*, Africa.
Bola goha, *H. B.* Bengal, Assam.
salmoides, *Blyth.*
Schaera cirrhata, *M'Clell.* Bengal, Assam.
Opsariichthys uncirostris, *Schleg.*, Japan.
sieboldii, *Schl.*, Japan.
temminckii *Schl.*, Japan.
pachycephalus, *Gthr.*, Formosa.
platypus, *Schl.*, Japan, Formosa.
Squaliobarbus curriculus, *Rich.*, China.
Ochetobius elongatus, *Kenr.*, Shanghai.

Eleventh Group. HYPOPHTHALMICHTHYINA.

Hypophthalmichthys molitrix, *C. & V.*, China.
nobilis, *Gray*, China.

Twelfth Group. ABRAMIDINA.

Aspius vorax, *Leske*, Tigris.
spilurus, *Gthr.*, China.

Alburnus caudimacula, *Heck.*, Kner, Kara.
capito, *Heck.*, Kurdistan.
iblis, *Heck.*, Persia.
scheitan, *Heck.*, Araxes.
megacephalus, *Heck.*, Araxes.
mossulensis, *Heck.*, Tigris.

Rasborichthys helfrichii, *Blkr.*, Borneo.
Elopichthys bambusa, *Richards*, China.
Acanthobrama arrhada, *Heck.*, Tigris.
centisquama, *Heck.*, Damascus.

Osteobrama cotio, *H. B.*, Bengal, Dekkan, Godavery.
rapax, *Gthr.*, India.
alfrediana, *C. & V.*, Nepal, Bengal, Assam, Tennasserim.
agilbii, *Sykes.*, India.
microlepis, *Blyth.*, Maulmein.

Chanodichthys mongolicus, *Basil.*, Mongolia, Mantschuria.
macrops, *Gthr.*, Formosa.
terminalis, *Rich.*, China.
bramula, *C. & V.*, China.
pekinensis, *Basil.*, Peking.
leucisculus, *Basil.*, China.
Smiliogaster belangerii, *C. & V.*, Bengal.
Culter recurviceps, *Richards.*, China.
brevicauda, *Gthr.*, Formosa.
Eustira ceylonensis, *Gthr.*, Ceylon.
Chela gora, *H. B.*, Bengal, Assam.
bacaila, *H. B.*, Bengal, Soan, Cossya, Cachar, Assam, Maulmein.
clupeoides, *Bloch.*, Tranquebar, Mysore.
phulo, *H. B.*, Bengal.
novacula, *Val.*, India.
diffusa, *Jerdon*, Cavery.
argentea, *Day*, Nilgherries.
laubuca, *H. B.*, Bengal, Hooghly.
acinaces, *C. & V.*, Mysore.
anomalurus, *V. H.*, Java, Sumatra, Borneo.
hypophthalmus, *Blkr.*, Sumatra.
siamensis, *Gthr.*, Siam.
megalolepis, *Gthr.*, Java, Sumatra, Borneo.
paralaubuca, *Gthr.*, Bankok.
sardinella, *C. & V.*, Irawaddi.
macrochir, *C. & V.*, Sumatra, Borneo, Java.
Pseudolaubuca sinensis, *Blkr.*, China.
Cachius atpar, *H. B.*, Bengal, India.

Thirteenth Group. HOMALOPTERINA.

Homaloptera maculata, *Gay*, Boutan, Kassayah, Assam.
brucei, *Gray*, India.
pavonina, *C. & V.*, Java, Sumatra.
gymnogaster, *Blkr.*, Sumatra.
zollingeri, *Blkr.*, Java, Sumatra.
ophiolepis, *Blkr.*, Java, Sumatra.
wassinkii, *Blkr.*, Java, Sumatra.
lineolata, *C. & V.*, Cohin-China.
Psilorhynchus sucatio, *H. B.*, Bengal.
balitora, *H. B.*, Bengal, Assam.

Fourteenth Group. COBITIDINA.

Misgurnus anguillicaudatus, *Cantor*, China, Japan, Chusan, Formosa.
dichachrous, *Blkr.*, Jeddo.
polynema, *Blkr.*, Jeddo.
lateralis, *Gthr.*, Bengal.
Nemachilus pavonaceus, *Van. Hass.*, Assam.
semizonatus, *Blyth.*, Tennassirim.
rubidipinnis, *Blyth.*, Tennasserim.
urophthalmus, *Gthr.*, Ceylon.
botia, *H. B.*, Bengal.
fasciatus, Ket. *V. H.*, Java Sumatra, Borneo.
montanus, *M'Clell.*, Simla.
beavani, *Gthr.*, Bengal.
rupecola, *M'Clell.*, Himalayas.
subfuscus, *M'Clell.*, Assam.
nudus, *Blkr.*, Mongolia.
denisonii, *Day*, Nilgherries.
notostigma, *Blkr.*, Ceylon.
triangularis, *Day*, Travancore.
semiarmatus, *Day*, Nilgherries.
striatus, *Day*, Wynaad.
savona, *H. B.*, Bengal.
panthera, *Heck.*, Damascus.
marmoratus, *Heck.*, Cashmere.
ladacensis, *Gthr.*, Tibet.
microps, *Steindahln.*, Tibet.
tenuicauda, *Steind.*, Tibet, Ladak.
spilopterus, *C. & V.*, China, Assam.
butanensis, *M'Clell.*, Butan.
monoceros, *M'Clell.*, Assam.
frenatus, *Heck.*, Tigris.
stolickæ, *Steind.*, Tsumureri.
griffithii, *Gthr.*, Assam.
turio, *H. B.*, Hindostan.
corica, *H. B.*, Bengal, Assam.
guentheri, *Day.*, Nilgherries.
Cobitis guttata, *M'Clell.*, Vicinity of Joornath.
phoxochila, *M'Clell.*, Mishmee.
tænia, L., Europe, Japan.
guntea, *H. B.*, Assam, Bengal.
gongota, *H. B.*, Assam, Bengal.
Lepidocephalichthys hasseltii, *C. & V.*, Java.
thermalis, *C. & V.*, Ceylon, India.
balgara, *H. B.*, Kosi, Assam.
Acanthopsis chœrorhynchus, *Blkr.*, Sumatra, Tennasserim.
dialyzona, *Van. Hass.*, Java, Borneo.
Botia dario, *H. B.*, Bengal, Assam.
almorhæ, *Gray*, India.
rostrata, *Gthr.*, Assam, Bengal.
macracanthus, *Blkr.*, Sumatra, Borneo.
modesta, *Blkr.*, Siam.
curta, *Schleg.*, Japan.
hymenophysa, *Schleg.*, Java, Sumatra, Borneo, Siam.
Oreonectes platycephalus, *Gthr.*, China.
Acanthopthalmus pangia, *H. B.*, Bengal, Java, Sumatra.

kuhlii, *C. & V.*, Java, Sumatra.
Apua fusca, *Byth.*

Fam. 18. GONORHYNCHIDÆ.

Gonorhynchus greyi, *Rich.*, Cape, Australia, Zealand, Japan.

Fam. 20. OSTEOGLOSSIDÆ.

Osteoglossum formosum, *Mull. Schl.*, Borneo, Banka, Sumatra.

Fam. 21. CLUPEIDÆ.

First Group. ENGRAULINA.

Engraulis zollingeri, *Blkr.*, *Bali*, Sumbawa, Celebes.
encrasicholoides, *Blkr.*, Archipelago, Siam.
commersonianus, *Lacép.*, India, Archipelago, Australia.
tri, *Blkr.*, Java, Banka, Borneo.
brownii, *Gm.*, Ceylon.
japonica, *Houttuyn*, Japan, China.
russellii, *Blkr.*, Indies.
perfasciatus, *Poey.*, San-Domingo, Cuba.
heterolopus, *Rüpp.*, Red Sea, Archipelago, Surinam.
boelama, *Forsk.*, Red Sea, Indian Ocean.
rhinoryhnchus, *Blkr.*, Java, Borneo.
polynemoides, *Gthr.*, Madagascar.
malabaricus, *Bl.*, Malabar.
hamiltonii, *Gray*, India, China.
mystacoides, *Blkr.*, India, Amoy, China, Archipelago.
purava, *H. B.*, India.
mystax, *Bl., Schn.*, India, Bombay, Java, Madras.
setirostris, *Brouss.*, Indian Ocean, Pacific.
crocodilus, *Blkr.*, Borneo.
melanochir, *Blkr.*, Archipelago, Siam.
taty, *C. & V.*, Bengal, Archipelago.
telaru, *H. B.*, Bengal, Cachar.
breviceps, *Cant.*, Pinang, Borneo.
Coilia ramcarati, *H. B.*, Hindostan, Borneo.
quadrifilis, *Gthr.*, Pinang, Malaya, Singapore.
dussumieri, *C. & V.*, India.
borneensis, *Blkr.*, Sumatra, Borneo.
quadragesimalis, *C. & V.*, Ganges.
clupeoides, *Lacép.*, China.
lindmani, *Blkr.*, Sumatra.
grayi, *Rich.*, China.
nasus, *Schl.*, China, Japan.
macrognathus, *Blkr.*, Borneo.

Second Group. CHATOESSINA.

Chatoessus nasus, *Bl.*, India, Cochin, Java, Amboyna.
punctatus, *Schl.*, China, Japan.
maculatus, *Rich.*, China, Formosa.
chanpole, *H. B.*, Bengal.
chacunda, *H. B.*, India, Cochin, Ganges, Siam, Borneo.

Third Group. CLUPEINA.

Clupea argyrotænia, *Bl.*, Java, Banka, Pinang.
brachysoma, *Blkr.*, Java.
perforata, *Cant.*, Archipelago.
albella, *C. & V.*, Pondicherry.
sirm, *Forsk.*, Red Sea, Indian Ocean, Archipelago.
clupeoides, *Blkr.*, Macassar, Batavia.
tempany, *Blkr.*, Archipelago.
atricauda, *Gthr.*, Ceram, Amboyna.
moluccensis, *Blkr.*, Molucca, Ceylon.
fimbriata, *C. & V.*, Indian Ocean, Pinang, Madras.
longiceps, *C. & V.*, Pondicherry.
nymphæa, *Rich.*, China.
dispilonotus, *Blkr.*, Banka.
jussieui, *Lacép.*, Mauritius.
melanosticta, *Schl.*, China, Japan.
lemuru, *Blkr.*, Java.
hypselosoma, *Blkr.*, Amboyna.
sagax, *Jaynyns.*, America, Japan, Zealand.
Indica, *Gray.*, Bengal, Assam.
palasah, *C. & V.*, Bengal, India.
ilisha, *H. B.*, Indian Ocean, Archipelago.
reevesii, *Rich.*, China.
toli, *C. & V.*, Archipelago.
chapra, *Gray*, Bengal.
macrura, *K. & v. H.*, Java, Sumatra, Singapore.
platygaster, *Gthr.*, Sumatra.
scombrina, *C. & V.*, India, Ceylon.
melanura, *C. & V.*, Indian Ocean, Archipelago.
venenosa, *C. & V.*, Indian Ocean, Zanzibar.
lile, *C. & V.*, Malabar.
kowal, *Rüpp.*, Red Sea, Indian Ocean, China.
zunasi, *Blkr.*, Japan.

Clupeoides hypselosoma, *Blkr.*, Borneo.
borneensis, *Blkr.*, Borneo.
pseudopterus, *Blkr.*, Borneo.
Clupeichthys goniognathus, *Blkr.*, Sumatra.

Pellona ditchoa, *C. & V.*, Indian Ocean.
hoevenii, *Blkr.*, Archipelago.
motius, *H. B.*, India.
brachysoma, *Blkr.*, Java, Sumatra.
elongata, *Benn.*, India, China, Sumatra, Archipelago, Japan.
dussumieri, *C. & V.*, India.
xanthoptera, *Blkr.*, Borneo.
macrogaster, *Blkr.*, Borneo.
novacula, *Blkr.*, Java, Rangoon.
leschenaultii, *C. & V.*, Pondicherry.
pristigastroides, *Blkr.*, Java, Borneo.
amblyuroptera, *Blkr.*, Java, Sumatra, Siam.

Pristigaster tartoor, *C. & V.*, India.
macrognathus, *Blkr.*, Archipelago.
macrops, *Gthr.*, Panama.
russellianus, *Gray*, Bay of Bengal, Malaya.

Fourth Group. DUSSUMIERIINA.

Spratelloides delicatulus, Indian Ocean, Archipelago, Australia.
gracilis, *Schleg.*, Japan, Celebes, Ternate.
Dussumieria acuta, *C. & V.*, India.
elopsoides, *Bllkr.*, India, China.
Etrumeus micropus, *Schleg.*, Japan.

Fifth Group. ALBULINA.

Albula conorhynchus, *Bl., & Schn.* Archipelago, Pinang, Singapore, Ceylon, Natal, Zanzibar, Red Sea.

Sixth Group. ELOPINA.

Elops saurus, *L.*, Tropical, Subtropical, Zanzibar, Africa, Djedda, Pinang, China.
Megalops cyprinoides, *Brouss.*, Zanzibar, Madras, Bengal, Pinang, Sumatra, Java, Amboyna, Archipelago.

Seventh Group. CHANINA.

Chanos salmoneus, *Forst.*, Indian Ocean, Pacific Ocean, Red Sea, Zanzibar, Seychelles, Ceylon.

Fam. 22. CHIROCENTRIDÆ.

Chirocentrus dorab, *Forsk*, Indian Ocean, Archipelago, China, Japan.

Fam. 24. NOTOPTERIDÆ.

Notopterus chitala, *H. B.*, India, Archipelago.
borneensis, *Bllkr.*, Borneo, Sumatra.
kapirat, *Lacép.*, India.
afer, *Gthr.*, Africa.

Fam. ANGUILLIDÆ.

Anguilla johannæ, *Gthr.*,
labiata, *Pet.*,
amblodon, *Gthr.*,
virescens, *Pet.*, Mozambique.
macrophthalma, *Pet.*, Mozambique.
mossambica, *Pet.*, Mozambique.
marmorata, *Q. & G.*, Reunion.
japonica, *Sieb*, Japan.

Fam. CONGRIDÆ.

Conger altipinnis, *Kp.*
talabon *Cuv.*, Archipelago.
bagio, *Cant.*, Mozambique.
cinereus, *Rüpp.*, Mozamb.
vulgaris, *Sieb.*, Japan.
anago, *Sieb.*, Japan.
urolophus, *Sieb.*, Japan.
uropterus, *Sieb.*, Japan.
hamo, *Sieb.*, Japan.

Fam. MURÆNIDÆ.

Muræna chlorostigma, *Kp.*
thyrsoidæa, *Richards*, Pinang, China.
tessellata, *Richards.*
sathete, *B. H.*, Pinang, Ganges.
isingleena, *Richards.*
isingleenoides, *Kp.*
picta, *Ahl.*
nubila, *Richards.*,
flavimarginata, *Rüpp.*
nudivomer, *Gthr.*
variegata, *Forst*, Mozamb.
zebra, *Shaw*, Mozambique.
diplodon, *Pet.*, Mozambique.
fascigula, *Pet.*, Mozambique.
helena, *L.*, Madagascar.
cancellata, *Kp.*, Madagascar.
tile, *Buch, Ham.*, Reunion.
grisea, *Commers*, Reunion.
bullata, *Richards*, Reunion.
mauritiana, *Kp.*, Reunion.
guttata, *Kp.*, Reunion.
moringua, *Kp.*, Reunion.
unicolor, *Rüpp.*, Reunion.
kidako, *Sieb.*, Japan.
albimarginata, *Sieb.*, Japan.
pardalis, *Sieb.*, Japan.
minor, *Sieb.*, Japan.

Fam. OPHIURIDÆ.

Ophiurus marginatus, *Pet.*
baccidens, *Canton*, Straits.
maculosus, *Cuv.*, Madag.
boro, *B. H.*, Bay of Bengal.
grandoculis, *Canton*, Pinang.
cancrivomer, *Richards*, Maur.
breviceps, *Canton*, Pinang.
Ophisurus serpens, *Sieb.*, Japan.
porphyreus, *Sieb.*, Japan.
Sphagebranchus brevirostris, *Pet.*, Mozamb.

Fam. LEPTOCEPHALIDÆ.

Leptocephalus marginatus, *Q. & G.*
dentex, *Cant.*
capensis, *Lal.*

V.—ORDER PLECTOGNATHI.

Fam. OSTRACIONIDÆ.

Ostracion turritus, *Forsk.*
cornutus, *Linné.*, Straits, China, Archip.
arcus, *Schn.*
tesserula, *Canton.*, Penang.
immaculatus, *Sieb.*, Japan.
stictonosus, *Sieb.*, Japan.
brevicornis, *Sieb.*, Japan.
fornasini, *Blanco.*
nasus, *Block.*, Malaya.
tetragonus, *L.*
punctatus, *Lacép.*
bombifrons, *Hollard.*
quadricornis, *L.*, Reunion.
triqueter, *L.*, Reunion.
concatenatus, *Schn.*, Reunion.

Fam. GYMNODONTIDÆ.

Diodon reticulatus, *Will.*

triedricus, *Cuv.*, Penang.
tigrinus, *Sieb.*, Japan.
novem-maculatus, *Sieb.*, Japan.
antennatus, *Cuv.*, Mozamb.
sexmaculatus, *Cuv.*, Maur.
hystrix, *L.*, Reunion.
orbicularis, *Schn.*, Reunion.

Tetrodon honkenii, *Rüpp.*
immaculatus, *Lacép.*, Madras, Penang.
argenteus, *Lacép.*
simulans, *Cantor.*, Penang, Singapore.
lunaris, *Schn.*
inermis, *Sieb.*, Japan.
vermicularis, *Sieb* , Japan.
stictonotus, *Sieb.*, Japan.
firmamentum, *Sieb.*, Japan.
pardalis, *Sieb.*, Japan.
porphyreus, *Sieb.*, Japan.
rubripes, *Sieb.*, Japan.
xanthopterus, *Sieb.*, Japan.
rivulatus, *Sieb.*, Japan.
grammatocephalus, *Sieb.*, Japan.
lineatus, *Sieb.*, Japan.
carduus, *Cantor.*, Penang.
lineatus, *Bl.*
testudineus, *Lin.*, Indian Ocean, Penang.
laterna, *Richards.*
bondarus, *Cantor.*, Vizagapatam, Penang.
stellatus, *Lacép.*
lunaris, *Cuv.*, Bengal Bay, Archipelago.
nigropunctatus, *Schn.*
oblongus, *Block.*, Indian Ocean, Penang.
immaculatus, *Lacép.*
dissutidens, *Cant.*, Coromandel, Penang.
valentyni, *Blkr.*
naritus, *Richards.*, Penang, Borneo.
margaritatus, *Rüpp.*
pœcilonotus, *Schleg.*, Mozamb.
bernieri, *Kp.*, Madagascar.
lagocephalus, *Bibr.*, Reunion.
hispidus, *Bibr.*, Reunion.

Triodon bursarius, *Reinw.*, Reunion.

Fam. BALISTIDÆ.

Erythrodon niger, *Lacép.*
Balistes cœrulescens, *Rüpp.*
frenatus, *Lacép.*
armatus, *Lacép.*
aculeatus, *L.*
lineatus, *Schn.*
rectangulus, *Schn.*
stellatus, *Lacép.*
viridescens, *Lacép.*
niger, *Osbeck.*
conspicillum, *Cuv.*, Madag. to Archip.
forcipatus, *Gr.*, Mozambique.
flavimarginatus, *Rüpp.*, Mozambique.
bursa, *Sonn.*, Mauritius.
vetula, *L.*, Madagascar.

Monacanthus isogramma, *Blkr.*
tomentosa, *L.*, Indian Ocean, Penang.
pardalis, *Rüpp.*
cirrhifer, *Sieb.*, Japan.
oblongus, *Sieb.*, Japan.
geographicus, *Peron.*, Straits.
fronticinctus, *Gthr.*,
pencilligerus, *Peron.*, Straits.
hystrix, *Cuv.*, Mauritius.
frenatus, *Pet.*, Mozambique.

Aleuteres monoceros, *Osbeck.*
nasicornis, *Schleg.*
scriptus, *Osbeck.*
lævis, *Cuv.*, Reunion.
cinerea, *Sieb.*, Japan.
nasicornis, *Sieb.*, Japan.

Triacanthus brevirostris, *Sieb.*, Japan.
anomalus, *Sieb.*, Japan.

VI.—ORDER. LOPHOBRANCHII.

Solenostoma cyanopterum, *Blkr.*
Pegasus draco, *L.*
Hippocampus mannulus, *Cant.*, E. Africa, Pinang.
comes, *Cantor*, Penang.
hystrix, *Kp.*
punctulatus, *Kp.*
guttulatus, *Cuv.*
monikei, *Blkr.*
subcoronatus, *Gthr.*
longirostris, *Sieb.*, Japan.
brevirostris, *Sieb.*, Japan.
gracillimus, *Sieb.*, Japan.
coronatus, *Sieb.*, Japan.

Syngnathus biaculeatus, *Bl.*
penicillus, *Cantor*, Penang.
fasciatus, *Gray.*
biaculeatus, *Bloch.*, Straits to Archipelago.
zanzibarensis, *Gthr.*
mossambicus, *Pet.*
hæmatopterus, *Blkr.*, Zanzibar.
goudoti, *Kp.*, Madagascar.
laterna, *Blkr.*, Mauritius.
lineatus, *Blkr.*, Mozambique.
millepunctatus, *Kp.*, Madag.
liaspis, *Kp.*, Madagascar.
brachyrhynchus, *Kp.*, Reun.
pelagicus, *L.*, Reunion.
serratus, *Sieb.*, Japan.
tenuirostris, *Sieb.*, Japan.

VII.—ORDER. CHONDROPTERYGII.

Ginglymostoma brevicaudatum, *Gthr.*
concolor, *Rüpp.*, Africa to Straits.

Stegostoma fasciautum, *M. & H.*

Carcharias acutus, *Rüpp.*, E. Africa to Archipelago.
zambezensis, *Pet.*, Mozamb.
japonicus, *Sieb.*, Japan.
melanopterus. *Q. & G.*, Red Sea to Polynesia.
sorrah, *Val.*, Madagascar.

Zygæna malleus, *Shaw.*
tudes, *Cuv.*
blochii, *Valen.*, Bengal Bay, Archipelago.

Alopias vulpes, *Bonap.*, Mauritius.

Hexanchus griseus, *Raf.*, Reunion.

Acanthias vulgaris, *Riss.* Reunion.

Scymnus brasiliensis, *Cuv.*, Mauritius.

Lemurgus labordii, *Q. & G.*, Mauritius.

Pristis antiquorum, *Lath.*
semisagittatus, *Shaw.*, Bengal Bay, Straits.
peroteti, *C. & H.*

Rhinobatus schlegelii, *M. & H.*
lœvis, *Sieb.*, Japan.
ligonifer, *Cantor.*, Straits.

Raja asterias, *Rond.*, Mauritius.
kenojei, *Sieb.*, Japan.

Urogymnus asperrimus, *M. & H.*, Seych.

Fam. TORPEDINIDÆ.

Torpedo marmorata, *Rudol.*, Maur.
fuscomaculata, *Pet.*
japonica, *Sieb.*, Japan.

Fam. TRIGONISIDÆ.

Rachinotus Africanus, *Bloch.*, Penang.

Trygon uarnak, *Forsk.*
kuhlii, *Sieb.*, Japan.
akajei, *Sieb.*, Japan.
zugei, *Sieb.*, Japan.
pastinaca, *L.*

Tæniura lymna, *Forsk.*, E. Africa to Polynesia.
meyeni, *M. & H.*, Reunion.

Fam. MYLIOBATIDIDÆ.

Myliobatis aquila, *C.*, *Dum.*, Reunion.

Ætobatis narinari, *C. & H.*, Reunion.

Cephaloptera kuhlii, *M. & H.*
japonica, *Sieb.*, Japan.

Drs. Gunther's Catalogue of the Fishes in the British Museum, Cantor, Fishes of the Straits Settlements in Bengal, Asiatic Soc. Journ. and Playfair and Dr. Gunther fishes of Zanzibar, Siebold Fishes of Japan.

FISH HOOKS.

Hamecous,	Fr.	Kail, kai, panching,	Malay
Fischangeln,	Ger.	Galamu,	Tel.
Gal,	Hind.		

Fish-hooks are used in all countries but in the S. and E. of Asia, nets, traps, and stakes are the generally adopted modes for catching fish.

FISHING-NET FLOATS. Several light porous woods, such as Gyrocarpus Jacquini, Salmalia Malabarica; and the fruit of the Baobab are used as floats for fishing nets.

FISH-INSECTS. Species of Lepisma, found in books, pretty little silvery creatures. L. niveo-fasciata, Templeton, and L. niger Temp. occur in Ceylon. The genus was called "Lepisma" by Fabricus, from its, fish-like scales. It has six legs, filiform antennæ, and the abdomen terminated by three elongated setæ, two of which are placed nearly at right angles to the central one. Linnæus states that the European species, was brought in sugar-ships from America. The Chelifer found in Ceylon, has been brought thither from Europe.—*Tenn. Sk. Nat. Hist. of Ceyl.* p. 476.

FISHMAWS.

Fish Sounds,	Eng.	Poota (large),	
Air bladder,	„	Sozili (small),	Guz. Hind.
Swims,	„	Lupa lupa,	Malay.

A term applied in oriental commerce to the air-bladder, sounds, or swims of certain large fishes, found in the Indian Ocean, Bay of Bengal, the seas of the Archipelago, and the great estuaries. It is an article of luxury with the Chinese; and forms an important article of export from all the coasts. Small quantities of the superior kind are occasionally sent to England, from which it is supposed isinglass is made. There are two kinds of fishmaws, distinguished in Bombay by the terms Poota and Sozeelee, the difference consisting merely in the size—the latter being about one-fourth the size of the former. They are used as an article of luxury among the Chinese, when properly dried they are fit for the market; they are of yellowish tinge and are cured by stretching them in the sun. If they become damp, they soon decay and are then worthless. They are chiefly brought to China in junks from the Indian Islands. At Singapore and in China the price is from $ 35 to 70 per pecul. This article, together with birds'-nests, biche-de-mar, and shark's fins are all consumed by the Chinese, for their supposed strengthening and restorative properties. In the four years 1857-58 to 1860-61 their export from British India was as per statement,

year.	cwt.	tons.	value. £.
1857-58	8,952	448	9,026
1858-59	1,872	92	8,468
1859-60	.....	.. ..	7,447
1860-61	.. ..	.....	6,401

See Air-bladder : Isinglass.

FISH OILS. The manufacture of Fish Oil is practised all along the western coast. The extreme cheapness of cocoanut, castor, and other vegetable oils, interferes with the productiveness of animal oils. The great source of supply is the shark and the skate: the livers of these are cut out, and thrown into a vat or old canoe, or other receptacle, and trodden on with the feet till the oil is expressed. It is then drawn off, and stowed away: boiling does not seem to be resorted to, as there is little or no muscular fibre, such as that of the blubber, to be got rid of, or aqueous particles to be dispelled. The amount of oil manufactured at each fishing-village will in all likelihood be found very nearly proportioned to the value of the trade in sharks' fins. The oil from the variety of skate called "Wagli" by the natives of the Bombay coast, seems to have a strong resemblance to the cod liver oil now so much in demand for medicinal uses. On the Malabar Coast, especially off Vingorla, the seas literally swarm with a variety of the sardine: a coarse ill-smelling kind of oil, which sells for from six to twelve annas a maund, is manufactured from these—the natives employ it for smearing their boats. At present it is prepared chiefly on the Western Coast of India, although some is now made at Madras. The liver of the white shark is that generally used. The mode of preparing the best cod liver oil, is thus described as it is equally applicable to "Fish liver." The proper season for preparing cod liver oil is early in January when the livers are plump, firm, large, white, and full of oil—the livers are sometimes found diseased, and such as are specifically lighter than water, should be rejected. Good livers should cut smooth, and not tear, when cut none of the substance should flow out in a half liquid state. The quantity of oil produced by livers depends much upon the time of the year. In the beginning of January 1000 livers were found by experiment to yield 37 Imperial gallons, and at the end of February an equal number only gave 23 gallons of oil. In the beginning of January 1000 livers of average size weighed 900 lbs. whilst in the last day of March the same

number weighed only 575 lbs. The oil at these different seasons was equally pale, and the livers equally white, although much smaller and more flabby in the latter season. To prepare the oil—Wash the livers very carefully, first removing the gall bladders which adhere to them, and infuse them in rain or other water free from salt. Place them over the fire and never allow the heat to exceed 120 or 130°. On this head especial care must be taken, a higher degree of heat although yielding a larger product, communicates a rank, fishy taste and smell and heightens the color of the oil, thereby rendering it disgusting to the patient.—*M. E. J. R. of* 1855.

FISH ROE.

Mutchi ke undo,	Duk.	Chapa janna,	Tel.
Min Chenney,	Tam.		

Fish roe is sold in every bazaar of the South and East of Asia, and the Fish roe of Siam is a great article of trade. See Fisheries, p. 130: Fish p. 162.

FISH SALTED.

Khari mutchi,	Duk	(Dry) Karcivadu also upumin kandam,	Tam.
Khara Machi,	Hind.	(„) Upu karri-vadu or genduchipa,	Tel
Budu,	Malay.		

Salt fish is obtained in every bazaar of India, and is used as a condiment with the vegetable diet.

FISH SOUNDS. See Isinglass. Fish Maws. Air bladder.

FISH SKINS are used occasionally in India for covering scabbards. The Goldi, on taking a large fish, remove the skin and beat it with a mallet to remove the scales, and until the thick, oily corium become supple. In a dress of this kind they defy snow, mist and rain. *Latham's Nationalities of Europe*, Vol. I., p. 271.

FISH TRAPS. In the Archipelago, fish traps are made of basket-work, which are baited with small fry, and afterwards sunk by means of stones, their position being indicated by long bamboo fishing-buoys. These traps are left in the sea all night, and are raised in the morning for the purpose of taking out the fish.—*Earl* p. 37.

FISTULANA. See Tubicolidæ.

FITAN, *Hind.*, a pelican.

FITCH, or VETCH. See Tare.

FITCH. An Englishman who, with his companions, travelled all over Hindostan. They went in 1583, via Aleppo and Baghdad, on a commercial mission, with introductory letters from Elizabeth to Akbar. See Leedes.

FITRASALYUN. Hind. Prangos pabularia.

FIUMARA. It. In Italy, a hill water course, which rolls a torrent after rain, and is either partially or wholly dry during the drought season. It corresponds to the Indian "Nullah." *Burton's Meccah.*

FIVE. Panch, Hind. Panj, Pers, is a number of frequent occurrence amongst hindus. Panch-salar, or kansali, the five artizans; Pancha-janya and Pancha kshiti in the Veda, five families according to Lassen. Panchayat, a jury of five. The Punch liquor and Punch of Punch and Judy are said to be from Panch, five.

FIVE ISLANDS, also called Babuyan, a circular chain of islands fronting the coast of Cagayan. See Babuyan.

FIXED AIR. Eng. Carbonic Acid.

FLACOURTIACEÆ, a natural order of plants of which the genera Flacourtia and Phoberos, containing eighteen species, occur in the South and E. of Asia. The berries of F. cataphracta of the N. E. of India are edible. F. ramontchi a tree of Madagascar has been introduced into India. F. obcordata is a shrub of Chittagong. F. cordata of Silhet, F. rotundifolia of the Peninsula and F. Campbelliana of Sumatra. *Voigt.*

FLACOURTIA CATAPHRACTA, *Roxb.*

Panayala,	Beng.	Paniala; Panijala,	Hind.
Talisputri,	„	Talishputri,	Maleal.
Panceyala,	„	Talisha,	Sans.
Panayala; Panijala,	Duk.	Talishapatri,	Tam.
Talisputri,	Hind.	Talisapatri,	Tel.

A tree of Assam, Monghyr and Nepal, grown as a fruit tree in gardens at Kotah and affords a popular medicine in Behar. The small leaves and shoots resemble rhubarb in flavour, and are used as a gentle astringent in the dose of half a drachm in powder. An infusion of the bark in cold water is also employed as a remedy in hoarseness. The young shoots and leaves are considered astringent and stomachic.—*O'Shaughnessy*, p. 207, *Eng. Cyc. Voigt. Gen. Med. Top.*

FLACOURTIA INERMIS, *Roxb.*

Lovi Lovi, Singh.

This tree grows in Ceylon, in Silhet, in both the peninsulas of India and in the Moluccas. It has minute greenish flowers. In the Moluccas, it is extensively cultivated for the sake of its fruit which makes excellent tarts, though too sour to be eaten raw. *Roxb.* iii, 833, *Voigt* 84.

FLACOURTIA MONTANA, *Graham.*

Ram tambut,	Mahr.	Uttuck,	Mahr.

A tree common in forests above and below the Bombay ghats, but does not, in as far as Dr. Gibson had seen, extend inland. The wood is rather strong and close-grain-

ed, but the girth is never such as to render it sufficient for general purposes of carpentry or building.—*Dr. Gibson.*

FLACOURTIA SAPIDA, *Roxb-*, *W.&A.*, *W. Ic.*

Booinch,	Beng.	Oogoorassa,	Singh.
Bowchee,	of Bombay	Swadoo kuntuka,	Sans.
Bincha,	Duk.	Pedda kanaregu,	Tel.
Kuke,	Hind.	Pedda canrew,	„
Kangu,	of Ravi.	Nakka neredu,	„

A small sized tree or large shrub, growing to an elevation of 1,500 to 3,000 feet in the central province of Ceylon, grows also, in Peninsular India, on the Godavery, in Ganjam and Gumsur, extreme height 15 feet, circumference 1 foot, and height from ground to the intersection of the first branch, 5 feet, also in Bengal and northwards to Dehra Dhoon. It yields a very hard close-grained wood which does not warp, and is worthy of attention. This wood is burnt when libations are offered for a person who has died on an inauspicious day. It is found as a large shrub along the lower hills of the N. W. Himalaya, sometimes to 3,500 feet, in the Salt Range, and on the skirts of the Suliman Range, &c. The timber is there occasionally employed for ploughs, but is too small for most purposes. It is straight and close-grained, and is used for combs and in turning. The fruit is eaten.—*Roxb.* iii., 835, *Voigt* 83, *Dr. J. L. Stewart, Thw.* 17.

FLACOURTIA SEPIARIA, *Roxb.*, *W. & A. Rh.*

Juthe Karande,	Duk.	Dajkar also jidkar of	
Khutai, Dajkar,	Hind.		Ravi, Sutlej.
	of Tr. I.	Canrew,	Tam.
Sherawani, Yargal,	Ir.	Sottakla,	„
Kuru Moelli,	Maleal.	Sambla,	Sans.
		Kanaregu, Konru,	Tel.

This shrub grows in Ceylon and all over India, up to the Salt Range and Suliman Range. It has strong spines preventing cattle browzing the leaves. Its fruit is small, hard and insipid.—*Dr. L. Stewart.*

FLAGELLARIA INDICA.

Myouk Kyeing, Burm.

Often seen in Tenasserim, is easily recognized by the tendril it puts forth at the end of its leaves.—*Mason.*

FLALUS— ? Dianthus atrophyllus.

FLAME OF THE FOREST, Eng. Ixora coccinea.—*Linn.*

FLAMINGO, the Phœnicopterus roseus of Pallas, a large and splendid bird found in most parts of India, belonging to the subfamily Phœnicopterinæ. The Singhalese have been led from their colour and their military order, to designate them the "English soldier birds."—*Wallace, Tennent's Sketches of the Natural History of Ceylon*, p. 261. See Birds.

FLANNEL, Eng.

Flannelle,	Fr.	Looi.	Hind.
Flannel,	Ger.		

This woollen article is wholly imported into India, there is no similar woollen stuff manufactured in S. & E. of Asia. It is not much used byAsiatics.

FLASSU, Hind., Populus ciliata.

FLAX, Eng.

Mushina,	Beng.	Lino	It. Sp.
Llin,	Cymric.	Linum	Lat.
Vlasch,	Dut.	Atish; Tisi; Alisi;	Panj.
Lin,	Anglo-Saxon, Fr.	Kutan,	Pers.
Flachs,	Ger.	Len	Pol., Russ.
Lein,	Goth.	Linho	Port.
Linou	Gr.	Lonu also Lon	Rus.
Alsi,	Hind.	Atasi	Sans.
Atis,	„	Lint	Scotch.

The flax plant, Linum usitatissimum, is scarcely at all grown in the peninsula of India and not at all in Burmah, and, except for the seed and for a little fibre, and in a few localities, may be said to be not raised in any part of India for external commerce. This seems a change from the former state of agriculture for flax is mentioned by Strabo as one of the staples of the N. W. part of India. A small quantity of Riga seeds, which had been imported experimentally by Dr. Jameson, was distributed amongst the peasants, with instructions as to the mode of cultivation; an agent of great practical experience was deputed to examine and report upon the qualifications of different districts for the growth of flax, and a staff of natives were trained by him to act as scutchers. In 1856, two tons of flax produced under his superintendence in the district of Goojranwalla, were sent to England, and were sold for £92. 2*s.* 2*d.* realising a net profit of 47 per cent. In 1857, eight cwt. of flax, grown at Jeddura, a tract of country in the Kangra district, bordering on the River Beas, were sent to Britain, and were valued at from £55 to £60 a ton. In consequence of the success of these experiments, an Association, called the 'Indian Flax Company', was established in Belfast, and an agent was sent out to buy up flax produce. In 1863 he made the district of Sealkote his head quarters, but owing to various circumstances, their operations were brought to a close. Up to this, flax had always been sown in the Punjab as a field crop, but raised only for its oil seed, and as the plants are only 18 to 24 inches high, they are useless for textile purpose. Flax is prepared by steeping the plant,

stripping off the bark, and then beating so as to separate the fibres from which linen and cambric are prepared,—cambric differing from linen in fineness and in being made from the fibre of plants which have been more thickly sown. Linen cloth is a good conductor of heat and is cool, but is chilly when the body is exposed to cold or is perspiring.

The Burmese are acquainted with linen from their books in which it is frequently mentioned. The lake or tank near king Wathandria's hermitage,is described as being covered with water lilies, that appear like garments made of thread of flax bark; and linen garments are mentioned among those which priests are permitted to wear.—*Dr. J. L. Stewart, Mr. Powell, McCulloch.* p. 581. *Proc. Madr. Govt. 28th February* 1862, *Royle, Mat. Med.* 283.

FLAX SEED, Eng. Linseed.

Lynzaad,	Dut.	Sieme,	Pol.
Lin,	Fr.	Iniane,	,,
Graine de Lin,	,,	Linhaca,	Port
Lein saat.	Ger.	Semja lenja,	Rus.
Linseme,	Ir.	Linaza,	Sp.

This seed is, in India, produced for its oil.

FLEA, Eng.

Paros,	Heb.	Ee.	Tam.
Pisu,	Hind.	Eegalu,	Tel.

This insect, which was one of the plagues that fell on Egypt, is very common in all the S. E. of Asia, and at certain seasons in some parts of the peninsula they occur in great numbers; the natives say they breed in the rocky ground. At Ahmednugger, Nassik, Secunderabad and Bangalore in some years they are innumerable, but they are little troublesome, their bite is insignificant.

FLEA-BANE, ASH COLORED, Eng. Vernonia cinerea, Less.

FLEA-BANE, PURPLE.

Kali-ziri,	Duk. Guz.	Caattu siragam,	Tam.
Buckchi,	Hind.	Adivi jilakara,	Tel.
Kana-iraka,	Sans.		

A small dark-coloured, and extremely bitter seed, procurable in all Indian bazaars, considered powerfully anthelmintic, and also used as an ingredient of a compound powder prescribed in snake bites by native practitioners. An infusion of seed is also given for coughs, and against flatulency. The Inula Pulicaria, or Fleabane, a common road side plant in Britain, strewed or burned in any place, destroys gnats and fleas; and the same properties are attributed to the common Ox-eye daisy of Britain. Flies fleas and musquitoes, avoid rooms in which branches of penny royal have been suspended. —*Ainslie.* See Bane: Fly.

FLEDERMAUSER. Ger. a bat; one of the Cheiroptera.

FLEECE OF HAIR. See Jat, Panjab.

FLESH COLOURED TREFOIL. Trifolium incarnatum.

FLEUR DE FARINE, Fr. Flour.

FLEUR DE MUSCADE. Fr. Mace.

FLY. In the Hebrew Scriptures, are several Hebrew words which, in the English version, have been translated fly, viz., Oreb, Zebub, Deburrah, Tsira, Sarabim, Bak, Cinnim. The Orov or Orob, Hebrew, a swarm or assemblage is translated in Psalms cv, 31, swarm of flies,but in Exodus viii, v. 21 also Psalms lxxviii, v. 45, is supposed to allude to the mosquito.

The Hebrew Zenon of Ecc. x. v. 1, and Isaiah vii, v. 10 is not identified. Flies are undoubtedly very troublesome in tropical Asia, at some seasons, but an infusion of quassia sweetened with sugar placed on a plate, destroys them. The eye-fly, a minute insect which comes at seasons inside houses, and clusters in myriads on any hanging thread, can be destroyed instantaneously in masses, by forming a cone of paper like a grocery packet and, setting fire to its edges, bringing it under the thread where they cluster; their wings are singed as they try to escape out of the burning circle. In Italy large bundles of a common viscous plant (Erigeron viscosum Lin.) dipped in milk hung up in all the rooms, attract all the flies. Glossina morsitans, the Tsetse fly of Africa, whose bite is fatal to the horse, the bullock and cow, is supposed to be the same as the Tsalt salya or Zimb, of Abyssinia, mentioned by Bruce. See Bane. Fleabane; Zimb.

FLINDERSIA AUSTRALIS. This tree is a native of Australia, and its wood is said to be not inferior to mahogany. See Cedar.

FLINDERSIA AMBOINENSIS. This is a native of the islands of Hitu and Ceram. The spiny part of the fruit is formed into rasps. It was on this account called by Rumphius, Arbor radulifera.

FLINT, Eng.

Pierre a fusil,	Fr.	Chakmak,	Hind.
Feuerstein,	Ger.	Batu-api,	Malay.
Chakmak,	Guz.	Chakimuki kallu,	Tam.
Hala-mish,	Heb.	,, rai,	Tel.

This mineral is composed almost entirely of silica. It is almost all imported from Britain, being exceedingly rare in India. It is used, when calcined and ground, in pottery; also for gun-flints, for which purpose the yellowish-gray flints are preferred. In India the calcedonic quartzes are used instead of flint.—*Waterston*, quoted by Faulkner.

FLIOR, Rus. Crape.

FLITTERGOLD. Ger. Orsidue.

FLITTER-MICE, Bats. See Cheiroptera.

FLOATING ISLANDS, occur in the lake of Cashmir. One occurs in lake Derwentwater in England.

FLOATS are much used for rafting timber and they are formed of many vegetable substances. The saccharum sara reeds are much employed, also the bamboo, and the fruit of the baobab.

FLOHR, Ger. Crape.

FLOODS, of these, tradition mentions several. The Hellenic tradition is known as the flood of Deucalion son of Prometheus who built the Ark which rested on Parnassus, in Thessaly. A similar legend of Asia minor was connected with the deluge of Iconium and was localised at Olympus the highest peak of Western Asia. Both these are doubtless connected with the flood of Noah, related by Moses, no account of which is known to the Egyptians nor to the Chinese, who had gone westwards and eastwards prior to its occurrence. Missionaries in China, however, have attributed the inundations alluded to as stopped in the reign of Yu, the founder of the first Chinese dynasty, B. C. 2207 to the flood of Noah. The flood of Noah, is supposed to have occurred in the year of the world 1656, that is about B. C. 2328 or B. C. 2344. The Aryan hindu tradition of the great flood is distinct, but is involved in their mythical religion. Their Matsya or Fish Avatar, is the history of that event disguised in oriental fiction. River and Sea Floods are of very frequent occurrence in India and China. Dr. Buist gave an account of that of 1849 in Edin. Phil. Jl. 1851 : Bl. As. Trans. 1851. The Ganges once rose 45 feet above the usual level; swept away Burree Bund, and laid a town four feet under water, and an account of it appeared in the Agra Ukhbar, August 30, 1839; As. Jl. 1839, and a description of that at Agra in the As. Jl. 1838. Inundations at Hussingabad were mentioned in As. Jl. April 1839. In 1841 the Indus seemed to have been for some time ponded back, when a terrific flood swept over Attock, and all the country around. Dr. Falconer gave an account of it in Bl. As, Trans. 1843, vol. x., and Dr. Jameson, Ibid. vol. xii. A hill was supposed to have been tumbled into the river by an earthquake so high up as never to have been heard of; but, it was subsequently known to have occurred from the giving way of a glacier: the body of a woman dressed in sheep-skins was thrown ashore at Attock, and supposed to be a Thibetan: 10,000 lives were said to have been lost.—As. Jl. 1841, vol. xxxv. 196, 264. Captain Abbott gave an account of it from lips of natives in the Bl. As. Trans., 1841, vol. x p. 230. From hundreds of villages and towns including Khyrabad and Attock, thousands of human beings and cattle were swept away. In the Hazara country, artillery guns with many hundreds of infantry and cavalry were lost, a whole camp, with troops and followers were carried down the river. A flood occurred in the delta of the Ganges in October 8, 1831 when 50,000 lives were lost: near Balasore 17,474 people drowned; in 1832, 2,000 in the same neighbourhood.—As. Jl. 1833, vol. xiii. A flood occurred at Coringa, December 1839. A hurricane sea-wave or wave caused by an earthquake rose 8 feet above the level of Coringa village; the inundation covered 30 miles of country and above 7,000 people were drowned; £100,000 worth of property destroyed on shore; at sea 70 vessels were lost, with about 700 lives. In 1867 a great sea wave in a cyclone broke along the coast at Masulipatam and caused enormous loss of life and property. In China, near Canton, 18,000 were drowned in November 1833. —Ibid, 1834, vol. xiv. 259. On the Taptee, at Surat, in August 6, 1837; 500 houses were said to have been destroyed, the loss estimated at betwixt thirty and forty lakhs of Rupees (£300,000 to £400,000); and a lakh and a half (£15,000) was subscribed at Bombay to supply the sufferers with grain. Floods occurred on the coast of Canara, and Malabar, in August 1818.

Even the ordinary rain floods are eminently disastrous. A correspondent of the Englishman returning on one occasion from Kishnghur found the whole country under water. After travelling three miles of the way on an elephant he found it impossible to proceed, the road, being quite under water, and not a vestige of it to be seen. He got into a fishing dinghy and was rowed straight across country, nothing to be seen out of water, but the villages which looked like islands in a sea, the very parapets of the bridges in the road under water, and but for the trees at the roadside, nothing could indicate that such a thing was there. All the crops gone. After the flood which occurred in 1856, the planters lent a great deal of money to the ryots without interest, to enable them to buy cattle. *Edye in Lond. As. Trans.* 1835, *vol.* ii. 342.—*Dr. Buist's Catalogue.* See Glaciers.

FLOR, Sp. Flour.

FLORA the South and East of Asia flora has been largelydescribed by some of the most eminent of the botanists of the world, whose names will be seen under the article botany. But the most complete general view given

of the plants of this South Eastern region, is by Drs. J. D. Hooker and T. Thomson in their Flora Indica, the long cessation of which is, for these countries, a public calamity. India contains representatives of every natural family on the globe, a very few small American, Australian, and S. African orders being the chief exceptions. In India, the number of peculiar families largely represented in it is very limited, the Aurantiaceæ, Dipteraceæ, Balsamineæ, Ebenaceæ, Jasmineæ and Cyrtandraceæ are the only orders which are largely developed in India, and sparingly elsewhere, and of these few contain one hundred Indian species. The total number of Indian species are estimated at 12 to 15,000.

The species are much scattered. It is believed that nowhere in India could more than 2,000 flowering plants be found in a radius of ten miles, and there is in India an almost complete absence of absolutely local plants: the plains of India are everywhere poor in species and such as abound in individuals are usually of a weedy character, indeed there are few other countries in which the vegetation of the more accessible parts presents so little beauty or such short seasons of bloom. The great number of 222 British plants extend into India. Many North African and Arabian forms occur. Several Australian species are found in the Malayan peninsula. Many of the Himalaya, Nilgherries, Khasya and Ceylon species are found in the Malay peninsula and in Java. Gaultheria nummularia extends from the N. W. Himalaya to the Java mountains, and common to India and Java, are Sedgwickia cerasifolia, *Griff.* Marlea, Cardiopteris lobata, several oaks and chesnuts, Antidesmeæ, a willow, and Myrica. The Chinese type is abundant in the temperate region of the Himalaya and plants of N. America, west of the rocky mountains also occur.

The perennially humid forests are everywhere characterized by the prevalence of ferns and at elevations below 5,000 to 7,000 feet, by the immense number of epiphytal Orchidaceæ, Orontiaceæ and Scitamineæ, and in smaller numbers, Zingiberaceæ, Xyrideæ, palms, Pandaneæ, Urticaceæ, Araliaceæ, Apocyneæ, shrubby Rubiaceæ, Aurantaceæ, Garcinaceæ, Anonaceæ, nutmegs and Dipterocarpeæ. An immense proportion of annual plants which vegetate on the last rainy seasons in the plains and ascend the lofty mountains are uniformly distributed throughout India. Of these the most conspicuous are Gramineæ, Cyperaceæ, a vast number of small Leguminosæ, and Scrophularineæ, Compositæ, some Labiatæ, Amaranthaceæ, Convolvulaceæ and Acanthaceæ.

The winter months of the colder northern countries have a corresponding cold season in India, during which ex-tropical cereals, wheat, barley and more rarely oats with various kinds of pulse are cultivated, and many wild plants appear, very many cyperaceæ, grasses, and such aquatics as Myriophyllum, Potamogeton, Vallisneria, Zannichellia, Lemna and others. The mountainous regions of Afghanistan are rich in Himalayan forms and contain an immense number of European and Persian plants which find their eastern limits within the British Himalaya, and many plants are found in those mountainous regions common to Europe and the Himalaya. Nepal, Bhotan, East Tibet and the Khassia mountains present a flora which has much in common, and in a geographico-botanical point of view, is one of the most important regions in India, if not in all Asia. In the Himalaya, the genera Rhododendron, Monotropa, Pedicularis, Corydalis, Nepeta, Carex, Spiræa, Primula, Cerasus, Lonicera, Viburnum and Saussurea, attain their maximum of development.

On the Himalaya and on the isolated mountain ranges of the Peninsula of India, on the heights of Ceylon, and on the volcanic cones of Java, many plants occur, either identically the same or representing each other, and at the same time representing plants of Europe not found in the intervening hot lowlands. A list of the genera collected on the loftier peaks of Java, raises a picture of a collection made on a hill in Europe. Still more striking is the fact that Southern Australian forms, are clearly represented by plants growing on the summits of the mountains of Borneo. Some of these Australian forms, extend along the heights of the Peninsula of Malacca, and are thinly scattered on the one hand over India, and on the other as far north as Japan. Along the Himalaya, at points 900 miles apart, glaciers have left the marks of their former low descent; and in Sikkim, Dr. Hooker saw maize growing in gigantic ancient morasses, Plants on the Himalaya, and Neilgherries, Ceylon and the Khassya mountains, and in the Malay peninsula, and the moister and more equal parts of India, are identical with those of Java. The genus Calamus, Orchids, Araceæ, Zingiberaceæ and Ferns are especially abundant, the genus Grammatophyllum, the wonderful Nepenthaceæ, or pitcher plants, of which solitary species occur in Madagascar, Ceylon, the Seychelles, Celebes and the Moluccas.—*Darwin* on the *Origin of Species*, 3d. Ed. pp. 403. 405. *Wallace*, i. p. 138. *Hooker and Thomson Flora Indica.*

FLORA COCHIN-CHINENSIS, a botanical work by Fra Loureiro, a priest of Rome.

FLOR DE FARINE, Port. Flour.

FLORES, called also Endie or Mangerye, an extensive Island, of the Archipelago, 201 miles long from E. to W. and from 42 to 45 miles broad. It is so named from the Portugese word 'flor,' a flower but is called Ende and Mangerye, from its chief south and west ports. Its chief trade at Ende is with Sumba or Sandalwood Island; the Mangerai port trades with the Bugi and Malay. The coast is occupied by the Malay or brown race, but in the interior is a people with frizzled hair, and a similar frizzled hair people live in the mountainous parts of Solor, Pintar, Lombata and Ombay. On the south coast of Floris is a tribe called Rakka who are reported to be cannibals, accustomed to eat their enemies and their own relatives who die.

Captain Keppel says that the natives captured from the island used to be much esteemed by the Celebes pirates, as slaves, and he gives the following translation from a Dutch journal:—"On the island of Flores, there lives a race called, on the south coast, Rakka, who not only devour their enemies, but with whom custom requires that the son shall cut the body of his deceased father in pieces, and sell the flesh to the inhabitants at the high price of its weight in gold. This flesh is greedily eaten by the people as a great delicacy. If the father was heavy and of great size, the son considers himself particularly fortunate. The population of Endore on the same island is also very greedy of human flesh. But these cannibals confine themselves to the heart, which, with incredible dexterity, they extract from the body, by giving a blow under the left shoulder-blade. It is then cut into very small pieces, eaten completely raw by the bystanders, who belong to the same race." Captain Keppel adds I am not able to corroborate this.—*Horsburgh. Bikmore* iii. *Keppel's Ind. Arch. Vol.* ii., p. 149. See India, p. 352.

FLORES DE CASSIA, Port. Cassia buds.

FLORES STRAIT, is bounded on its west side by the eastern part of the island of Flores, and on the east side of the island of Salor and Adenara or Sabraon.—*Horsburgh.*

FLORIKIN. Birds of the bustard tribe, species of which occur in many parts of India, and to the N. W. towards Afghanistan. They are, like the bustard, speckled, greyish coloured birds; the males have plumes and they change their plumage in the breeding season. They have been noticed at some length under the word bustard. The origin of the word Florikin is obscure. It is sometimes written Florican, also Floreycan, but the little bustard of Europe is said once to have been called the Flanderkin, which may be the source of the name. The species of Florikin are now arranged by ornithologists under the genus Sypheotides.

Sypheotides bengalensis, Gmel. The Bengal Florikin.

Otis deliciosa, Gray.	O. Himalayana, Vig.
Charras, or Charaj or Charas, Hind.	Dabar of Nepal.
	Bengal Florikin. Eng.

In the breeding season, the whole head, which is very fully crested, the neck, breast and lower parts and thigh coverts are of deep glassy black, the plumes of the breast elongated, forming a full breast tuft and the feathers of the neck in front also lengthened, back a rich olive buff, with zigzag markings, and a black dash in the centre of each feather. It is 24 to 27 inches long. It is found throughout lower Bengal, North of the Ganges, North easterly to the foot of the Himalaya, into Dacca, Assam, Tipperah, Sylhet, Assam, North westerly into the valley of the Jumna, Rajputanah, the Cis-Sutlej states, and parts of the Punjab. It frequents large tracts of moderately high grass. The sexes live apart but near each other.

Sypheotides auritus. Latham. The Lesser Florikin, Otis fulva, Sykes.

Khar-tilar of Bheels, near Mhow,	Chulla Charz, Hind.
	Likh, of Hindustan „
Kan-noul, Can.	Tan Mohr, Mah.
Charaz, also Charas, Hind of S. India.	Warrogoo Koli, Tam.
	Niala nemiki, Tel.

The Bheel name means "grass partridge," and it gets its Tamil name from being usually found in the Warroogoo (Paspalum frumentaceum) fields. The lesser Florikin, also called the common Florikin and black Florikin, is 19 to 21 inches long. In winter dress, the male closely resembles the female, but has always some white on the shoulder of the wing, when in full breeding plumage, the male in its head, neck, ear tufts, medial wing coverts, and all its lower plumage is deep black, the chin alone being white, the rest of the plumage fulvous. The different character of the plumage in the two seasons has led some to write on this bird under two names. It is found throughout India, from the extreme south to the foot of the Himalaya and frequents long grass in preference to any other shelter. *Jerd. Birds of India, Vol.* ii.

FLOS LAURI CASSIA. Cassia buds.

FLOS REGINÆ. Retz. Syn. of Lagertræmia reginæ.—*Roxb.*

FLOUR. The farina of wheat is almost the only meal used as food in British India,

though rice flour is somewhat in use ; but, in the Archipelago, that from the Sago tree is very extensively consumed. There were samples of seven varieties of flour made from roots in Pasuruan,and called Kiring, Katella Jawi, Sago, Arrow-root, Katella Blanda, Temu-lawak and Temu-gedring, either used medicinally or as delicacies for invalids.— *Journal of the Indian Archipelago*, Nos. VI—XII. *June, December* 1853, p. 287.

FLOUR OF WHEAT.

Bloem,	Dut.	Flor de farine,	Port.
Fleur de farine,	Fr.	Godhuma pishta,	Sans.
Feines mehl,	Ger.	Tringu-pittay,	Singh.
Semmel-mehl,	„	Flor,	Sp.
Atta,	Guz. Hind.	Godamba mavu,	Tam.
Fiore,	It.	Godumapindi,	Tel.
Farina,	Lat.		
Tapung ; pulur ; lumat	Malay.		

Meal of wheat, flour. When sifted myda is the finer part or wheaten flour ; and soojee the coarser. In India, the unsorted wheaten flour, the atta, does not readily leaven into wheaten bread, for which the sifted sooji, the "semolina" of Italy, is solely used. The natives who use wheat use the atta or unsorted flour and the maida where obtainable.— *Mrs. Hervey's Adventures of a Lady in Tartary*, Vol. I. p. 62. *M'Culloch*, p. 582.

FLOWERS are very largely used, by mahomedans, hindus, bud'hists and the followers of Confucius in their worship of the deity, or of their idols, or in their offerings for the dead. Flowers do not seem to have been similarly employed at any time by the Hebrew race, and in Acts xiv, 13, when the priests of Jupiter came to Paul with an ox for sacrifice and with garlands, is the only mention of them that occurs. 'They brought oxen and garlands, &c.' At the time of worship, the hindu priest places a garland of flowers upon the idol. Whether Paul and Silas were to be the objects of worship, to receive the garlands, or the oxen intended to be slaughtered, in either case, the practice would be conformable to that of the hindus. Though so largely used in the south and east of Asia, the Aryan hindu does not seem to care for flowers as beautiful objects of nature: he could not sing—

"In summer, autumn, winter or spring,
"A flower to me is the loveliest thing
"That hath its birth
"On this chequered earth,"

though western poets delight to dwell on the love that eastern races have for the natural flowers. Hindu ladies sometimes wear a little mirror, called chury, of polished metal, in a ring on the thumb, and amongst hindus the lotos is the emblem of female beauty. In a tale, it is mentioned that

Krishna, who had concealed his passion from the parents of a damsel whom he secretly visited, unfortunately chanced to find her in the midst of her relations ; how great his distress ! He was averse to departing without expressing his passion, words were debarred, both were embarrassed, love prompted :—

"He, with salute of deference due,
A lotos to his forehead prest ;—
She rais'd her mirror to his view,
And turn'd it inward to her breast."

The flowers of the Calotropis gigantea, Jasminum sambac, Michelia champaca, Mesua ferrea, form the ornaments with which Kama the hindu god of love ornaments his arrows :

'He with five flowerets tips the ruthless darts ;
'Which through five senses pierce enraptured hearts,
'Strong Chumpa, rich in odorous gold ;
'Warm Amer, nursed in heavenly mould,
'Dry Nag-keser, in silver smiling ;
'Hot kittikam, our sense beguiling,
'And last, to kindle fierce the scorching flame,
'Love shaft, which gods bright Vela name.'

Clitorea ternatea is sacred to Durga; Jonesia asoca is a sacred plant. The flax plant is sacred to Siva. Baka, a kidney shaped flower is sacred to Vishnu. The flowers, of Mimusops elengi, are favourites for garlands. The Chrysanthemum Indicum are favourite garland flowers, Datura fastuosa, is sacred to Siva. Christians in India largely use the flowers of the Tagetes erectum on Christmas days. Hibiscus rosa-sinensis is sacred to Kali, Jasminium pubescens, is sacred to Vishnu: Nerium odorum to Siva, Nelumbium speciosum, the Indian lotus, is sacred to Brahma, Vishnu, Siva and their consorts, Saraswati, Lakshmi and Durga; Nyctanthes arbor-tristis is sacred to Siva. The budd'hists make great offerings of flowers at their temples, but are not used by the Budd'hist priest for decking the person. The mahomedans use them largely for laying over the tombs of their departed. The following is a list of popular flowers cultivated at Madras

Ageratum.	Collinsia.	Gloxinia.	Myrtle.
Aster.	Chrysanthemum.	Heliotrope.	Nasturtium.
Allamanda.	Convolvulus.	Hibiscus.	Nemophila.
Antirrhinum.	Coreopsis.	Honeysuckle	Œnothera.
Aphelandra.	Dahlia.	Holyhocks.	Passiflora.
Balsam.	Daisy.	Ipomea.	Pansy.
Begonia.	Delphinium.	Jasminum.	Petrea.
Bignonia.	Epiphyllum.	Juniperus.	Petunia
Brugmansia	Eranthemum,	Justicia.	Phlox.
Bulbs.	Fuchsia.	Lobelia.	Poivrea.
Cactus.	Gardenia.	Lophospermum.	Portulaca.
Campanula.	Geranium.	Marigold.	Thunbergi
Carnation.	Gloriosa.	Maurandya.	Verbena.
Cereus.		Mimosa.	Violet.
Cockscomb.		Mignonette.	

Hardy Eastern Monachism, D. L. Richardson.

We may add the fragrant smelling Lawsonia spinosa; the beautiful purple and fragrant Bigonia chelonoides, which is a pagoda flower; the sweet smelling Millingtonia hortensis, the Cork tree; and the Justicia picta, a shrub admired for its beautiful, variegated, green and white leaves.—*Jaffrey Ains. Mat. Med. p.* 165.

FLOWER BATTEN. A very hard, fine, close-grained, heavy, Ceylon-wood. Its polished surface shows a pleasing mottled pattern.

FLOWERY CASSIA, Cassia florida.

FLOYERKIN see Florikin.—Bustard.

FLUGGEA. A genus of plants of the Nat. Ord. Euphorbiaceæ. F. leucopyrus is a small tree in many parts of India; F. retusa, grows on the banks of the Jumna; and F. virosa grows on the Jumna and westward to the Siwalik hills and the Salt range.

FLUGGEA VIROSA. *Roxb.*

Phyllanthus virosus *Roxb.* iii. 657.

Girk,	HIND.	Bata	OF SUTLEJ.
Perci pastawane	TRANS. INDUS.	Vanuthi	,,

Occurs on the Jumna, on the Siwalik, Salt range and Trans-Indus. The wood is close-grained and strong. Its fruit is edible by man and beast: its bark is astringent and is used to intoxicate fish.—*Dr. J. L. Stewart, Roxb.* iii, 659. *Voigt. O'Shaughnessy*, p. 552.

FLUOR SPAR, Derbyshire Spar, Native Fluoride of Calcium, is a mineral found in great beauty and abundance in Derbyshire and other places. A small specimen of bluish crystal of fluor spar, was found in the northern part of Province Amherst. As the mineral is often found in connection with lead, it is probable they will be found together in several Indian provinces—*Mason, Waterston, Faulkner.* See Lead.

FLY-CATCHERS. A family of birds with large gapes which subsist on flies, and small insects. See Aves; Birds; Muscicapidæ.

FLYING-CATS. A name given to the flying mammals of the genus Galeopithecus.

FLYING-FISH, ENG.

Jerad ul Bahr, ARAB.

The flying-fish are species of the genus Exocetus, belonging to the Abdominal Malacopterygii, forming part of the family Exocideæ. Their pectoral fins are very long, nearly equal to the length of the body. The fish to escape its enemies rises into the air and the pectoral fins vibrate while wet, and re-vibrate as often as they pass through a crest wave, wetting the fins afresh. There are many species. Exocetus volitans. *Linn.*; E. solitarius; E. evolans; E. exiliens; E. mesogaster and others. The E. volitans is usually 10 or 12 inches long, but attains to 15 or 20 inches at greatest. They are captured by torch light in the West Indies.

At the Island of St. Helena they are captured from fifteen to twenty inches long, are used there, as in the West Indies, for food, being very sweet and of delicate flavour. The Solitary Flying-fish (Exocetus solitarius) is so named from not being seen in large flocks like the others; and it appears to have other specific differences. When watching these fishes closely, as they passed under the stern of the ship, Dr. Bennett remarked that the extension of both the pectoral and ventral fins was effected with an audible rustling noise, and only a vibratory motion was perceptible afterwards; nor was there any expansion and contraction of those organs during flight, after the first effort. Had there been any percussion of the pectoral fins, it would have been distinctly visible owing to the proximity of the fish, indeed, to produce percussion of the fins, it would be requisite to have an elaborate muscular apparatus; and as, on dissection, such is not found, the theory of that action of the fins may be considered unsupported by facts. It was also remarked that the fish, when keeping in a direct line of flight, proceeded for a great distance; but when this was deviated from, and it turned round (which action was apparently performed by the tail, not by the pectoral fins) it only proceeded about the length of a yard and dropped into the water. The greatest length of time he has seen them fly has been thirty-two seconds, and their longest flight from 200 to 250 yards. The Flying-fish has a steady flight, resembling that of some birds; but when pursued by enemies, or frightened by the passage of a ship through the water, it loses this graceful style of volition, its flight becomes hurried, irregular, stiff and awkward—a kind of scrambling pace—and it frequently drops into the water and again renews its flight in the same unsteady manner. When a large shoal of them emerged at the same time from the sea, it was perceived that some of them dropped immediately, others passed over a distance of twenty yards and fell, while the rest continued a steady flight of 170 to 200 yards and passed out of sight. Their long pectoral fins or wings have the rays united by a fine delicate membrane, flexible and transparent; the colour of this membrane varies; and some have the ventral fins so large as to appear to have four wings.—*Collingwood; Gatherings of a Naturalist in Australia, by G. Bennett, M. D.*

FLYING FOX. A term by which Europeans in India designate the genus Galeopithecus of mammals. See Galeopithecus. Mammalia.

FLYING GURNARD. Trigla volitans of the Mediterranean, Atlantic and (west?) Indian seas, a singularly beautiful species raises itself into the air by means of its large pectoral fins. See Dactylopterus.

FLYING LEMUR. A term by which Europeans in India designate the genus Galeopithecus of mammals. See Galeopithecus. Mammalia.

FLYING SQUID, Loligo sagittatus.

FO. The Chinese name for a Budd'ha, for Sakya muni, and proceeding Budd'has. One Fo is said to have gone from India to China, B. C. 1200.—See Adam's Peak; Buddha, Kwang-yin.

FODDER for CATTLE, in India is very various, the root of the hariali grass, Cynodon dactylon, the stalk of the joar (Sorghum vulgare) cut into small pieces, the straw of several grasses, Paspalum scrobiculatum, Pencillaria spicata: Panicum italicum, P. frumentaceum, P. miliare and Eleusine ægyptiaca. Buffaloes are also fond of Kans, Saccharum (Imperata) spontaneum and its varieties. The pasture grasses in Hurriana are celebrated for the herds of cattle which graze on them. The Hurriana grasses belong to the genera Aeraelme, Andropogon; Cenchrus chaetaria: Chloris; Dactyloctenium, and Eleusine. The leaves and fruit of many trees are used. Dr. J. L. Stewart names 64 trees which furnish fodder in the Punjab.

FO-E. CHIN. Budd'ha, Fo.

FOELY. DUT. Mace.

FŒNICULUM PANMORII. ROXB.

Anethum panmori, ROXB., ii. 94.

Panmuhori,	BENG. HIND	Shobi kire,	TAM.
Mudhoorika,	SANS.	Pedda jila karra,	TEL.

Cultivated in many parts of India, and its fruit, the Indian fennel seeds, are used medicinally in India as a warm aromatic and carminative.—*Beng. Disp.* 208. *Eng. Cyc. Voigt, Roxb.* ii. 94.

FŒNICULUM VULGARE.

Anethum fœniculum. L.

Fennel,	ENG.	Sonf,	HIND.
Adas,	JAV.		

Root.

Bekh-i-karafsh, PERS.

Cultivated in the plains of the Punjab as a pot-herb. *Dr. J. L. Stewart, M. D.*

FENJENGISHT. ARAB. Vitex negundo.

FŒTID STERCULIA, Sterculia fetida. See Avenues.

FO-HI, the Great, Brilliant (Tai Hao), in Chinese history, a king who cultivated astronomy and religion. Fo-hi is the first named sovereign of the Chinese, but the date of his reign is not ascertained. Yu, the Great, is the first monarch of whose reality there is no doubt, and his accession occurred about 2,000 years before the christian era. Husbandry and silk weaving were the earliest of the arts cultivated by this people; the former was introduced by Shinnong, the immediate successor of Fo-hi, and silk weaving by an empress, and to both of these the Chinese perform annual sacrifices on their festival days. Husbandry is still highly honored, and, annually, at a grand festival in honour of the spring, the emperor ploughs and sows a field. The Egyptians, Persians, and Greeks held games and festivals mingled with religious ceremonies at seed sowing, as hindus now do and in England formerly the festival of Plough Monday was held, during which the plough light was set up before the image of the patron saint of the village.—*Elliot.*

FOIL. In the arts, metals, rolled and beaten out into thin leaves, and large quantities of gold, silver, tin and brass foils are used in India, Burmah and China, for ornamental work in their temples and in ornaments. In jewellery, foils are manufactured by painting a sheet of silver foil with the required colour mixed in a transparent varnish and placed beneath a stone or gem. *King.* See Brass. Gem. Jewellery.

FOIN. FR. Hay.

FO-KWE-KI, a budd'hist work. See Sakya Muni.

FOLIA MALABATHRI, F. tamalapathri and F. Indica, of Dioscorides and Pliny, supposed to be Cinnamomum tamala, or C. nitidum *Nees*, also thought by some to be the leaves of the piper betel. The learned of Europe have investigated this at length.

FO-LING. A root so called by the Chinese, comes from the rhubarb region and formerly well known in the European Materia Medica under the name Radix China.—*Yule, Cathay* p. *I. CCXVI.*

FOLLIS, a copper coin, appears to be the same as the Ar. fals. plural falus, formerly known in Spain, as the name of a small coin, foluz.—*Yule, Cathay II. p.* 481.

FOOD.

Taam,	AR.	Ukl-o-Taam,	PERS.
Khana,	HIND.	Adhar,	SANSC.
Khana-pina	,,	Choram,	TAM.
Razaq,	PERS.	Bhojnam,	TEL.
Khuraq,	,,		

The food of man is obtained from the vegetable and animal kingdoms, but in by far the greatest proportion from plants.

The human frame, of flesh and bone and blood, when chemically analysed, yields the following elementary substances,

Carbon.	Phosphorus.	Iron.	Chlorine.
Hydrogen.	Potassium.	Manganese.	Fluorine,
Nitrogen.	Sodium.	Aluminum.	and
Oxygen.	Calcium.	Copper.	Silicon.
Sulphur.	Magnesium.		

Few or none of these ultimate elements occur in the human body in their pure form, but are variously combined into compounds with very different physical properties and chemical relations.

Carbon, hydrogen, oxygen and nitrogen are called organic elements, because no animal cell and no vegetable cell can grow unless the whole of these elements exist. The substances belonging to this group which enter into the food of man, are cellulose, starch, sugar and oil. Cellulose, forming the external membrane of the cells of all plants, is found in all food derived from the animal kingdom. Though similar in composition to starch, it differs from starch in being insoluble though, as they feed largely on it, it must be extensively taken up into the system of herbivorous and other of the lower animals, and must be similarly adapted by the human stomach, though with some difficulty, as carrots, turnips, radishes, uncooked vegetables &c., are not readily digested; cellulose can be converted into starch by sulphuric acid. Substances yielding starch, enter very largely into the diet of man and of the lower animals, and, with man, starch is generally partaken of in the form of flour, either of grains, of roots, and root-stocks, of the stems and in the seeds of plants. There are few or no vegetables that are eaten that do not contain starch. It is found in turnips, carrots, potatoes, cabbages, parsnips, beans, peas, wheat, barley, oats and the rest of the cerealia: in all seeds and fruits, but, as with the sago, Portland sago, tapioca, cassava, the various arrowroots, potato-starch, sago-starch, &c, it is first, before being used, separated from the other vegetable elements. Starch has the property of combining with water at a temperature of 180° and forming a gelatinous mass, in which state it seems more digestible. The carrot, turnip, parsnip, cabbage, and Jerusalem artichoke, owe their dietetic value to the starch which they contain, as also the roots of the Arum maculatum, Orchis mascula, inuline from the Inula helenium, Lichen starch, found in almost all kinds of Algæ and in the sea weeds. One of these sea weeds the

Plocaria tenax or, Chinese moss, is known in all the eastern seas.

Sugar is soluble in water, is of a sweet taste, and can be converted into alcohol, and it exists in plants dissolved in the water which they naturally contain. It is taken into the animal system to maintain the animal heat and persons and animals get fat on it. Cane sugar consists of carbon 12 atoms, hydrogen and oxygen each 9 and water 2: and sugar is obtained also from beet, the maple, the birch the various palms, from the Caryota urens, Phœnix sylvestris and cocoanut, but it exists in milk, the grape, in the fruits and other sweet parts of plants, and in the stems of all grasses.

The alcohol obtained from these by fermentation, in the form of spirits, wines and beers is largely used as an article of diet. Although resembling sugar in composition, its effects on the animal system are very different. It acts on the nervous system as a stimulant and narcotic, it is very valuable in medicine, and also, of great value to people in health, exhausted by long continued mental or bodily labour. In excess, alcoholic substances are injurious; but amongst the earliest discoveries of every race has been the art of producing intoxicating stimulants. In India, boasting of an ancient civilization, opium, hemp and the many preparations from it, its charras resin, and bhang, the various palm-wines, the beers from millets, and ardent spirits from cereals, and from palm-wines and sugars, have been used from time immemorial. As Mr. Cornish observes, (page 15) the effect of those articles in moderation, is probably rather beneficial than otherwise. Opium eating and ganjah smoking are both occasionally carried to excess, and the consequences, in injury to the nervous tissues of the body, are very similar to those resulting from the excessive use of ardent spirits. The moderate use of all these agents, however, appears to prevent undue waste of tissue in the body, and to render the frame less susceptible to the action of those impalpable but pestiferous poisons which are so prevalent in the soil and atmosphere of tropical countries. The craving for the use of these things undoubtedly arises out of some urgent necessity in man's nature, and the amount to which they are used in Southern and Eastern Asia, is, perhaps, greater than in any part of Europe. With a rapidly increasing population in all parts of the world, the production of food is obviously an object of the first importance to all classes, and the vegetable substances, from which man derives his principal sustenance, necessarily occupy the main attention of the culti-

vator, while the products form a most important staple of domestic and foreign commerce. The following lists of cereal grains and pulses, will give the names of the food plants cultivated in the Madras Presidency.

Botanical	*English Name*	*Hindustanee*	*Tamil Name.*
Hordeum hexastichon ...	Barley, ...	Jow, ...	.....
Triticum æstivum, ..	Wheat, ...	Gihoon, ...	Godoomay.
Eleusine corocana, ...	Raggy, ...	Natchnee ragee, ...	... Kavaru.
Oryza sativa..	Common rice, varieties, Black Paddy, Red do.	Chawl, ...	Arecsee.
Setaria italica	Italian millet.	Kala-kangnee	Tenney.
S. Germanica,	German millet	Kora kang.	
Panicum miliaceum, ...	Common do.	Sawee cheena warree, ...	Varugoo.
Penicillaria spicata, ..	Spiked millet.	Bajree, ...	Cumboo.
Sorghum vulgare, ...	Great millet, .	Jowaree, ..	Cholum.
Zea mays, ...	Indian corn, .	Mukka Jowaree; Boota, .	Muka cholum.

Pulses cultivated in Madras as food for man or beast.

Medicago sativa, ...	Lucern.	..	,,
Trigonella fœnum graecum, ...	Fenugreek, ...	Maitee or meetee ki bajee, ...	Vendium.
Psoralea corylifolia, ..	Hazel-leaved psoralea ...	Bawurcheen...	Karpooga Arisee.
Cicer arietinum, ...	Chick pea		
Ervum lens,...	Bengal gram, Lentil, ...	Chenna, ... Mussoor, ..	Cadalei. Mussoorpurpoo.
Pisum sativum, ...	Common pea,	Buttani, ...	Puttani.
Phaseolus vulgaris, ..	French bean,.	Bakla, ...	Frenchbeansoo.
Phaseolus lunatus, ..	Duffan bean.	...	...
—— radiatus,.	Green gram...	Haree moong.	Putcha payroo.
—— mungo. ,	Moong or monash, ..	Mash, ...	Oolandoo.
Dolichos uniflorus, ...	Madras gram.	Kooltee, ..	Kolloo.
—— sinensis.	Chinese dolichos, ...	Suffeed lobeh.	...
Lablab vulgaris, ...	Buffar, ...	Saim ki-puttee, ...	Motchay cottay.
,, ,, var.	....	Suffed ,, ...	Vellay mochay.
Psophocarpus tetragonolobus, ...	Winged pea...	Pankko mutur.	...
Canavalia gladiata, ...	Sword bean..	Lal kudsumbah, ...	Segapoo Thumbetten
Cajanus indicus, ...	Pigeon pea ..	Toor dhal, ...	Thovaray purpoo.
,, var.	Dholl, ..	Lal-Toor, ...	SegopooThovaray.
,, ,,	....	Pad ka toor.	Malay ,,

Plants cultivated for food, in Pegu.

Esculent Vegetables.

Solanum melongena, brinjal. Khayan.

Solanum lycopersica, tomato or love apple. Thayan-myai-bone.

Amarantus polygamus, green Bajee for vegetable curry.

Amaranthus atropurpureus, purple ditto.

Ocymum vilosum, mint for ditto. Penzeing.

Hibiscus sabdariffa, red sorrel or roselle for curry. Chin-boung.

Hibiscus longifolius, another variety for ditto. Kazoon-o-u.

Batatas edulis, sweet potatoe. Myouk-nee.

Dioscorea purpurea, purple yam.

Dioscorea glabra, the smooth ditto.

Dioscorea rubella, the red ditto.

Dioscorea anguina, the snake ditto.

Jatropha manihot, the Cassava yam.

Hedysarum tuberosum, the Batraj ditto.

Arachis hypogea, the earth nut. Myai-bai.

Dolichos catjang, long or French bean.

Dolichos lablab, the Indian ditto.

Raphanus sativa, or radish. Moue-lah.

Trichosanthes anguina, the snake gourd. Pailiumoay.

Momordica charantia, or small gourd. Kyet-bin-ga.

Luffa pentandra, the five cornered gourd. Thaboot.

Luffa decandra, the ten cornered gourd. Tha-bootkhawai.

Lagenaria vulgaris, the cuddoo or bottle gourd. Boo-shin-sway.

Lagenaria pipo, the pumpkin.

Lagenaria melo-pipo, or squash.

Arum furfaraceum, scaly yam.

Cucumis usitata, large cucumber. Tha-khwagyee.

Cucumis sativus, common ditto. Tha-khwa.

Cucumis citrullis, or water melon. Hpayai.

Allium cepa, the onion. Kyet-thoon.

Capsicum purpureum, red pepper. Gua-yoke.

Capsicum minimum, small or bird's eye pepper.

Andropogon esculentum, or lemon grass.

Cannabis sativa, or bang. Baing.

Nicotiana tobacco. Hsai.

Piper betel, Koon.

Oil Seeds.

Sinapis dichotoma. Moung-ngyeen.

Sesamum muralis. Huan.

Grains and Pulses.

Phaseolus mungo, green gram. Pai.

Eleusine corocana.

Zea mays, or Indian corn. Pyoun-boo.

Oryza sativa, or rice of numerous kinds. Htson.

The bread stuffs of commerce consist of the nutritious cereal grains, the tuberous rooted plants and the farinæ yielded by trees. Amongst these are wheat, barley, oats, rice, maize, millet, Guinea corn, the sago of palms, of the plantain and banana; the bread fruit tree; the edible root crops and starch producing plants, which are a somewhat extensive class, the chief of which, however, are the common potato, yams, coco or eddoe, sweet potato, the bitter and sweet cassava or manioc, the arrowroot and other plants yielding starch in more or less purity. Wheat and wheat flour, maize, and rice, form very important articles of commerce, and are largely cultivated in various countries for home consumption and export, a

portion being consumed in the arts—as starch for stiffening linens, &c., and for other purposes not coming under the term of food. The kind of bread in common use in a country, depends partly on the taste of the inhabitants, but more on the sort of grain suitable for its soil. The Chinese use little bread and that little is generally of wheat-flour. Cakes of wheat-flour, prepared on the girdle, are common article of diet amongst the races of northern and central India. Further south, on the table lands of the Peninsula, the natives of India use unleavened cakes made of the great millet, Sorghum vulgare, the spiked millet, Pencillaria spicata; and the very poor of the people use the hard Raggy, Eleusine corocana, in the form of cakes or porredge. Barley is occasionally used to the westward. Cakes made of the flour of the Indian corn, the Zea-mays are rather less nutritous than those made from wheat, but more fattening, in consequence of the greater quantity of oil contained in it. Along the sea-board, however, of all the south and east of Asia, in the deltas and valleys of the great rivers, the Indus, the Ganges, the Bramaputra, in all Bengal, all Burmah, in the delta, and valley of the Irawadi, in all the sea board and near the great rivers of China, rice is the great article of diet, boiled and eaten alone, or with a little animal food, or with condiments made into curry, or chutni; or made into the cakes which are sold through the bazaars under the familiar name of "appa" or hoppers. In the interior of India, on the table lands, other grains and pulses are used, such as wheat, the various millets, and Indian corn, and in northern India, the pulses, chick-pea, the lentil and dhals are all in extensive use; but the well-to-do people prefer rice, which is more and more used as increasing prosperity enables them to obtain it and the people speak of using it once or twice a day to indicate the dearness or cheapness of food. The facility with which it can be cooked, the little cost of cooking it and its lightness in digestion are all great recommendations to use it:—the cleaning, grinding and cooking of the harder grains costing much time and money. Rice flour is scarcely ever made into fermented bread, although it is said to be occasionally mixed with wheat flour, for that purpose. The superiority of wheat to all other farinaceous plants, in the manufacture of bread, is very great. Its essential constituents are starch, also called farina or fecula, gluten, and a little sugar and albumen. It is occasionally adulterated with alum, which is added to whiten the flour, and to enable it to retain a larger quantity of water. Salt is also employed in the adulteration of wheaten bread, to whiten the flour and enable it to hold more water, and carbonate of magnesia is improperly used to obtain the same result. In eastern and southern Asia, the ordinary wood bread, the well known sago, is made from the starch granules contained in the pith of several species of palms. In the Archipelago, sago flour and prepared sago are largely used as an article of diet, alike for the robust labourer and for the invalid, and is extensively exported for the use of the sick, and the nursery. Amongst the Arabs burgoul consists of wheat boiled with leaven, and then dried in the sun. The dried wheat is preserved for a year, and boiled with butter and oil. Leavened bread is called khuzb.

The seeds of all the Gramineæ, those of the darnel alone excepted, are capable by cultivation of becoming alimentary. The value of grains, generally speaking, is directly as the size of the caryopsis, and inversely as the thickness of the pericarp. When the grain abounds in perisperm it is heavy, when the envelope is thick the grain is, on the contrary, light, thus:—

100 seeds of wheat weighed .		450	grains.
100 ,,	barley, ...	335	,,
100 ,,	rye, ...	260	,,
100 ,,	oats, . , ...	250	,,

The chemical composition of the grain influences materially the quality of the resulting bread. If the gluten be absent, no fermentation takes place in the dough; if the gluten be in excess the bread is heavy and acid. Wheat flour may be considered the type of all that is suitable for alimentary purposes, and in the degree of deviation from this standard consists the inferiority of the other grains. It is very largely used by the races occupying Hindustan, Rajputanah, the N. W. Provinces of India, in the Panjab and in Afghanistan, but almost wholly in the form of unleavened cakes or chupatti, prepared on the girdle, for most of the hindu people of India, as a rule are prohibited by their religion from partaking of food prepared by others, many of them even of food of which others have seen the preparation; and as the stricter mahomedans object to use leavened bread, from the use of the toddies or fermented palm wines as a leaven, unfermented bread or porredge of flour, water, with perhaps the addition of salt, are alone employed. As a leaven for bread the substances employed are yeast in Europe, and the palm wines or toddies in Eastern and Southern Asia. And the substitutes for these are sesqui-carbonate of ammonia; carbonate of soda and hydro-

chloric acid; or carbonate of soda and tartaric acid.

Several calculations have been made to ascertain the available supply of food for India. Sir Arthur Cotton estimates that two acres of rice land will feed seven people for a year, and Mr. Fischer, the manager of the Shevagunga estate, considers that a family of five will consume under 6 lbs. of grain, per diem. (*Robinson's Travel's Vol. II. p.* 132. *Tomlinson. Hussal.—Statisque des Cereales de la France par Moreau de Jonnes, quoted by Simmonds*, p 217.)

It is estimated that in the Madras Presidency, 15 millions of acres of dry land and $5\frac{1}{2}$ millions of wet land are devoted to the production of food grains. Also that an acre of the best rice land will yield from 1,080 Madras measures in the southern districts to 1,200 measures in Godavery and Kurnool, i. e., from 30 to 33 cwt.; and the worst rice land in those two districts varies from 300 to 533 measures, i. e. from 8 to 14 cwt. Probably therefore, 20 cwt. of paddy or rice in the husk, or 10 cwt. of cleaned rice may be taken as a good average of produce of irrigated land, and 190 measures or about five cwt. that of dry land, whether it be devoted to ragi, cumboo, cholum or any other of the unirrigated crops which form the food staple of the poorer classes: one acre of wet land will thus produce as much food as two acres of dry land, and 55 millions cwt. of rice and 75 million cwt. of dry grains is the estimated amount of produce in the Madras Presidency, which has a population of 26,539,052 souls. This allows about 5 cwt, per soul per annum. Mr. Dalyell estimates the annual yield at 129 million cwt. or lb. $1\frac{1}{2}$ daily for each person, whereas, he considers that a family of five can subsist on 7 lbs, per day and three acres of superior land, supposing one acre to be irrigated, or 4 acres of unirrigated land would support such a family for a year. The Madras Presidency, with a long sea board, both imports and exports, largely, food articles, the exports exceeding the import five or six times; and perhaps one-third of the population occasionally use animal substances, as additions to their vegetable diet.

Animals of every class, quadrupeds, birds, fishes, reptiles, insects and their larvæ are used by man as food, and are acknowledged to contain a very large amount of alimentary substances, and these are classed as the nutritious proteinaceous or nitrogenous articles of diet. There are few living creatures in the south and east of Asia, which some one or other of its multitudinous races do not use as food: the horse, the bullock, the tiger, and all the cat-tribe, the dog, birds of all kinds, birds of prey excepted, almost every fish, frogs, snakes, ants, beetles and their larvæ, crustacea and molluscs of every kind, and the bodies of animals that have been killed or have died are all utilized. The hindu brahmin and rajput and vesya, as a rule, will not eat animal food, and no hindu can eat the cow without ceasing to be of the four hindu castes, but all sudra hindus eat goats, fowls, mutton, and the servile pariah races eat nearly all quadrupeds, many birds and reptiles. The majority of northern brahmins may, and do eat animal food, generally mutton or fish; though priests, while officiating as such, perhaps do not. For although most priests are brahmins, all brahmins are not priests; as, amongst the Jews, the tribe of Levi furnished the priesthood, so among hindus, it is furnished from that of brahmins. (*Ann. Ind. Adm. vol.* xii., *pp.* 11, 244, 268, 288, 300. *Hunter's Rural Life in Bengal.*)

The use of animal food is not absolutely forbidden to the followers of Buddha, and all the followers of this faith in Burmah use enormous quantities of fish, reptiles and crustacea: even the more strict of them, though they may refuse to take life for food, eagerly use flesh when they can get animals killed for them, or find them dead from accident or disease, and the cow, buffalo, tiger and horse are all eaten in Burmah, tiger-flesh selling for five annas ($7\frac{1}{2}d.$) a pound. Perhaps, no race in the world so largely utilize vegetable and animal substances as the Burmese and Chinese, the great rivers which intersect the country and the extended sea board providing a large supply of fish and crustacea.

The great staff of life in China is rice, which is either eaten dry, or mixed with water, so as to resemble a soup. Out of rice they make their chief intoxicating liquor, which, when good, is something like strong whisky, both in its colourless appearance and its smoky flavour. Vegetables are largely consumed, such as the sweet potato, yams, millet, peas, beans, turnips, carrots, &c. Of their fruits, the orange, lichee, loquat and mango are much in use. Their favourite drink is tea and the favourite animal food of the poor, is pork, the taste for which is national. There is a maxim prevalent among them, that "a scholar does not quit his books nor a poor man his pigs." The flesh of the bullock, sheep, deer, dog, cat, wild cat, rat, and horse is eaten, but compared with that of swine, it is a rarity. Fish are eaten in great abundance, either fresh, dried, or salted, and they rear great quantities of ducks and various species of fowl for the table. The

comprehensive principle on which Chinese diet is regulated, is to eat everything which can possibly give nourishment. The luxuries consumed by the very rich consist of the edible bird's nest, the bech de mer or sea slug; shark fins, fish maws, cow sinews, points of stag antlers, buffalo hides, which afford the gelatinous food considered so restorative. Amongst their delicacies also are dishes made of the larvæ of the sphinx moth, and of a grub bred in the sugar cane. In China, the various modes of catching and rearing fish exhibit the contrivance and skill of the Chinese, quite as much as their agricultural operations. According to the Repository, at least one-tenth of the population derive their food from the water, and necessity leads them to invent and try many ingenious ways of securing the finny tribes. Great bag nets and stake nets are in use, also hand nets with a diameter of 30 feet which they throw with a swing over head and they teach cormorants to fish and bring the prey to the boat. When Chinese fishermen take one of those huge Rhizostoma, which abound on the coast, they rub the animal with pulverized alum to give a degree of coherence to the gelatinous mass. Many of the dher, pariah, mhar and chuckler or leather workers of India eat greedily of creatures that have died of disease. It is said that, in S. Africa, eating the flesh of animals that have died of peripneumonia, causes in the eater a malignant pustule and that the virus is neither destroyed by boiling nor roasting. But, after minute inquiries throughout India, no injury seems to result from such food. In a recent year, 1863, when many horned cattle died throughout Burmah, of what is supposed to be the rinderpest ailment, there was a considerable amount of sickness and death from a typhoid fever, but whether eating diseased animals was the cause, was not ascertained.

Of the nutritious, proteinaceous or nitrogenous articles of diet, it may be added that the substance called protein is the basis. Protein is the first element that appears in the development of the vegetable cell. It is consequently universally present in plants. It also constitutes the chief material of the tissues of animals; In the vegetable and animal kingdoms it assumes various forms and is called albumen, fibrine and caseine according to its physical and animal properties. Herbivorous and graminiferous animals derive this constituent directly from the vegetable kingdom: the carnivora obtain it indirectly from the plants, through the animals that they

eat. Man obtains his supply of protein from both sources.

The fat of animals, ghee or clarified butter and the sesamum oil are almost the sole oleaginous or fatty substances used in the S. and E. Asia for food. Pure butter is rarely used. These consist of carbon 11, hydrogen 10, and oxygen 1, and their value in the animal economy is as heat producers, for which they are superior to sugar or starch. The oleaginous principle, however, seems also to aid in the developement of the proteinaceous tissues, and to act as a kind of preparation for their growth. In disease, oils are of undoubted value.

Many tables have been published showing the chemical composition of the various substances used as food by man. Perhaps those by Dy. Inspector General Mayer, of the Madras Army, Dr. Lyon Playfair and Dr. Watson are the most valuable, and the following may be found of use.

Table of Composition of Food in 100 *parts.*

Food.	Quantity of Nitrogenous Flesh-forming ingredients.	Quantity of non-Azotised Heat-giving Principles.	Quantity of Mineral Matter.	Quantity of Carbon.
Milk	4·50	7·90	0·60	6·94
Butcher's Meat, free from bone... ...	22·30	14·30	0·50	21·56
Bacon, Pork	8·36	62·50	0·50	53·92
Fish	14·00	7·00	1·00	9·15
Flour	17·00	66·00	0·70	45·50
Barley Meal	14·00	68·50	2·00	40·50
Oatmeal	13·60	70·30	3·30	44·10
Indian Meal	10·71	72·25	1·04	36·41
Lentils	28·22	40·08	0·00	
Raggy	18·12	80·25	1·03	
Cholum "Sorghum vulgare"... ...	15·53	83·67	1·26	
Cumboo "Pencillaria spicata" ...	13·92	83·27	5·73	
Peas	23·40	60·00	2·50	35·70
Rice	5·43	84·65	0·52	36·00
Potatoes	1·41	22·10	1·00	12·20
Carrots	1·48	11·61	0·81	5·40
Turnip	1·64	10·00	1·62	5·20
Parsnips	2·10	17·70	0·80	8·63
Mangel Wurzel	1·60	12·26	1·14	5·50
Cabbage	1·75	4·05	2·20	2·65
Cocoa (nibs)	9·56	8·76	2·70	68·56
Sugar	0·00	100·00	0·00	42·58
Suet, Fat, Butter... ...	0·00	100·00	0·00	79·00
Bread	6·83	48·65	1·51	25·19
Cheese	31·02	25·30	4·90	36·80
Beer	0·85	9·17	0·20	4·33

The table also shows the relative quantities of nitrogenous matter contained in the various cereals and pulses. The abundance of this element renders them so suitable for forming an article of diet together with substances abounding in carbonaceous or starchy matter.

Name.	Nitrogenous matter. In 100 parts; varies in specimens from different parts of India, from	Starchy matter.	Fatty or oily matter.
Gram, "Cicer arietinum"	18·05 to 21·23	60·11 to 63·62	4·11 to 4·95
Arhar, "Cajanus indicus"	19·83 to 20·38	61·90 to 64·32	1·32 to 1·86
Mattar, "Pisum sativum"	21·80 to 25·20	58·38 to 62·19	1·10 to 1·12
Lentils, masur. "Ervum lens"	21·57 to 26·18	59·34 to 59·96	1·00 to 1·92
Chural, "Lathyrus sativus"	31·50	54·26	0·93
Lablab vulgaris	22·45 to 24·55	60·52 to 60·81	0·81 to 2·15
Rawan, "Dolichos sinensis"	24·00	59·02	1·41
Kulthi, "Dolichos uniflorus"	23·03 to 23·47	61·02 to 61·85	0·76 to 0·87
Guwar, "Cyamopsis psoraloides"	29·80	53·89	1·40
Bhut, "Soja hispida"	37·74 to 41·54	29·54 to 31·08	12·31 to 18·90
Urd, "Phaseolus radiatus"	22·48	62·15	1·46
Mung, "Phaseolus mungo"	23·54 to 24·70	59·38 to 60·36	1·11 to 1·48
Moth, "Phaseolus aconitifolius" ...	23·80	60·78	0·64

Many of the ancient customs noticed in the Scriptures find illustrations in modern Eastern life. With regard to unclean and forbidden animals, mahomedans follow generally the law of Moses, and only use animals that chew the cud and divide the hoof. They do not eat shrimps. Brahmins do not use the onion, saying it so resembles flesh, neither are the fruit of the Moringa pterygosperma, or Sura kai or the radish, articles of diet with them, and sugar from the palmyra tree wine is also avoided by them. Hindus eat off metal, usually brass, dishes, for the facility of purifying them by fire, but many are now using glazed China-ware which they purify with ashes. In a large entertainment, however, leaf platters are used, made of the leaves of the banyan, the pulas (Butea frondosa) or the plantain leaf. The pig which many races avoid, is used by the Naidu hindus of the Indian peninsula and by all the aboriginal races and humbler christians; most hindus avoid crabs, but many eat shrimps. Eggs are eaten by almost all hindus, and all hindus partake freely of milk, which the Burman and Chinese never touch. Hindus and buddhists often make food offerings to the deity. With the Burmans the act of offering is the merit, and the quantities of food presented at the temple at Prome and the great Showay Dagon at Rangoon is enormous, it is simply all thrown over the wall down the slope of the rock. Hindus make sacrificial offerings to the deity, the elements of sacrifice being a lamp, frankincense, camphor and sandal wood, which are burnt, and they eat the sacrificial offering, whatever it be. Food is often presented by hindus to the Pitri or manes of their ancestors, many of the races of Northern India, who follow brahminism, cook within a sacred circle, and a stranger stepping within it makes all unclean. Many Vaishnava hindus, will not permit a stranger to cast a look on the food they cook, nor even to look on them while eating, and every hindu above the rank of a labouring man eats his food dressed in a silk cloth.

It is mentioned when describing the meal in Genesis xliii. 32, that they set one for him by himself, and for them by themselves, and for the Egyptians by themselves: because the Egyptians might not eat food with the Hebrews; for that is an abomination to the Egyptians and, so, amongst the hindus, different castes will not even eat food cooked in the same earthen vessel, if a person of another caste touch a cooking vessel, it is thrown away; similarly, in Genesis, xliii. 34. it is mentioned of Joseph that he sent messes into them from before him, and, this is still the method among the hindoos, the dishes are not placed on the table but messes are sent to each individual by the master of the feast, or by his substitute. Feasting is everywhere in the East, a great social duty, in the manner described, 1 Kings, i. 9. Food is eaten with the hands as in Matt. xxvi. 23, and after meals, hand washing as 2 Kings iii. 11 and Matt. xv. 2, Mark vii. 5, Luke xi. 38 *Eng. Cyc.*, *Powell Hand-book* p. 243. *Crawfurd, Dict. Dr. Cornish on dietary Ward on the Hindus M. E. J. R., Fortunes' Residence in Chin.*

FOOFUL. Arab. Pers. Betel-nut.

FOO-CHOW-FOO in L. 26° 7′ N. & L. 119° 15′ E. is the capital of the Chinese province of Foo-keen. It stands on the

banks of the river Min, about thirty-eight miles from the sea, seven miles to the westward is Pagoda Island, on which is a lofty building, or pagoda, from which the island derives its name, where the river Min again unites with a branch from which it has been separated a few miles above the city of Foo-chow-foo. Mountains from 1,500 to 2,800 feet in height form a semicircle, five miles distant from the city; the plains, at the base of these mountains, are planted in paddy fields, orchards, and groves. The walls of the city enclose a space exceeding $8\frac{1}{2}$ miles; they are turreted, *Sirr's Chinese i.*, 160.

FOO-KEEN, a Chinese district, lies on the coast, and is bounded on the North-East by Che-kean, on the North-West by Ke-an-se, and on the South-West by Kwan tung: its surface is estimated about fifty-seven thousand square miles, and its population is about fifteen millions. Foo-keen is the principal black tea district of China, the renowned hills of Bohea are distant one hundred and fifty two miles from Foo-chow-foo, the capital of Foo Keen. *Sirr's China and Chinese*, Vol. I p. 164.

FOONG-HANG, the Chinese phœnix, a head ornament worn by Chinese ladies composed of gold and jewels, the wings hovering and the beak of the bird hanging over the forehead on an elastic spring.

FOOT. The foot, in most oriental countries is deemed the humblest part of the body. It is alluded to in 1st Kings ix. 9, where the Hebrews are mentioned to "have taken hold of other gods." When a person claims the protection of another, he casts himself down before him, and lays hold of his feet: and this expression is commonly used, though a person may not prostrate himself, "I have taken hold of your feet." "I will not leave your foot." When a person is called into the Burman monarch's presence, he is said to go to the golden feet, and a son writing to his parents will add that he kisses the feet of his mother.

FOOT-BALL, is a favourite game with the Burmese and Papuans. The ball is woven of ratan, hollow and elastic. The player keeps it dancing a little while on his foot, then occasionally on his arm, or thigh, till suddenly he gives it a good blow with the hollow of his foot and sends it flying into the air. Another player runs to meet it, and at its first bound catches it on his foot, and plays in his turn. Four or five can play together, and the game needs agility, skill and practice. With the Malay people,—the players stand in a circle, larger or smaller according to the number engaged, a ball made of split rattans, hollow and about 6 inches in diameter, is thrown up by one, the person to whom it approaches receives it on the instep of his foot, and throws it into the air towards his nearest playmate, who in like manner sends it on to the next, and so on: with expert players it is thus sent round from one to another, an extraordinary number of times without falling—sometimes one player will himself, particularly when there are many on-lookers, keep the ball in constant motion, receiving it in the fall, now on his foot, now on his knee, elbow, head, shoulder, &c. The ball is a perfect sphere, and is so light, it may be thrown almost with full force against any fragile object, without causing injury. The introduction of this plaything into Europe would be a great matter in households.—*Jour. Ind. Arch. Vol.* V. *No.* 11.

FOO-TOO, one of the Chusan Archipelago, an island 3 miles long and 1 mile broad.

FORATH. Ar. River Euphrates, in Arabic and Persian, Forat or Forath, (plural afrat) in the Hebrew language, Perath or Prath, means to fructify or to fertilize.

FORBES, Dr. Duncan, LL. D., educated at Perth and St. Andrew's University, was for a short time at the Calcutta Academy, but settled in England, where he was a teacher of Persian and Hindustani, afterwards Professor of Oriental Languages at Kings College.

FORDONIA. See Hydridæ.

FORE-FINGER, pointing it, is denounced in Isaiah lviii. 9. See Sundhya.

FORESTS OF INDIA. Drs. Royle, Wallich and McClelland, for many years, continuously, brought to notice the necessity for attention to the forests of India and Burmah. A vast extent of forest land in Oude, situated on the east side of the Kowreala river, was described by Dr. Royle, as holding out the prospect of very valuable supplies by the year 1850, provided that means were adopted for preventing wanton destruction, and of allowing the young plants to grow up, and supply the place of those which are cut down; Dr. Wallich drew attention to the forests then occupying the Islands of the Gogra, commonly called Chandnee Choke. He represented them as in every way deserving of being preserved for the use of Government, and protected from destructive depredation. The Sissoo and Sal forests of the Deyra Doon were also recommended to be preserved, being as important for the stations in the north-west of India, as the forests of Oude and Gorukpore are for those in the south. The Western Coast

of the peninsula of India, the country above the ghauts in Canara, the Animully and Pulney hills, have long been famous for their forests, especially those of Malabar for teak, of which the timber has always been remarkable for its superiority to that of other places, and with which the dock-yards and ordnance department have been long supplied. The quantity, however, has diminished, from the forests being partially exhausted, and pains not having been taken to keep up a supply. Also, long ago, teak was pointed out by Dr. Roxburgh as abounding on the mountainous parts of the Coromandel coast and on the banks of the Godavery, above Rajamundry, and plantations were established at several places in the interior of the Bengal Presidency. A new supply of teak was, however, laid open, on the acquisition of the territories along the east coast of the Bay of Bengal. The forests to the eastward of the Saluen river, in Martaban, when visited by Dr. Wallich, were very favourably reported on, for the supply of splendid bamboos as well as of teak, for the extent of the forests, the size of timber, and the facility of procuring it. Subsequently, Dr. McClelland reported in the forests of Pegu and Tenasserim, eighty-five species of soft white wood, many of them however valuable, either for their fruit, gums, oil-seed or spices; others, for their close and compact structures, are employed in the manufacture of small ware, as a species of Nauclea used for making combs, and two species of Erythrina yield the light charcoal employed in the manufacture of gunpowder. These light woods useless as timber, belong to the families Urticaceæ (including more than twenty species of Ficus,) and Sterculiaceæ, Laurineæ, Rubiaceæ, Myristicaceæ, Anonaceæ, Spondiaceæ and Bignoniaceæ, with odd species from other families. Of the remaining white woods, twenty-five in number, valuable for their strength and closeness of grain, seventeen of them are fit for house-building, and eight, from the hardness and fineness of their grain, render them valuable as fancy woods for cabinet making. He found twenty-five red-colored woods, seven of which, from their strength and solidity, are adapted for the various purposes of house-building; seven, from the elegance of their grain and colour, are suited to the various purposes for which mahohogany is used, and eleven are suited to the finer purposes of fancy cabinet work. Yellow woods, three in number, hard and fine grained, suited to fancy purposes. There are twelve dark-brown woods, all valuable, eleven of them adapted for house-building, and probably for ship-building, and one for special purposes requiring great strength and hardness. Black woods consist of four different kinds, all of which are valuable for their strength and hardness. There are seven varieties of light-brown wood, colored wood, embracing all the timber of most value in the Province, exclusive of teak.—

FORESTS OF INDIA.

In 1850, the British Association at Edinburgh appointed a committee to report on the probable effects of the destruction of Tropical forests and the Report was presented the following year, 1851, at their meeting at Ipswich. A year afterwards, Forest Conservancy establishments were sanctioned for the Madras Presidency and for British Burmah. By Act VII. of 1864, the Government of India issued forest rules and penalties. The gross revenue derived from the Indian forests was in 1863-4 £304,443 and in 1864-5 £351,757, but deducting the cost of conservancy, the nett revenue was £113,949 in 1863-4 and £140,820 in 1864-5. In British Sikkim, are 105,004 acres of forest and there are also forests in Assam, Dacca, Chittagong, Cuttack, Palemow and the Rajmahal hills. Under Act No. VII an order was issued prohibiting felling of forests at an elevation of 6000 feet or upwards. In British Sikkim and the Dooars of Bhootan are large tracts of Sal (Vatica robusta). The higher slopes of the Darjeling district above 6,000 feet, have been reserved, plantations of temperate and subtropical trees have been formed, and several thousand mahogany trees were planted in the Terai with what result is not known. The forest tracts of the N. W. Provinces, are in Kumaon, Gurhwal, Meerut, Rohilcund, Ghorukpore and Jhansi. In Kamaon and Garhwal, the total area surveyed was 406,134 acres, of which more than nine tenths were covered with the cheer or stone pine. The Government forests in Goruckpore cover an area of 127,527 acres, 116,384 of which are occupied by sal trees, with an average of 25 to the acre. About 400,000 acres of Gurhwal and Kumaon are covered by the Pinus longifolia, bearing about fifteen trees to the acre. The northern limit of indigenous teak is in Bundlecund. It has been planted in the Punjab, but in that dry climate it is poor and stunted. The Oudh forests are in three divisions. The first or "Kheirigurh division" lies between the rivers Sohali and Mohana. The area is 263 square miles of which 149 square miles produce Sal, but the trees here in 1868-9, were not large enough to produce logs of timber. In the second or "Baraitch division," the countries between the river Kauriali and Girwa, is

partly covered with Sissoo forest and partly with a dense jungle of a variety of trees. The forest area is 170 square miles of which 100 produce sal. Eight trees are reserved, viz., Shorea robusta; Dalbergia sissoo; Cedrela toona; Diospyros, Melanoxylon, Conocarpus latifolia, Terminalia tomentosa, Acacia catechu, and Nauclea cordifolia, Sissoo, toon and ebony. The forests on the banks of the five rivers of the Punjab are of great value, and the deodar forests of the rajahs of Chamba and Bussahir are available for the Indian Government. Wood is the only material at present generally available in India for fuel. The northern limit of the Sal is on the banks of the Beas in the Kangra valley. The aspect of Coorg presents an entire forest, the long and narrow valleys, cultivated within it, serve but to render the vast woods more striking. The whole of the eastern boundary presents a remarkable line of demarcation, exhibiting an almost uninterrupted and impervious wood from the Burmagherry hill till reaching the Cavery, this space is wholly uninhabited. Advancing westwards the wood decreases in density as the country improves in cultivation and becomes gradually thinner till reaching the western ghat, the immediate summits of which, naturally bare of wood, are clothed with a luxuriant herbage. In the Central Provinces 2,880, square miles of forest tracts have been reserved 11,000 sq. miles remain unreserved and there are 10,000 sq. miles of timber tracts belonging to private individuals.—*Royle's Productive Resources of India. McClelland. Cleghorn in Year Book of Facts p.* 203 *of* 1868. *Annals Ind. Admin.*

FORGHANA. Has been a great hive of nations, whence issued the Asi, the Jut, or Yeut, who peopled the shores of the Baltic and preceded the Goths of Attila and Alaric. See Farghana.

FORSTER, an early traveller from India to Europe. He proceeded by land from Bengal to the Caspian Sea, and from thence by the ordinary route on the Volga, &c., to Petersburgh, in the year 1784. He avoided the country of the Sikhs. *Rennell's Memoirs*, p. 148.

FORGET ME NOT.—Myosotis palustris. Quamoclit vulgare.

FORKS. The point where two rivers meet and unite in one stream. Each branch is called a "fork." *Burton's, City of the Saints*, p. 89.

FORMAGGIO also CACIO. It. Cheese.

FORMICA, a genus of insects belonging to the family Formicidæ. It is distinguished by having the foot-stalk of the abdomen composed of a single joint, the mandibles triangular, and denticulated at the edge. The females are destitute of a sting. This genus comprises about a dozen British species, the largest of which is the Hill-ant or Horse-ant, F. rufa. The neuters in this species are about one-third of an inch long, of a black colour, with the thorax, abdominal scale, and a large part of the head, red. It makes its large conical nest in the open ground in woods, &c., amassing together large quantities of sticks, straws, &c.

Dr. Jerdon notices F. ammon; angusticollis; assimilis; carinata; cinerascens; compressa; hastata; indificans; longipes; nana; phyllophila; reluceus; rufo-glauca; sexspinosa; smaragdina; timida; vagans; velox; stricta; and sylvicola.

FORMICA INDEFESSA. An exotic species, is described by Colonel Sykes as being an extraordinary instance of the operations of instinct in so low a form of animal life. The fondness of these insects for sweet substances is very great, and their attacks on such things were resisted in every possible manner. But Col. Sykes observed an ant upon the wall about a foot above the level of the sweets; it fell, but instead of passing between the wall and the table and alighting upon the ground it fell upon the table. Others followed its example with similar success; and it was no longer a matter for doubt as to how they continued to swarm in such numbers about their favourite food, however carefully guarded.—*Eng. Cyc.*

FORMICA SMARAGDINA. Fab.

Dimiya, Singh.

This large red ant is well known in Malabar and the wooded parts of India, is employed in the North-West Provinces to destroy the nests of wasps that have established themselves in a house. In this case they are said to destroy all the wasps, but become so infuriated that their own indiscriminate attacks are nearly as bad as those of their foes. *Dr. Jerdon in M. L. S. J., Colonel Sykes. Eng. Encyc.* See Ants.

FORMICIDÆ. An extensive family of Hymenopterous insects, belonging to the section "Aculeata," and to the sub-section "Heterogyna" of Latreille, comprising the Linnæan genus Formica, or the numerous tribes of ants. The family is distinguished by the wingless state of their abortive females, by the great length of the basal joint of the antennæ in the females and the neuters, in which they are elbowed at the extremity of this joint, and by the first or the first and second joints of the abdomen being knotted; the upper lip of the neuters is large, horny

and perpendicular, falling between the jaws; the eyes are rounded, or oval and entire; the form of these organs varying greatly in many of the species. In their structural character the Formicidæ resembles the Tiphiæ and Daryli belonging to the section of the Sand-Wasps. The neuters are smaller than the males, and these are smaller than the females; the abdomen in the first and last of these sexes is composed of six segments, in the male of seven. The females and neuters are furnished with a sting in many of the species. Those species which have stings emit an irritating fluid into the wounds which they make, while the stingless species discharge a red transparent fluid on to the skin, causing painful blisters. The various genera of this family, according to Latreillie, are:—Formica, Polyergus, Ponera, Myrmica, and Atta. This last genus differs from Myrmica only in having very short palpi; the head of the workers is generally very thick. Acephalota is the Visiting Ant of the West Indies.

The *3rd Tribe Formicites*. The last family containing those ants that have no sting, and the abdominal pedicle is of one knot only. It comprises two genera, Polyergus and Formica.

See Ant; Formica; Polyergus; Ponera; Myrmica and Atta.

FORMIC ACID. See Gums and Resins.

FORMOSA CAMPHOR. See Camphor.

FORMOSA or PAHAN ISLAND, called also Ty-oan, is about 210 miles in length from N. N. E. to S. S. W. with high land in the interior, but low towards the sea. It was known to the Chinese, A.D., 1431. When first made known to Europe, its men were described as tall, corpulent and bamboo yellow, going naked in summer. It was held by the Dutch for a short time. According to Latham the western coast of Formosa is occupied to a great extent by recent settlers from China; but the interior is inhabited by several rude tribes, whose language differs from the known Formosa. Malay words occur in the language of Formosa, which however belongs to a state intermediate between the monotonic and the inflectional. Formosa is part of a chain which lies along the Asiatic continent and forms a distinct and well defined ethnic and geographic group which includes all the Japanese and Aino islands from Formosa to Kamtschatka, and Mr. Logan proposed to call it Aino-Japanesia. Aralia papyrifera in Formosa does not exceed 6 feet high.—See *Archipelago, Supp. ii, Ind. pp.* 318, 319, 320, 358. *Japan* 410, *Loo-choo*

FORMOSA PHEASANT, is the Emplocamus Swainhoii.

FORSKAL, PETER. A traveller and botanist, a native of Denmark or Sweden, who travelled in Arabia and Egypt, and wrote the Flora Ægyptiaca, Arabica, and other works.

FORSTEN. A Dutch naturalist, spent two years in N. Celebes, about the year 1840.

FORT GEORGE. The fortress of Bombay.—See Bombay.

FORT GLOUCESTER. A fortification now in ruins, on the left bank of the Hooghly river, about 15 miles below Calcutta.

FORT GOLCONDA. A fortress on a rocky hill on the left bank of the Seena river, five miles west of the city of Hyderabad in the Dekhan, its builder is not known. It consists of an enceinte, with bastions and a citadel. After a siege of seven months, it fell by treachery in the end of September 1687.

FORT ST. DAVID. A place in the Carnatic at Behoor; between it and Pondicherry, Major Lawrence, in August 1752, entirely defeated the French army.

FORT ST. GEORGE. The fortress at Madras. It is built on the principle of Vauban.

FORT VICTORIA. The name given to Bancoot, after its surrender to Commodore James, on the 8th April 1756.

FORTRESSES. See Gul-i-gulab.

FORTUNE, ROBERT. A scientific horticulturist who collected many rare plants in China, in the middle of the 19th century. His first voyage was made in 1842, in the capacity of botanical collector to the Horticultural Society of London. During a four years' wanderings in the Celestial Empire, he discovered several new plants—useful and ornamental—which now add to the beauty of many an English garden. His mission was altogether so successful that he was only allowed a short rest in his native country, when he was deputed by the Court of Directors, in 1848, to proceed a second time to China, for the purpose of obtaining the finest varieties of the tea plant, as well as native manufacturers and implements for the Government Tea Plantations in the Himalaya. He brought the important objects of his mission to a successful termination. Upwards of twenty thousand tea plants, eight first-rate manufacturers, and a large supply of implements were procured from the finest tea districts of China and conveyed in safety to the Himalaya. This journey occupied altogether about three years, and Mr. Fortune returned to England at the end of 1851.

He was deputed again by the East India Company at the end of 1852, for the purpose of adding to the collections already found, and of procuring more tea-makers. He was occupied in this undertaking for nearly three years; and the result of his mission was considered very satisfactory. His fourth voyage was made in the service of the United States Government, to procure a very large supply of tea plants, for trial in some parts of the American Union, and other choice productions desirable to introduce.

FORT WILLIAM. The fortress of Calcutta. It was constructed by Lord Clive.

FOSSILS. Are very abundant in Southern Asia, all along the sea board where they are tertiary: west of Pondicherry; and near Trichinopoly; Hyderabad and the central provinces; in the valley of the Nerbudda, in all the coal tracts, in the Siwalik hills, and in Burma.

Of those found in Burmah by Mr. Oldham, during his companionship with the Embassy, he notes the following:

	Specimens.
Jaws and Teeth.	
Elephant, tusk and lower jaw... ...	3
Mastodon, lower jaw, and molar tooth..	2
Rhinoceros, tooth	1
Tapir? lower jaw	1
Deer	1
Sus? or Merycopotamus, portion of cranium.	1
Gavial fragments	
Bones.	
Pachydermata	35
Ruminants	10
Crocodile...	24
Tortoise	21
,, large	17
Undistinguished	16

Sir Proby T. Cautley, carried on extensive researches in conjunction with Dr. Falconer, in the fossil remains in the Siwalik hills. He presented to the British Museum, an extensive collection of fossil mammalia from the Punjaub Siwalik, duplicates of which are in the Museum at the East India House. At Cutchavelly, north of Trincomalie is a bed of calcareous clay in which recent shells and crustaceans, principally machophthalmus and Scylla are found, in a semi-fossilised state. The breccia at Jaffna and the arenaceous strata in the western coast of Manaar and the neighbourhood of Galle, also contain recent shells. These petrifactions, when powdered, are used by the Arabs as a specific for diseases of the eye. The saligramma which the Saiva and Vaishnava hindu worship, are fossil, water worn, ammonites found, in part of the Gunduk river in northern India. The bin-lung, rori and choolia stones found in the whirlpools of the Nerbudda and Chumbul rivers are not fossils, merely stones rounded by attrition. A species of Echinus is found fossil in the Lagari hills, Imam Bakhsh khan and Derah Ghazi khan, and the curious trilinear markings on it are compared by the people to the impression of a birds foot, to which accordingly they attribute the origin of these fossils. The natives have a story with regard to the larger fossils of the Mazari hills, that they are the petrified clothes of fifty betrothed virgins, who were once, while bathing, surprised by their future husbands; they prayed heaven to grant them a covering; in answer to this the earth swallowed them up, and their clothes became stones. In the Punjab, a fossil encrinite is used in medicine, under the name of Sang-i-yahudi, or Jew's stone: and the "sangcha" a nummulite from Dera Ghazi khan, and "sang-i-shadnaj" another nummulite are also used in medicine.—*Oldham in Yule's Embassy*, p. 343. *Hand Book of Punjab*, See Geology, Saligramma, Simiadæ Hot Springs, Lignite; Elephant; Felis.

FOSSIL COPAL occurs along with lignite in the tertiary beds of the Malabar Coast near Travancore. It was first found in the Blue Clay at Highgate, near London; it occurs also at Wochlow in Moravia. It occurs in irregular pieces or small nodular masses. Its colour is yellowish or dull brown; nearly opaque. Lustre resinous. Fracture conchoidal. Specific gravity 1·046. When heated it yields an aromatic odour, and melts into a limpid fluid; it burns with a yellow flame and much smoke. When strongly heated in contact with the air, it is totally dissipated.—*Eng. Cyc.* See Copal.

FOSTAT, or Mafr-ul-atik, in Egypt although greatly decayed, may still be considered as a town of the middle size. It has a custom-house, where the duties on goods from upper Egypt are paid.—*Niebuhr's Travel's*, Vol. I. p. 64.

FOTHERGILLIA INVOLUCRATA.

Falc.

Kilar,	HIND.	Chob-i-Pau,	PERS.
Pishor,	,,		

In Kashmir, forms whole tracts of low jungle. It is the Chob-i-pau, from which Mr. Vigne made a flute. He tells us that this grows also in Ladak and Kadak. In general form it resembles a ground ash or gigantic hazel, ten or twelve feet high with branches about 2½ inches in diameter, and its fruit in clusters of small nuts. Wood very hard, resembling, but darker than, box. Messrs. Rudall and Rose formed the portion brought

and perpendicular, feigne, into a finely toned the eyes are roud excellent tent pegs. It is the form of thes the straths and mountain many of the western end of Kashmir, and character th vations from 4,400 to 5,500 feet. and Daryl lconar, *Cleghorn.*

Sand-WU-CHIN-FOO. A Chinese town on the the ma iver, a place of great trade.

female UJDAR, HIND. PERS. A person in of the ry employ, in the native states of India, in differing greatly in grades of rank. In Rajputanah, the foujdar is a leader of the vassals.

FOUJDARI ADALAT. A Court of military and criminal law, Courts of "Sudr and Foujdari Adalut" existed at Calcutta, Madras and Bombay until the establishment of the High Court of Judicature.

FOULAD, GUZ. HIND. PERS. Steel, properly fulad.

FOURCROYA CANTALA,

Agave cantala,	ROXB.	Aloo Americana,	RUMPH.
Bilati Ananas,	BENG.	Samato,	TEL.
American Aloe,	ENG.	Balu rakkisa,	,,
Great Aloe,	,,	Bramha rakasi,	TAM.
Sime kattalay,	,,	Bramha rakshasi,	,,
		Kitta nara,	,,

This plant flowers when ten or fifteen years old and when 20 or 30 feet high.

FOURCROYA GIGANTEA. VENT.

The Great Aloe, ENG. | Sime katalay, TAM.

This plant, one of the Amaryllaceæ has been introduced into India from South America. It is remarkable for its leaves which are often ten feet long. It yields a fibre five or six feet long, somewhat finer than Agave fibre, but possessing similar properties, it is less abundant than the Agave, but is as easily propagated. In preparing its fibre, called aloe fibre, the leaves, cut close to the stem, are placed on a piece of board, and beaten with a short stout stick. After being thus bruised, the pulpy portions are scraped out with a blunt knife, and the fibres are subsequently washed in clean water and dried in the sun. Its long and strong fibre deserves more attention than is given to it. The Agave and Fourcroya are similarly called Aloes and the fibre, aloe fibre. These are not natives of India, but have mostly been introduced from America. They are capable of enduring a great variety of climates, and are all rapidly extending over India, but they are not yet sufficiently abundant, the Fourcroya gigantea, especially, to yield the fibre in large quantities. *M. E. J. R.*

FOUR-LEAVED CARYOTA. ENG. Caryota urens, *Linn.*

FOWLS. ENG.

Ouph,	HEB.	Koli,	TAM.
Murghi,	HIND.		

Though in numerous breeds, and subbreeds, all the domestic fowls seem to have diverged from a single type. The game breed is from the Gallus bankiva called also G. ferrugineus. Its feathers are closely depressed to the body, it is indomitably courageous, evinced even in the dispositions of the hens and chickens. It is of various colours.

"*Malay*" fowl, with body of great size, disposition savage.

"*Cochin or Shanghai*" breed of great size, of Chinese origin, and disposition quiet.

"*Bantam*" breed, originally from Japan.

"*Creepers*" or "*Jumpers*" from Burmah, with monstrous short legs.

"*Frizzled*" or "*Cafir*" fowls of India, with feathers reversed.

"*Silk fowls*," with silky feathering and

"*Sooty fowls*" of India, the hens of which have a white color, soot stained, black skin and periosteum.

The Europe breeds "*Dorking*," *Hamburgh*," "*Andalusian*," "*Spanish*," "*Sultans*," "*Ptarmegan*," "*Ghoaondook*," "*Rumpless*" are unknown in S. E. Asia.

"*Gallus Sonneratii*," does not range into the northern parts of India, part of its hackles consist of highly peculiar horny laminæ and it is not now believed to be the parent bird of the domestic fowl.

"*Gallus Stanleyii*" is peculiar to Ceylon, and greatly resembles the domestic fowl.

"*Gallus varius*," called also "*G. furcatus*" is met with in Java, and the islands of the Archipelago as far east as Flores. It has green plumage, unserrated curb and single median wattle.

"*Gallus Temminckii*" is supposed to be a hybrid.

"*Gallus bankiva*," inhabits N. India as far west as Sind, ascends the Himalaya to a height of 4,000 feet, inhabits Burmah, the Malay peninsula, Indo-Chinese countries and the E. Archipelago, as far as Timor.

Fowls are not mentioned in the Old Testament, and are not figured on Egyptian monuments. They are figured on some of the Babylonish cylenders, B. C. 600 and 700. The Institutes of Menu permit the wild-fowl to be eaten but forbid the domestic fowl. At the present day, most of the Pagan tribes on the east coast of Africa from 4° to 6° south of the equator hold the fowl in aversion. Cæsar informs us that the Celts of Britain, would not eat the *hare, goose*, or *domestic fowl*. The Rajpoot will hunt the

first, but neither eats it nor the goose, sacred to the god of battle (Har). The Rajpoot of Mewar eats the jungle fowl, but rarely the domestic. Many of the races in the S. and E. of Asia sacrifice a cock. The domestic fowl is eaten freely by mahomedans and many hindus, and they are largely reared for the table.

Fowls fatten best when kept in the dark. In India their eyelids are sown together.—

Fowls are sacrificed by the Yezdi of Kurdistan. The Assyrians worshipped the cock. The Jews of the east offer a cock for man and woman as an atonement. Socrates desired a cock to be sacrificed to the god of health. *Darwin, Tod's Rajasthan, vol. I., p.* 76, See Gallus. Cock.

FOX, ENG.

Taaleb,	AR.	Nomri,	HIND.
Shual,	HEB.	Kokri,	MAHR.
Lomri,	HIND.	Robur of	CANDAHAR.

In India three species of foxes are met with, and may here be noticed separately.

Vulpes Bengalensis, SHAW.

Canis Bengalensis,	GRAY.	Vulpes Corsac *v.* Bengalensis, Indicus et kokree,	BLYTH.
„ Kokree,	SYKES.		
„ rufescens,	GRAY.		
Vulpes Indicus,	„		
Lomri, Loomri and Noomri,	DUK.	Bengal fox,	ENG.
Bengal dog,	ENG.	Common fox,	„

lives in the entire of India and the adjacent countries, but varies both in size and colour in different localities; is generally of a grayish brown with a fulvous cast, passing in some cases to Isabella; it is always variegated above with an intermixture of whitish hairs. It is a very pretty animal but much smaller than the European fox, with a short head, very sharp muzzle, oblique eyes, nut-brown irides, very slender legs and very bushy tail, trailing on the ground. Its principal food is rats, land crabs, grass-hoppers, beetles, and fruit: the mango, the custard apple, are largely eaten. It always burrows in open plains, runs with great speed, doubling like a hare; but instead of stretching out at first, like the hare and trusting to its turns as a last resource, the fox turns more at first and if it can fatigue the dogs, it then goes straight away.

Vulpes flavescens, GRAY.

Vulpes montanus, HODGS. | Robur in CANDAHAR.

This species is numerous in the valleys around Candahar, hiding in burrows and in holes in the rocks. It is about two feet long from the nose to the insertion of the tail, and the tail is about seventeen inches, height at shoulder about fifteen inches. Its tail is yellowish: back rather darker, inclining to brown; face and outer side of fore legs and base of the tail fulvous: spot on the side of the face just before the eyes, the chin (breast) the front of the forelegs, a round spot on the upper part of the hind foot and the tips of the hairs of the tail blackish, end of tail white, and ears externally black. The skins are soft and are made into the reemchah and posteen.

Vulpes montanus, PEARSON. The Hill fox.

Canis vulpes montanus, PEARS.	Vulpes montanus, GRAY.
„ himalaicus, OGELBY.	„ nipalensis, „

The hill fox of India, dwells in the Himalaya, ranging up to the snow limits and in winter, when the snow is on the ground, they are very numerous about Simla, coming close to the houses in search of offal. Its fur is exceedingly rich, dense and fine, the longer sort measuring fully two inches upon the back, and the inner every where of considerable length and of a woolly character. General colour pale fulvous, head mixed with white: tail bushy and white tipped. *Horsfield's Cat. of Mammalia in E. I., Cos. Museum, quoting Mad. L. Soc. Journ. Ben. As. Soc. Journ.* xi., 589, xiv., 345, *Col. Sykes.*

FRAGARIA. The strawberry genus of plants, of the Order Rosaceæ, some species of which occur in India, wild, and others are cultivated. F. chilensis, *Ehr*, the Chili strawberry was brought from South America. F. collina is also an introduced plant. F. elatior *Ehr.* is the Haut-boy strawberry from America and F. grandiflora and F. majaufea are also known, as also F. Roxburghii W. & A. the F. Indica and Malay of Roxburgh, which has also been classed with Duchesnea and Potentilla, growing in the Neilgherries, Dehra Dhoon and Kamaon.

FRAGARIA VESCA, LINN.

Wild Strawberry,	ENG.	Paljor of	CHENAB.
Wood „	„	Bunun also musrini of	RAVI.
Kanzar of	JHELUM.	Bana-phul of	SUTLEJ.
Ingrach, also yang, also tash of	KANGRA.	Tawai of	TRANS-INDUS.

This grows wild in most parts of the Punjab Himalaya, from 4,000 to 12,000 feet. The fruit is excellent when gathered dry but is largely improved by cultivation. It is cultivated by Europeans and market gardeners and in the Bombay Dekhan, a bed of a few square yards brings in from £15 to £20 the season. In Bangalore it is grown abundantly. The Strawberry plant multiplies itself from runners and suckers; the old plant, after it has ceased bearing, throwing them out. As soon as the rains have set in, these runners may be removed into a nursery bed, for their being more easily looked after, and should

have the space of nine or ten inches allowed between them; they will throw out other runners, the whole of which may be separated and transplanted at the proper season. They thrive best in a light soil with good old stable and vegetable manure at first, and as soon as they show a disposition to flower, may have old goats' or sheep's manure added around each plant, a couple of double handsful being sufficient. In no part of the Deccan, should the plants be put out for fruiting before the close of the rains, the latter part of September being quite early enough. Suckers planted for experiment at the commencement of August, grew to a good size, and did nothing for ten or twelve weeks but throw out suckers, which were continually removed, but, after all, fruited badly: the finest and most prolific crop were got from suckers put out in the beginning of October. Some strawberries were gathered in November from the plants put out in August, but they were so few as in no way to induce a trial of the experiment again. Varieties can only be procured from seed; and to procure the seed, select the finest ripe fruit, rub it on a sheet of paper, and dry it. When the rains commence, soak the seed in water, reject all that float, sow the remainder in baskets in a light loam, when they will be fit to remove in about six weeks, and should be put in other baskets four or five inches apart, and taken care of until ready to be transplanted into the beds where they are to remain. As these plants throw out suckers very fast, they must be constantly looked after, and removed. They will commence bearing in six months from the time of sowing the seed. As soon as the rains have ceased, put the suckers that have rooted into square beds, each not less than one foot apart, five in a row: this will give twenty-five in each bed—as many as can be easily looked after and gathered without trampling on the bed and thereby injuring the plants. When the earth is of a clayey consistence, Dr. Riddell has seen the strawberry cultivated on ridges. Some think this is a good plan, but he prefers the beds. It is sometimes necessary, in consequence of flooding the beds, to put tiles under the fruit to keep it clean, but it also attracts the notice of the birds: if straw or grass be used, then the chances are that white ants destroy the plants. This fact is that makes some persons prefer the ridge system of growing, as they say the fruit is cleaner in consequence: fine fruit may be grown either way; and if on ridges, the same distance must be allowed between the plants as in beds—and even in the latter the plants may be put on raised cones of earth. The common vegetable manure is all that is required at first until near flowering, when a handful or two of goats' or sheep's dung should be put round the plant, opening the earth and scraping it together. Water during the evening and very early in the morning.—*Birdwood Veg. Prod.* 151. *Drs. Cleghorn Kullu and Kangra* p. 65, 81, *J. L. Stewart, Riddell.* See Strawberry.

FRAGRANT ACACIA, Eng. Acacia odoratissima, *Roxb. Willd.*

FRAGRANT KÆMPFERIA. Kæmpferia rotunda.

FRAGRANT MORINDA. See Morinda.

FRAGRANT PERGULARIA. Pergularia odoratissima.

FRANCE, in the 18th century, made noble exertions for empire in the east. They occupied Madagascar, also the Isles of Bourbon and France; formed a factory at Surat and one at Masulipatam, were repulsed at Galle, but took and again lost Trincomalee, settled at Pondicherry which they surrendered to the Dutch. They abandoned Surat, and founded Chandernagore: conquered Mahe, obtained Karical, repulsed the British fleet off Negapatam, took Madras. Defeated Mafuz Khan near Madras at Sadras and St. Thomé, but were surprised at Cuddalore, twice repulsed and forced to retire. They were beseiged in Pondicherry but repulsed the besiegers. They gained the battle of Amboor when Anwar ud Din fell—surprised the camp of Morari Rao, defeated Mahomed Ali, son of Anwar ud Din, stormed Gingee, defeated Nazir Jung, defeated the British at Volconda. They were shut up at Trichinopoly, where they were twice defeated by Clive and retreated to Seringam where they subsequently surrendered to the British. They afterwards defeated the British at Viccravaudi but sustained a defeat from them at Bahoor. They repeatedly defeated the Mahrattas, obtained great power, under M. Busy, at Hyderabad, and obtained the cession of four provinces on the eastern coast. They defeated the British at Teruvadi, but were defeated at the Golden-rock, at the Sugar-loaf-rock and took refuge in Seringham, were repulsed at Trichinopoly but surprised the British at Contapara, made peace with the British and refused to aid Suraj ud Dowlah against the British. Subsequently they were beaten off Negapatam, took Cuddalore and Fort St. David and were repulsed from Tanjore. They were beaten off Tranquebar at Condore, and off Fort St. David and at Wandewash, and surrendered Pondicherry. Their efforts ceased from the 16th January 1761. By the

Treaty of Paris in 1763, Mahomed Ally, son of Anwar-ud-Din, was declared an independant sovereign. They had able leaders but the officers under them were greatly inferior to Dupleix and Bussy.

The French possessions in India consist of five towns, Chandernagore, Karical, Pondicherry, Yanaon, and Mahe. The total square miles of these is 191½ with a population of 203,887.

Pondicherry was restored to France by the peace of 1763. Captured again in 1793, again restored by the peace of Amiens in 1801, recaptured in 1803, and finally restored in 1814 and 1815.

During their greatest efforts, Admiral de la Bourdonnaix was employed by sea, and Dupleix and Bussy on land.—*Malleson. Ind. Ann.*

FRANCOA APPENDICULATA. A beautiful flowering plant.

FRANCOLINUS PONTICERIANUS. See Aves: Birds: Perdicidæ.

FRANKINCENSE.

Coondoor.	Duk.	Minan,	Malay.
Kaminan,	Malay.	Kamayan,	,,
Kamanan; Manan;	,,	Kandricam,	Tam.

Of this, there are several kinds in commerce. The best are the Arabian or tear olibanum, the African, and the East Indian or stalactitic. Olibanum, a fragrant resin, from species of Boswellia, is obtained, in India from the Boswellia glabra: and the gum resin of the Canarium strictum, *Roxb.* is also fragrant. The oleo-resin of the Abies excelsa, or Norway spruce fir, is known as common frankincense; and, in India, the oleo-resin of Pinus longifolia, is also so called. Some of the frankincense of European markets is doubtless obtained from the Juniperus lycia, and a tree of America is called the frankincense pine.

The substance called Koondricum by the Tamil people is very common in the Indian bazaars, and is used as an incense in religious ceremonies, equally by the hindus and Portuguese christians, being, though not quite of so grateful an odour, cheaper than benzoin. It is supposed by the mahomedan medical men, to be a species of olibanum and they give the name of Coondoor to both; but it is very unlike olibanum in its appearance; being always seen in pretty large, agglutinated masses, composed of light brown and yellowish tears, and having a strange stony kind of hardness when pressed betwixt the teeth; whereas the olibanum is in separate small roundish balls, or large grains which do not give the same sensation on being chewed, nay even stick to the teeth. The Koondricum is generally brought to Southern India from Madagascar, form the coast of Borneo, and also from Pedir on the Island of Sumatra. *Ain's Mat. Med., p.* 16. *Birdwood Veg. Prod.* See Balsam; Boswellia: Gums and Resins.

FRANKINCENSE PINE, Pinus tæda, Lamb.

FRANKLYN, WILLIAM, Major of the Indian Army, author of A Tour in Persia: History of Shah Alam; Memoirs of George Thomas; Tracts Political, Geographical and Commercial on the Dominions of Ava and N. W. Hindustan, 1811.

FRASER, JAMES, Author of Life of Nadir Shah,—Lond. Journal of a tour in the Him. and sources of the Jumna and Ganges. —Calcutta 1820. Sources of the Jumna and Bagiruthee river.—As. Res. vol. xiii. 172. Tour in the Himalaya mountains.—Lond. 1820.—*Dr. Buist's Catalogue.*

FRASER, GENERAL, J. S. An officer of the Madras Army, who entered the service in 1800, and during his long career of about fifty-four years, was employed in offices of trust and importance. He was Commandant of Coorg, Resident at Travancore and Cochin, and his last office was that of Resident at Hyderabad.

FRASH, of Kashmir, Populus alba, white poplar.

FRASH BEAN. Anglo-Hind. Phaseolus nanus.

FRAST, Hind. Populus nigra "jangli" "frast," P. alba, "ban frastu," P. ciliata.

FRAUEN MURZE. Ger. Mint.

FRAXINUS. The Ash tree.

The Ash tree,	Eng.	Oren,	Heb.
Aran,	Arab.	Ornus,	Lat.

Of the genus Fraxinus, two species grow in the western Himalaya; the F. floribunda, or large ash and F. xanthyloides or crab ash.

They grow in the Mehra forest, near Abhotabad, Hazara, and in the valley of the Sutlej, there is abundance of yew and olive, and a considerable quantity of box and ash, the ash and olive near the river, but the box and yew on the higher slopes, 2,000 feet or more above the Sutlej. The larger ash and yew are much esteemed for jampan poles, hefts and tool handles, &c., and the larger, in colour, grain and toughness, resembles the English ash, and makes good walking sticks. Some species of ash are remarkable, like the sugar maples, to which in some respects they are allied, for the sweetness of their sap, which on concreting by exposure to the sun, is known as manna. To the two species, F. rotundifolia and F. florifera and probably also to other species, we owe the manna of the European druggists.—*Ornus florifera*, the *Flowering ash tree*, grows in the

mountains of the south of France, and F. rotundifolia, (Ornus rotundifolia) the round leaved manna ash tree, is a native of Calabria and Sicily.—The wax insect tree, of China, Mr. Fortune says is a species of ash, it grows abundantly on the banks of ponds and canals in the province of Che-kiang; Mr. McCartee of Ningpo, gave him some beautiful specimens of the fresh insect upon the branches of this tree. This insect has been named Coccus pela by Mr. Westwood. When fully developed on the trees they seem as if covered with flakes of snow. The wax is an article of great value in Chinese commerce, and a small portion is exported.—*Fortune's Residence, p.* 146. *Cal. Cat. Ex.* 1802. *Cleghorn Punjab Report. Royle, Him. Bot. p.* 266. *O'Shaughnessy, p.* 434.

FRAXINUS FLORIBUNDA.

Large ash,	ENG.	Sumb,	HIND.
Sum,	HIND.	Sawnan,	,,

The large ash is found on the Thandiani and Mochpura ranges of the Himalaya, but not in Kaghan. It is a large tree, occasionally 12 or 13 feet in girth but is not abundant. The wood in toughness resembles English ash.—*Cleghorn, Punjab Report, pp.* 80, 177.

FRAXINUS XANTHYLLOIDES.

Sunggel,	HIND.	Anoch,	HIND.

The crab ash grows in the N. W. Himalaya and is found in the Sutlej valley between Rampur and Sungnam at an elevation of 7,000 feet. It makes good walking sticks, hefts, and handles: but is very small, and not large enough for other purposes, though occasionally jampan poles are made of it.—*Cleghorn, Punj. Report, p.* 64.

FRAZERA CAROLINENSIS; and F. Walteri. See Cocculus palmatus, also Gentianaceæ.

FREGILUS GRACULUS. The Chough is found on high mountains and sea-cliffs of Europe, Asia, and Africa, is common in high Central Asia, the Himalaya, Afghanistan, &c.; as is also another chough, Pyrrhocorax alpinus of the Swiss Alps and Pyrenees.

FRENCH. This language is spoken in India, by the employés in the French possessions of Pondicherry, Karikal and Mahe.

FRENCH BEANS. Contain much nutritive matter, and are most desirable for the supply of troops. In France they are sold at from 2½d. to 5d. per lb. according to colour, the white kinds bringing the highest price. They could be produced on the Neilgherries, if grown in large quantities, at about half the above mentioned price.—*Mr. McIvor.* See Phaseolus.

FRENCH MARYGOLD. Tagetes patula.

FRENCH POLISH. Consists of a resin or a gum-resin dissolved in spirit, and used for polishing flat surfaces. For this purpose it is made more fluid than the hard-wood lacker, used in polishing turned surfaces, in order that it may spread easily and dry less rapidly; because the friction being derived entirely from the motion of the hand, more time is required than in polishing turned works. Dissolve 1½ lb. of shell-lac in 1 gallon of spirits of wine without heat. Copal, sandarac, mastic, and gum arabic are added in various proportions, according to the fancy of the preparer. Some recommend 12 ounces of shell-lac, 6 ounces of gum arabic, and 3 ounces of copal, to 1 gallon of spirits of wine. A dark-coloured polish is prepared with 1 lb. of shell-lac, ½ lb. of benzoin, and 1 gallon of spirits; or 1½ lb. shell-lac, 4 ounces of guaiacum, and 1 gallon of spirits. Dragon's blood may also be used to give the required tint. The hardest and most durable polish is made with shell-lac and spirits without any other ingredients. It is usual to make the varnish thicker than is required for use, and to thin it down with spirit when being used. A tough polish is said to be produced from 1½ lb. of shell-lac, 4 oz. of seed-lac, 4 oz. of sandarac, and 2 oz. of mastic to the gallon of spirit; or 2 lbs. of shell-lac and 4 oz. of thus to the gallon. A light-coloured varnish may be made with bleached or white lac; but this darkens by exposure to light.—*Tomlinson.*

FRENCH SETTLEMENTS IN INDIA, are Pondicherry, Chandernagore, Carical, and Yanaon on the Orissa coast, at the bifurcation of the Godavery and Coringa.

FRERE, Sir Henry Bartle, K. C. B. A Bombay Civil Servant, Commissioner of Sind, Member of the Council of India, afterwards Governor of the Bombay Presidency. He belonged to a race of men well nigh unknown in modern days. To courtly bearing, and all that fascinates an eye, he added a facility of thought, clothed in simplest language that seldom failed to bring conviction: and he was gifted with firmness of decision and tenacity of will.—*Thurlow, p.* 46.

FREYA, the Scandinavian goddess of love, and Freyr the god of beauty. Freya is supposed to be the analogue of Oomiah the creative power of the hindu mythology. The grand festival to Freya was in spring, then boars were offered up to her by the Scandinavians, and boars of paste were made and eaten by the peasantry. At the present day, "Vasanti," or spring personified, is worshipped by the rajputs, who open the season with a grand hunt, led by the prince

and his vassal chiefs when they chase, slay and eat the boar. *Tod.* See Basant. Gouri.

FREYCINETIA BAUERIANA. The Norfolk island "Grass tree," belongs to the tribe of Pandaneæ or Screw pines. Its stem is marked by rings, like the cabbage tree, where the old leaves have fallen off, and it lies on the ground, or climbs like ivy round the trees. The branches are crowned with crests of broad sedge-like leaves, from the centre of which the flowers arise, the petals of which are a bright scarlet, and the sepals green, and, when they fall off, clusters appear of three or four oblong pulpy fruit, four inches in length, and as much in circumference.—*Keppel's Ind. Arch., Vol. II. p.* 284.

FRIDBOL BUTI. Hind. Per. Menispermum hirsutum.

FRIENDSHIP, part of the ceremony of a vow of friendship, amongst hindus, consists in dividing a bel or larger wood-apple, half of which is kept by each party, and, from this compact, is called bel bhandar.—*Elphinston's History of India, p.* 365.

FRIGATE BIRD. The Tachypetes aquila, is also called the Sea Hawk, also Man of War bird and the Boatswain. It has short feet, and cannot swim or dive. It is intermediate between the predaceous sea and land birds. It attacks the smallest birds and makes other fishing birds abandon their prey. It takes great flights and is of great endurance, rising to great heights in the air. It ranges through all tropical seas and hovers over the tropical waters. It has been seen 400 leagues from land, and yet is said to return to land every night. Its expanded pinions measure 14 feet from end to end.-*Bennett.*

FRIGATE ISLE, or ILE AUX FREGATES, the most easterly of the Seychelles, in lat. 4° 32′ S. long. 36° 1′ E.

FRINGED CHAMELEON. Chamæleo tiaris.

FRINGILLA. The sparrow genus of birds of the family Fringillidæ. Fringilla montifringilla, the mountain Finch of Europe, N. Asia, Japan, Asia Minor, Afghanistan, Kashmir, W. Himalaya, is a winter visitant in Britain, and the European Montifringilla nivalis has been obtained at Kandahar.

FRINGILLIDÆ, A family of Birds.

Sub-fam. Ploceinæ, 1 gen. 4 sp. viz., 4 Ploceus.

Sub-fam. Estreldinæ, 5 gen. 16 sp. viz., 11 Munia; 1 Erythrina; 2 Amadina; 2 Estrelda; 1 Scissirostrum.

Sub-fam. Passerinæ, 2 gen. 7 sp. viz., 6 Passer; 2 Petronia.

Sub-fam. Fringillinæ, 14 gen. 20 sp. viz. 1 Montifringilla; 1 Fringilla; 1 Pyrrhospiza; 1 Procarduelis; 3 Carpodacus; 1 Hæmotospiza; 2 Pyrrhula; 1 Propyrrhula; 2 Loxia; 1 Chrysomtris; 1 Carduelis; 1 Ligurinus; 1 Serinus; 3 Coccothraustes.

Sub-fam. Emberizinæ, 2 gen. 10 sp. viz., 2 Emberiza; 8 Euspiza.

Sub-fam. Accentorinæ, 1 gen. 4 sp. viz., 4 Accentor.

Sub-fam. Alaudinæ, 4 gen. 1 sub-gen. 14 sp. viz., 3 Alauda, arvensis, gulgula, Malabarica; 2 Calandrella; 2 Galerida; 6 Mirafra; 1 Pyrrhulauda. See Birds.

FRITILLARIA IMPERIALIS. A bulbous rooted plant with very showy flowers, growing well in any light garden soil, the colours are various. They are increased by off-sets.

FROGS are very common in all the South and East of Asia. They belong to the reptile Sub-Class Batrachia and order Batrachia salienta. The Malabar bull-frog, Hylorana Malabarica, occurs in several parts of the peninsula of India. The Rana cutipora occurs in Ceylon, it was named by Mr. Blyth Rana robusta. The little tree frogs, Polypedates maculatus, *Gray*, shelter themselves beneath leaves, from the heat of the sun, and ten species of Polypedates occur in this region. Several species of toads occur, but in Ceylon, the more common are Bufo melanostictus, kelaartii and asper. As in Europe, so in India, these harmless creatures have ever been counted poisonous. Frogs are eaten in India by the humblest of the races, by many of the Burmese and they are eaten in China, by all classes. They are caught in China, by tying a worm or a young frog, just emerged from tad-pole life by the waist to a fish-line, and lobbing him up and down in the grass and grain rice fields where the old croakers are wont to harbour. As soon as one sees the young frog, he makes a plunge at him and swallows him whole, whereupon he is immediately conveyed to the frog-fisher's basket, losing his life, liberty, and lunch together, for the bait is rescued from his maw, and used again as long as life lasts. Frogs, says Fortune, are in great demand in all the Chinese towns, both in the north and south, wherever he had been, and they were very abundant in Nantsin. They abound in shallow lakes and rice fields, and many of them are very beautifully coloured, and look as if they had been painted by the hand of a first rate artist. The vendors of these animals skin them alive, in the streets in the most unmerciful and apparently cruel way. Frogs seemed much in

demand. They are brought to market in tubs and baskets, and the vendor employs himself in skinning them as he sits making sales. He is extremely expert at this part of his business. He takes up the frog in his left hand, and with a knife which he holds in his right chops off the fore part of its head. The skin is then drawn back over the body and down to the feet, which are chopped off and thrown away. The poor frog, still alive, but headless, skinless, and without feet, is then thrown into another tub, and the operation is repeated on the rest in the same way. Every now and then the artist lays down his knife, and takes up his scales to weigh these animals for his customers and make his sales. Everything in this civilised country whether it be gold or silver, geese or frogs, is sold by weight. Dr. Forsyth mentions having seen boiled frogs in a Burmese bazaar, exposed for sale, among other articles of food. The Pyxicephalus adspersus of Dr. Smith, the Matla-metlo of the Bechuana of South Africa, when cooked, looks like a chicken. The length of the head and body is $5\frac{1}{2}$ inches; and the hind legs are 6 inches long. During the dry months they conceal themselves in holes which they make at the foot of bushes.—*William's Middle Kingdom*, Vol. 2. p. 48. *A Res. among the Chin.* p. 343. *Fortune's Residence in China*, p. 45. *Tennent's Ceylon. Livingstone.* See Batrachia, Reptiles.

FROG-FISH, Cheironectes, species, the frog-fish of the British, in India, belongs to the family of Lophiadæ or anglers, and species are met with in many seas. In this group, the bones of the carpus form arms that support the pectoral fins, and enable these fishes to walk along the moist ground, almost like quadrupeds; Cheironectes immaculatus, *Ruppell*, has feet or claws rather than fins. Hartwig mentions a frog-fish of the Asiatic islands and the southern hemisphere, as remarkable for its hideous appearance and its capability of surviving for several days on land. Its pectoral fins are so placed that it can crawl about on land.—*Tennent's Sketches of the Nat. His. of Ceylon*, p. 330. See Fishes.

FROMAGE. Fr. Cheese.
FROMENT. Fr. Wheat.
FRUIT. Eng. Fr.

Samar,	Arab.	Fructum,	Lat.
Thamar,	„	Fal,	Mahr.
Athi,	Burm.	Bua,	Malay.
Phal,	Duk. Guz. Hind.	Phal, also Bar also Mewa,	Pers.
Mewa,	„	Owoschtsch,	Rus.
Obst,	Ger.	Fruta,	Sp.
Fruchte,	„	Kaia or Pallam,	Tam.
Ooft,	Dut.	Pandu, also Kaia,	Tel.
Frutta,	It.		
Frutte,	„		

In few natural products is India more prolific than in its fruits. The pine-apple, mango, mangosteen, jambo, tamarind, orange, strawberries are amongst the best known, besides an infinite variety of smaller fruits partaken by the natives, either dried or in their curries. To the north, and in the hill-districts, peaches, grapes, figs, &c., are both abundant and of good quality. In the south and central parts of Hindustan the fruits and vegetables in general use amongst the people are the melon, gourd, cucumber, water-melon, plantain, guava, jujube, custard-apple, and fig. In some of the hill-districts the wild raspberry and a species of gooseberry are found in great abundance and of good quality. On the N. West of India, in parts of the Punjab, Himalaya, in Cashmir and in Afghanistan, the fruits liked by Europeans are more plentiful. In Cashmir the fruits which attain maturity are the apple, pear, quince, peach, apricot, plum, almond, pomegranate, mulberry, walnut, hazelnut, pistachio and melon. The cherry "gilas" is indigenous and is cultivated in orchards. The bullace "Prunus insitita" is found nowhere else in a wild state. The vine is extensively cultivated. In Kanawar, apples are abundant and nice looking, though not with much flavour. Peshawar sends dried red raisins which sell at lbs. 18 for a shilling, and dried raisins of a pale green colour which sell at lbs. 4 for a shilling and bloom raisins are also obtainable. Dried apricots are very abundant, also figs, dried, flattened and strung together, also the dried plum (alucha) of Peshawur. The small seedless raisin, the Kismis, is in every bazaar. In the upper Hills of the Punjab, the apricot, (Jaldaru or zardaru) is common, its kernel yielding oil. Apples and pears are also grown. There are two species of cherry, the Jamuna, or Cerasus cornuta, and the Cerasus padam; the former has black sweetish berries, which are eaten. The wild pear, called "mehal" or kainth (P. variolosa), is common also in the hills, it somewhat resembles the medlar, and the fruit is sweet when it is rotten. In Kangra and Kulu, there is a crab, or wild apple, called "ban mehal" (Pyrus baccata) also a quince (Cydonia vulgaris). The fruit of the "trimal," or Ficus macrophylla, is sold in the bazaar at Simla. There are on the upper Sutlej some species of Ribes (R. nubicola and R. glaciala), which are like currants, but have little flavour; also a species of gooseberry. There is a wild strawberry (Fragaria vesca); and a blackberry, called "unsri" (Rubus flavus), the fruit of which is preserved. In Kulu and Kangra the loquat (Eriobotrya Japonica),

and the pomegranate, "darim" (Punica granatum), both occur. The "mitha tendu," or fruit of the Diospyros tomentosa, must not be omitted. In the Sutlej valley, Myrica sapida, yields a fruit useful for making sherbets. Among nuts, we find the findak, or nuts of Corylus lacera, sold at Simla; and the seeds of the edible pine (P. gerardiana) are kept for food in Kanawar, where they sell at 2 annas a seer. Above Chini, this tree is the principal one in the forest. In the lower hills the fruit of the "amla" (Phyllanthus emblica), should perhaps be included: the well known plantain and mango do not occur; the latter is last seen, says Dr. Cleghorn, near Rampur, on the Sutlej, and the former below Kotgurh. Eleagnus conferta "gehai," and Carissa edulis, yield fruits that can be preserved, the latter making the well known karunda jelly. In Burmah the fruits are very numerous, but nearly all of them very indifferent, though, to a Burmese who, while a child, eats a raw sweet potato with as must zest as a European would an apple, they are no doubt considered unsurpassable. The ancient Celts eat acorns, the modern Californians still use acorn bread, and the Burmese and Karens eat fruits which are but little superior to an acorn: in general their fruits are much inferior to those of temperate climates. The better sort are as under:

Orange, citrus aurantium.
Sweet limes, citrus limetta.
Shaddock, citrus decumana.
Custard-apple, anona squamosa.
Sour-sop, anona muricata.
Bullock heart, anona reticulata.
Citron, citrus medica.
Small lime, citrus bergamia; c. acida.
Large lime, citrus bergamia.

Table Fruits.

Mangosteen, garcinia mangostana.
Dorian, Durio zibethinus.
Mango, mangifera indica.
„ „ sylvatica.
Lichi, nephelium lichi.
Pawpaw, carica papaya.
Guava, psidium pyriferum (white).
„ „ pomiferum (red).
Pine-apple, ananas sativus, bromelia ananas.
Plantain, musa paradisiaca.
Cocoanut, cocos nucifera.
Loquat, Eriobotrya japonica.
Pear, pyrus.
Jack, artocarpus integrifolia.
Breadnut, „ incisus.
Breadfruit, „ communis.
Mulberry, morus Indica.
Raspberry, rubus sp.
Whortle berry, thibaudia loranthifolia.
Strawberry, fragaria sp.
Roselle, hibiscus sabdariffa.
Water melon,
Double leaved citron, citrus torosa.
Pomegranate, punica granatum.

Rambutan, nephelium lappaceum.
Otaheite gooseberry, cicca disticha: phyllanthus.
Carambola, averrhoa carambola.
Bilimbi, „ bilimbi.
Brazil gooseberry, physalis peruviana.
Sapodilla plum, achras sapota.
Chocolate nut tree, Theobroma cacao.
Bengal currants, carissa carandas.
Granadilla; passiflora quadrangularis.
India grape, vitis indica.
Grape vine, vitis vinifera.
Cherry, cerasus.
Walnut, juglans regia
„ Pegu, juglans tricocca, ta soung-let-wah.
Water melon, citrullus cucurbita.
Musk melon, cucumis melo.
Rose apple, eugenia jambos, jambosa vulgaris.
Jambo fruit, eugenia.
Pierardia fruit, pierardia sapota.
Uvaria fruit, uvaria grandiflora.
Wood apple, feronia elephantum.
Three leaved triphasia, triphasia trifoliata.
Horse mango, mangifera fœtida.
Opposite leaved mango, cambessedea oppositifolia (mangifera.)
Oleaster plum, eleagnus conferta.
Malay apple, eugenia jambosa; e. mallaccensis.
Chesnut, castanea martabanica.
Fœtid sterculia, sterculia fœtida.
Budhs cocoanut, sterculia alata.
Ground-nut, arachis hypogœa.
Sandoricum, sandoricum indicum.
Willoughbeia martabanica.
Tamarind, Tamarindus indicus.
Figtree, Ficus lanceolata.
„ „ glomerata.
„ „ macrophylla.
Hog plum, spondias mangifera.

The only trees to the cultivation of which the Chinese pay any attention, are the fruit bearing kinds; and in some places, in China, there are very fair orchards containing the mango, leechee, longan, wangpee, orange, citron, and pumelo. Two of the fruits cultivated in Chusan are of considerable excellence, the one is called yang-mai: it is a scarlet fruit, not unlike an arbutus or strawberry, but having a stone like a plum in the centre, the other is the Kum-quat, a small species of Citrus, about the size of an oval gooseberry, with a sweet rind and sharp acid pulp. This fruit is well known in a preserved state by those who have any intercourse with Canton, and a small quantity is annually sent to England as presents. Preserved in sugar, according to the Chinese method, it is excellent. Groves of the Kum-quat are common on all the hillsides of Chusan. The bush grows from three to six feet high, and when covered with its orange-coloured fruit, is a very pretty object. The shaddock, plantain, and persimmon, are common, and several varieties are enumerated of each; the plantain is eaten raw and cooked, and forms no inconsiderable item in the substance of the poor. The

pomegranate, carambola or tree gooseberry, mango, custard-apple, pine-apple, rose-apple, breadfruit, fig, guava, and olive, some of them as good as, and others inferior to what are found in other countries, increase the list. The whampe, lichi, lungan, or, "dragon's eyes," and loquat, (Eriobotrya) are four indigenous fruits at Canton. The first resembles a grape in size, and a gooseberry in taste; the lichi looks like a strawberry in size and shape; the tough, rough red skin incloses a sweet watery pulp of a whitish color surrounding a hard seed. Grapes are plentiful and tolerably good but the Chinese do not make wine. *Williams' Middle Kingdom*, Vol. II, p. 45. *Fortune's Wandering's*, p. 22; 63. *Cleghorn's Punjab Report; Dr. Mason's Tenasserim*; *Dr. McLlelland's Report.*

FRUMENTIUS. See Christianity.

FRUMENTUM. Lat. Corn.

FRUTA DE BUNO—? Capers.

FTITA. Ar. An unleavened paste of flour and water, baked in ashes of camel's dung, and mixed up with a little butter. *Robinson's Travels*, Vol. II. p. 171.

FU. Every Chinese province is divided into a certain number of districts, called "Fú," "Ting," "Chow," or "Hëen." A "Fu" is a large portion or department of a province under the general control of a civil officer, immediately subordinate to the head of the provincial government.—*Sirr, Chinese.*

FUCHEU, the capital of Fokien province, one of the most wealthy and populous cities in China.—*Yule, Cathay I. p.* 109.

FUCHSIA. A genus of beautiful plants, which can be cultivated during the rains and cold season, they grow freely from slips, which may be sent to a great distance if packed either in a tin case, or bamboo, surrounded with damp moss, the soil in which they strike best is a light sandy loam, the slips until they have thrown out strong shoots, and leaves must never be exposed to the sun, and even then only early in the morning.—*Riddell, Jaffrey.*

FUCUS. A genus of plants belonging to the order Fucaceæ, the Algaceæ of Lindley.

FUCUS NATANS is the Gulf weed, which travellers to and from India, meet with in the Atlantic. Agar-agar is the Malay name for a species of marine alga, the Fucus tenax of many of the Malayan islands, and forming a considerable article of export to China by junks. It is esculent when boiled to a jelly, and is also used by the Chinese as a vegetable glue. It abounds on the coral shoals in the vicinity of Singapore but the finest known in the Archipelago is found on the coast of Billiton. It is known to the Chinese by the name of Hy-Chy and is converted by them to various purposes, such as glue, paint, &c. The chief consumption of it is in the dressing and glazing of their cotton manufactures and the preparation of sacrifice paper and paintings for their temples. A small portion of the finest part is sometimes made into a firm jelly which on being cut up and preserved in syrup makes a delicious sweetmeat.

The Fucus esculentus, Kaddil-pash —Tam. the Ceylon moss, grows in great abundance at Jafnapatam and when boiled down makes an excellent jelly for invalids and forms an article of trade thence.—*Crawfurd Dic. page* 6. See Agar-Agar, Ceylon moss, Edible seaweed. Eucheuma spinosa, Gracillaria tenax. Sphærococcus.

FUCUS SPINOSUS. Linn. Syn. of Eucheuma spinosa.

FUDSI YAMA. A high volcanic mountain of Japan, at present inactive, but which tradition reports to have risen in one night, and, as it rose, there occurred a depression in the earth near Miako, which now forms the lake of Mit-su-no-umi. In A.D. 864, the mountain burst asunder from its base upwards, and at its last eruption in 1707, it covered Yedo with ashes. It is a sacred mountain. It is crested with snow, and presents the appearance of a truncated cone, and the gathering of a white cloud around its summit, is a sign of bad weather. It is occasionally ascended by Japanese pilgrims for the worship of the god of the winds.—See *Japan*, pp. 409—411.

FUEL. In the drier climates of the tropics, is a very scarce article, and the dried dung of animals is very largely used. In the Punjab, the plants in use for fuel are the Alsine, Artemisia sacrorum, Calligonum polygonoides, Caragana pygmæa, Crozophora tinctoria, Ephedra Gerardiana, Eurotia ceratoides, Hippophae rhamnoides, Juniperus communis, J. excelsa, Periploca aphylla, Rhazya stricta, Rosa Webbiana, Tanacetum tomentosum. Since the establishment of a Conservancy of Forests in India, firewood has greatly increased in price. See Firewood.

FUFIL. Ar. Areca catechu Linn., Roxb.

FUGA. One of the five Islands, near Cagayan. See Babuyan.

FUH. Arab. Madder.

FUHM-CHOBI. Arab? Charcoal.

FULADAT. A town near Bamian, yields gold and lapis lazuli.

FUKIEN. A province of China.

FULGO. A river in the Gyah district of

Bengal runs in the Patna district, near Moranchee.

FULICA ATRA. The common coot of Europe, Asia, N. Africa, where found additional to F. cristata: it is common in India. America and Javanese species distinct. See Rallidæ.

FULIGULINÆ. A sub-family of birds of the family Anatidæ or Gooses. It contains one species of the genus Branta, and four species of Fuligula, viz :—

Fuligula ferina. The Pochard, in the circuit of northern regions, Barbary, common in India.

Fuligula nyroca 'Ferruginous Duck.' Europe, Asia, N. Africa: common in India.

Fuligula marila. ('Scaup Duck.') Circuit of northern regions: Punjab, Sindh, Nepal.

Fuligula cristata. ('Tufted Duck.') Europe, Asia, Barbary: common in India.

Fuligula Rufina, of *Pallas*, is the crested Pochard.

FULLJAMES, Capt. He wrote an account of the island of Perim in the Bom. As. Trans. Vol. I. 18. Visit to the Rajpeepla hills, and account of the Cornelian mines in Bom. Geo. Trans. Vol. I. 8. A report on the floods of the Taptee at Surat in 1837.—Ibid, Vol. VII. 352. An account of borings and strata passing through the Gogo in the Bl. As. Trans. 1837; Bom. As. Trans. 1841, Vol. I. 25. An account of a singular hollow near Ahmedabad, called the Boke, supposed volcanic, in the Bom. Geo. Trans. Vol. VII. 164, and on the present and former state of the Runn of Cutch. Ibid, Vol. VIII.—*Dr. Buist's Catalogue.*

FULSA. HIND. TAM. Grewia Asiatica.

FULWA MAHR. OR PHULWARA. HIND. Bassia butyracea.

FUMARIEÆ. The Fumitory tribe of plants, of which there are about 70 species, 18 in India, 4 in Japan, and 1 in Persia. The Indian species, besides two that are common to other countries, consist of 16 of Carydalis; 1 of Dactylocapnos; and 1 of Macrocapnos. The plants of this order have watery juice, are common in the Himalaya from Nepal to Cashmere, and contain a bitter principle. *Voigt.*

FUMARIA OFFICINALIS.

Baqlat ul malek,	ARAB.	Pit-papra,	HIND.
Fumitory,	ENG.	Shatra,	PERS. DUK.

This is used by Indian physicians who consider it diuretic. Among European practitioners, it was long regarded as a valuable tonic and alterative.—*O'Shaughnessy* p. 184.

FUMARIA PARVIFLORA. *W. et A.*

Fumitory	ENG.		
Pit-papra,	HIND.	Shaturuj,	PERS.
Baklat-ul-malik,	ARAB.	Shatra,	,,

Has ovate sepals as broad as the corolla and about two-thirds shorter. It greatly resembles F. officinalis, but is smaller in all its parts. The flowers are of a pale-red colour. It is found in Kent, and is also very common in the East Indies, where it is used as a medicine. The leaves have a bitter taste, mahommedans employ it as a diuretic, and in maniacal cases. F. parviflora, is considered to be identical with the χαπνος of the Greeks; it is much used in the Upper Provinces of India mixed with black pepper, in the treatment of intermittent fevers.—*Eng. Cyc. O'Shaughnessy.*

FUMITORY.

Baqlat-ul malik,	AR.	Fumeterre,	FR.
Shahtra,	DUK. PERS.	Pit-papra,	GUZ. HIND.

See Fumaria.

FUNGUS.

Kana kuchu,	HIND.	Kulat, Chandawan	MALAY.

Under this name botanists comprehend not only the various races of mushrooms, toadstools, and similar productions, but a large number of microscopic plants forming the appearances called mouldiness, mildew, smut, rush brand, dry-rot, &c. They are cellular flowerless plants and are arranged into

1. Mushrooms.	4. Mildews.
2. Puffballs.	5. Truffles, morelles.
3. Smuts.	6. Moulds.

all are numerous in India, growing on or in damp vegetable mould. The common field mushrooms, are eaten. But several poisonous fungi so closely resemble the common mushroom, that the utmost caution is necessary in their use. No test whatever, whether botanical or chemical, can be relied on to distinguish the dangerous from the wholesome kinds. Special cultivation is the only sure mode of procuring the mushroom of invariably good quality. One fungus resembling a mushroom grows at the foot of the bamboo, and is regarded by the Burmese as a valuable specific in worms, Dr. Hooker says of the Fungi of the Himalaya that there is marked difference between those parts of Tibet investigated by Dr. Thomson, and the more southern regions. The fungi found by Dr. Thomson were but few in number, and for the most part of very ordinary forms, differing but little from the produce of a European wood. Some, how-

ever, grow to a very large size, as, for instance, Polyporus fomentarius, on poplars near Iskardo, exceeding in dimensions anything which this species exhibits in Europe. A very fine Æcidium (Æ. Thomsoni) also infests the fir tree Abies Smithiana, Hexenbesen of the German forests, but is a finer species and quite distinct. Polyporus oblectans Geaster limbatus, Geaster mammosus, Erysiphe taurica, a Boletus infested with Sepedonium mycophilum, Scleroderma verrucosum, an Æcidium, and a Uromyces, both on Mulgedium Tataricum, about half-a-dozen Agarics, one at an altitude of 16,000 feet above the Nubra river, a Lycoperdon, and Morchella semilibera, which is eaten in Kashmir, and exported when dry to the plains of India, make up the list of fungi. The region of Sikkim is perhaps the most productive in fleshy fungi of any in the world, both as regards numbers and species and Eastern Nepal and Khasia yield also an abundant harvest. The forms are for the most part European, though the species are scarcely ever quite identical. The dimensions of many are truly gigantic, and many species afford abundant food to the natives. Mixed with European forms a few more decidedly tropical occur, and amongst those of East Nepal is a Lentinus which has the curious property of staining every thing which touches it of a deep rhubarb yellow, and is not exceeded in magnificence by any tropical species. The Polypori are often identical with those of Java, Ceylon, and the Philippine Isles, and the curious Trichocoma paradoxum which was first found by Dr. Junghuhn in Java, and very recently by Dr. Harvey in Ceylon, occurs abundantly on the decayed trunks of laurels, as it does in South Carolina. The curious genus Mitremyces also is scattered here and there, though not under the American form, but that which occurs in Java. Though Hymenomycetes are so abundant, the Discomycetes and Ascomycetes are comparatively rare, and very few species indeed of Sphæria were gathered. One curious matter is, that amongst the very extensive collections which have been made there is scarcely a single new genus. The species moreover in Sikkim are quite different, except in the case of some more or less cosmopolite species from those of Eastern Nepal and Khasia: scarcely a single Lactarius or Cortinarius for instance occurs in Sikkim, though there are several in Khasia. The genus Boletus through the whole district assumes the most magnificent forms, which are generally very different from anything in Europe. A fungus has done enormous damage in the Ceylon coffee plantations: when a coffee tree is attacked by the bug, it is deprived of its sap and its nourishment, whilst the fungus which never fails to attend on the bug prevents restoration by closing the stomates through which the tree breathes and respires. Bug exists on the estates to an incalculable extent,—none are believed by Mr. Nietner to be quite free from it. Whole estates are seen black with bugs, *i. e.* with the fungus: and, he asks, "am I wrong in saying that if there was no bug in Ceylon, it would at a rough guess produce 50,000 cwts. of coffee more than it actually does." The value of this quantity on the spot being about £125,000, this sum represents the aggregate of the annual loss by bug sustained by the Ceylon planters. *O'Shaughnessy, page* 673. *Hooker's Himalayan Journal.* Vol. II, *pages* 381-382. *I. Nietner observations on the enemies of the coffee trees of Ceylon* 1861.

FUNDY. Bay of. See Bore.

FUNIAT. Hind. Quercus annulata.

FUNIS FELLEUS. See Cocculus cordifolius.

FUNIS UNCATUS. See Gambier.

FUNNUS. Mar. Artocarpus integrifolia.

FURAS. Hind. Tamarix orientalis.

FURFIUN, also Akal-nafzah, also Gholak kala. Arab. Euphorbium.

FURNITURE. The natives of India have been long celebrated for the great patience and fidelity with which they imitate the most elaborate details either of art or manufacture, but they are generally deficient in design, and much may still be done to infuse artistic taste and boldness of execution when better principles of art are brought to bear upon this branch of industry. The woods used for furniture in Madras are.

Common Furniture.	Carved and Ornamental Furniture.
1 Chitagong wood.	1 Ebony.
2 Teak wood.	2 Blackwood, *or* E. I. Rosewood.
3 Toon.	3 Satin wood.
4 Jack.	4 Kiaboca wood.

1. *The Chittagong wood* (*Chickrassia tabularis*) is more used at Madras in the making of furniture than any other wood. It is light, cheap and durable.

2. *The Teak* (*Tectona grandis*) is probably the most durable of all timbers, it is very hard, and very heavy. It is extensively used for bullock trunks and for house and

camp furniture, for which it is well adapted, as it does not split.

3. *The Toon (Cedrela toona)* resembles its congeners, chittagong wood and mahogany, and is very much used for furniture all over the Peninsula.

4. *The Jackwood (Artocarpus integrifolia)* is an excellent timber, at first yellow, but afterwards brown, when made into tables and well kept it attains a polish, little inferior to mahogany. In England it is used, as well as satin wood, for making backs of hair brushes, &c.

1. *Black Ebony (Diospyros melanoxylon).* This well known and much admired wood, lignum nigrum, non variegatum ? is very hard, heavy, and susceptible of a high polish. It is seldom obtained of great size.

2. *East Indian Blackwood or Rosewood,* is an excellent heavy wood, suited for the best furniture. It can be procured in large quantities, and of considerable size, the wood contains much oil. In large panels it is liable to split.

3. *Satin wood (Swietenia chloroxylon)* is hard in its character and when polished it is very beautiful and has a satiny lustre, it is much used for picture frames, rivalling the birds eye maple of America. It is occasionally used by cabinet makers for general furniture, but it is liable to split.

4. *Sandal wood (Santalum album)* is found in abundance in Mysore and Canara ; it is chiefly remarkable for its agreeable fragrance, which is a preservative against insects. It is much used in making work boxes, walking sticks, penholders, and other small articles of fine ornament but cannot be procured of a large size.

5. *Kiaboca wood (Pterospermum indicum.)* Is imported from Singapore. It is beautifully mottled, of different tints, evidently produced by excrescences from the tree. The wood is chiefly used for inlaying or for making desks, snuff boxes, puzzles, &c. *Dr. Oleghorn M. D., in M. E. J. R. of* 1855. See Blackwood Furniture.

FURASH. HIND. PERS. A class of menial servants employed for inferior offices, as pitching tents, sweeping out houses, &c., and they are always in attendance to execute their master's pleasure. When a native prince wishes to punish a servant, it is generally performed by a Furash ;—properly Farash, from Farash, PERS. a carpet.—*Fraser's Journey into Khorasan,* p. 60.

FURRAH-RUD. A river which, like the Murghab and the Tajend, flows from the western side of the mountainous and hilly country to the north of Herat and Kabul. From the eastern side flow the Helmund, the S. E. feeders of the Oxus and the N. Western feeders of the Kabul river.

FURROHUR DIN JASAN. Furohur amongst the Parsee people, means "soul or spirit," and this day is one set apart by the people of this religion for the performance of the ceremonies of the dead.—*The Parsees.*

FURRUCKABAD. Before the cession of Rohilcund to the British Government, the Furruckabad territory was almost entirely surrounded by the dominions of the vizier of Oudh. A tribute of Rupees 450,000 was paid by the Nawab Raees of Furruckabad to the Vizier. This tribute was ceded to the British Government by the Treaty with the vizier of 10th November 1801. The last Nawab Raees of Furruckabad, Tufuzzool Hossein, rebelled in 1857. He surrendered on 7th January 1859 under the proclamation of amnesty. He was convicted and sentenced to death and all his property was adjudged to be confiscated. But it came out on the trial, that he had surrendered on promise of life, and he was banished British territories for ever. He was carried to Aden and sent across the frontier in the direction of Mecca, and warned that if ever he set foot on British Territory, the sentence of death which had been passed upon him will be carried out.—*Aitcheson's Treatises,* pp. 36 37, Vol. I.

FURRUD. HIND. Erythrina Indica.—*Lam.*

FURS are the skins of different animals with the inner side being converted by a peculiar curing process, into a sort of leather, and the outer fine hair left. Previously to their undergoing this process, Furs are termed *Peltry.* The fur of the flying squirrel (Pteromys petaurista) is of such a very fine description, that it would excite much interest in Europe. The beautiful furs, from Lassa and Digurchee, in Thibet, are mostly obtainable in Khatmandoo. These two large cities are great fur depots ; they are only forty marches from Khatmandoo.

A very large portion of the Russian fur trade is derived from this part of Thibet, and certainly by far the most valuable furs are obtained there. Some of the most beautiful dresses made of furs are brought by the native merchants from these cities ; and a fur cloak with thick silk lining was purchased from one of them for one hundred and fifty Moree rupees, in English money little more than ten pounds. About the beginning of the 19th century, the fur trade with China amounted to upwards of a million of dollars annually ; but later no skins or furs were brought to

Canton; the peltry of the American forests command better prices in the European markets. The amount carried into China over the northern frontier is however still considerable, though no account of the number can be obtained. Lambskins of various sorts are much used in the northern parts of the country. The importation of cow and ox-hides is from the Archipelago, but nothing definite is known as to its amount. Hon'ble Mr. *Morrison's Compendious Summary, Sir R. Montgomery's Report on the Trade of the Punjab.*

FURSAKH OR PARASANG, PERSIAN, is a measure of $3\frac{1}{2}$ English miles. Pottinger says $3\frac{7}{8}$ of a mile. *Pottingers' Travels, Beluchistan & Sind* p. 419.

FU-SANG, M. de Guignes, in his Recherches sur les navigations des Chinois, du Cote de l' Amerique, states that under this name, America is accurately described in a Chinese work of the 5th century as a land in the far East. According to M. Paravey, however, the Fu sang, described in the Chinese Annals, is Mexico, which, he says, was known as early as the 5th century of our era. Carved figures representing Buddha of Java, seated on a Siva's head, were found at Uxmal in Yucatan.

FUSLIUN. GREEK. Plantago ispaghula Spogel seed.

FUSTAGNO. IT. Fustian.

FUSTAN. SP. Fustian.

FUSTEIN. DUT. Fustian.

FUSTIAN.

Fustein	DUT.	Bumasea	RUS.
Futaine	FR.	Barchan	POL.
Barchent	GER.	Fustan	SP.
Fustagno, Frustagno,	IT.		

A cotton stuff, wealed or ribbed on one side. *Faulkner, McCulloch.*

FUSTIC. ENG.

Geelhout	DU.	Legno giallo de Brasilio.	IT.
Bois jaune de Bresil	FR.	Palo del Brasillo marillo.	SP.
Gelbholz	GER.		
Fustick	„		

A dye wood, the produce of the Maclura tinctoria, a large tree of tropical America and the west Indies. *McCulloch, Tomlinson, Simmonds.*

FUTAINE. FR. Fustian.

FU-TAL, See Kwang-tung-chi.

FUTTEH ALI, a king of Persia. See Fatteh-Ali

FUTTEHPORE SIKRI was the field of battle between Baber and rana Singha, chief of Chittore when Baber was defeated. In 1527, however, rana Singha was overthrown in a second engagement *Tr. Hind,* ii p. 1.

FYZABAD, the capital of Badakhshan, abandoned in Wood's time, but reoccupied by Mir Shah. *Yule's Cathay.* I *page* 235.

FYZABAD a town in Oudh. A copper plate of date S. 1243 A. D. 1187 was found here, in which mention is made of the Vaishnava religion and of Lakshmi and of the Rhator princes of Canouj. See Inscriptions.

G. This letter is used in most of the languages of Southern Asia, but with the hard sound as before a,e,i,o,u, in gardener, get, gild, golph, gun. There is not apparently any Eastern tongue, in which it has the soft sound of the languages of Europe, before e and i, as in general, geometry, gin, giorno, Gerusalemme. In writing Eastern words, therefore, this letter, where it occurs, presents similar difficulties to the letter C, which Europeans make interchangeable with K. as in Cashmir, Kashmir, Cabul, Kabul, "Gehoon" *Hind*, wheat, which has the hard sound, might, by a native of Europe be pronounced, erroneously, Jehun, and "Gentoo" a word derived from the Portuguese, and pronounced Jentoo, might be, erroneously, pronounced hard. The Arabic "Jab'l," a mountain, is pronounced "Gabal" by the Northern Arabs. "Ginti." *Hind*, a muster, "Gird" *Hind Pers*, a round or circle, are alike hard. The English letters "gh" are generally to be pronounced separately in Eastern tongues, as if written "g'h," but in the Arabic and taken from it into Persian and Hindustani there is a separate letter which has a combined softened guttural sound of "*gh*" as Ghulam, a slave.

GAARLA PHALLA. Maleal. Anamirta cocculus. *W. and A*

GAARTO. A town near the source of the Indus. See Yak.

GAB. Fruits of Diospyros embryopteris, the size of a small orange; deep green, with a rusty dust; strongly astringent and mucilaginous.—*Irvine, Med. Top.*

GAB, also Gad, also Gondori. Hind. Cordia serrata.

GABA. Tel. Desmodium collinum, *Wall.*—*W. Ic.* 272.—Desm. latifolium, *W. and A.* 696.—Hedysarum coll. *R.* iii. 349.

GABA-GABA, Malay, the midrib of palm-leaves, of the leaf of the sago palm, much used throughout the Moluccas for buildings and fencing. *Atap* is thatch made of the fringe of palm leaves, doubled down and sewed on sticks or lathes of bamboo.—*Journ. of the Ind. Arch. Vol.* VI. *No.* 6.

GABAR. H. properly "Ghab'r" Pers. A person not a mahomedan, in general, but commonly a Zoroastrian, a Parsi or fire worshipper. See Gab'r.

GABASAN. Beng, a tanner.

GABBU NELLI. Tel. Premna longifolia, *R.* iii. 79 also given to other species of *Premna*.

GABBA. Hind, carpets.

GABBI-LAL. Tel. a Bat.

GABDI. Mar. A fisherman.

GABET. M. M. Huc and Gabet by a route, hitherto, so far as we know, quite unexplored by any European, passed among the mountains north of Bootan and Ava, and so made their way due east to the plains of "the Central Flowery Land." M. Huc wrote an account of his travels.—*Prinsep's Tibet, Tartary and Mongolia, pp.* 32, 33.

GAB-NUL. Beng. Bengal reed, Amphidonax Bengalensis.

GABOORA. A river near Dinagepore.

GABRIEL or jibrael, according to mahomedan belief, the angel who has charge of all created things.

GAB'R. Pers. A fire worshipper: any non-believer in mahomedanism. According to the manuscript dictionary, Burhan-i-Kattea, Gab'r is used in the sense of Mâgh, which signifies a "Fire-worshipper." Gab'r mani-i-Mágh báshād, keh átash púrúst âst. This is sometimes written, and very often pronounced Gavr, by a change of letters frequent in Persian, as in other languages. "Gavr," we learn from the dictionary Jehangiri, means "those fire-worshippers who observe the religion of Zardusht, (or Zoroaster), and they are also called 'Mugh.' But Origen, in the third century, defending Christianity against Celsus, an Epicurean, who had alluded to the mysteries of Mithra, uses Kaber as equivalent to Persians. "Let Celsus know," says he "that our prophets have not borrowed any thing from the Persians or Kabirs." (*Orig. contr. Cels. Lib.* VI. *p.* 291. *Cantab.* 1658.) A Jewish writer, quoted by Hyde, (Hist. Relig. Vet. Pers. Cap XXIX.) declares that the Persians call their priests (in the plural) Chaberin, (or Khaberin) whilst the singular Chaber or Khaber (occurring in the Talmud), is explained by Hebrew commentators, as signifying Parsai, or Persians. On this subject Hadrian Reland has offered some remarks, in Dissert. IX, de Persicis Talmudicis. (See his "Dissert. Miscell. Part II. p. 297. Traj ad Rhen. 1706). Dr. Hyde, however, as above cited, thinks that Chaber or Chaver, denoted both a priest and a layman. Ouseley's Travels, *Vol. I. p.* 150.

GACCHA. Sans. Andropogon iwarancusa.

GACHCHA CHETTU. Tel. Guilandina bonduc, *L.* The hindus, from the hostile and unapproachable character of this plant, compare it to a miser in the following *padyam*;

ఇచ్చువానివద్ద నీనివాడుండిన,
చచ్చుగాని నీవి సాగనీడు।
కల్పతరువువద్ద గచ్చపొదయున్నట్లు।
విశ్వదాభిరామ వినరవేమ॥

If a miser dwell near a liberal man, he will die rather than remain a witness of his generosity like the *Gachchá* under the *Kalpa vriksha* (or celestial tree of desire). Vemana. i. 7. *Fl. Andh.*

GACH. Hind. Mortar, plaster, fine plaster; plaster of Paris.

GACHCHA or GOT. Amongst the Jains of Southern India, there are castes or classes, called by these two terms. See Jain.

GACH MIRICH. Beng. Capsicum annuum. Linn; also C. Nepalensis

GACHNI-MITTI. Hind. A soft, saponine, drab colored, clay, or earth.

GACINCULUS, a genus of birds of the Sub-family Gecininæ and family Picidæ, in which are six sub-families as under:

Fam. Picidæ.

Sub fam. Campephilenæ, 6 gen. 16 sp. 1 Campephilus, viz., 2 Hemicercus, 4 Hemilophus, 3 Chrysocolaptes, 2 Brachypterus, Tiga.

Sub-fam. Gecininæ, 4 gen. 19 sp. viz., 12 Gecinus, 1 Gacinculus, 3 Meiglyptes, 3 Micropternus.

Sub-fam. Picinæ, 2 gen. 15 sp. viz., 1 Dryocophus, 14 Picus.

Sub-fam. Picumninæ, 2 gen. 3 sp. viz., 1 Picumnus, 2 Sasia.

Sub-fam. Yunginæ, 1 gen. 1 sp. viz., 1 Yunx torquilla.

Sub-fam. Indicatorinæ, 1 gen. 1 sp. viz., 1 Indicator xanthonotus. See Birds, page 470.

GAD, the Babylonian god of destiny.

GADA. Hind. A club. See Gadha,

GADAMU. Tel. A Bear.

GADANG. Jav. Musa paradisaica, the Plantain.

GADANG CASTILA. Bali. Carica papaya, *Linn.*

GADA PURNA. Beng. Boerhaavia procumbens.

GADARIA, also Guduria. Beng. A shepherd from Gadar or Gadur a sheep, the Gadaria shepherds of the N. W. Provinces have several divisions who do not eat together nor intermarry. The younger brother marries the widow of the elder brother, elder brothers do not marry the widow of a younger brother.—*Wilson.* See Gaddi.

GADDA. Tel. Any edible root.

GADDA. Tel. An egg; the testis.

GADDA-GHAL is a punishment unknown in any but the hindu code; the hieroglyphic import appears on pillars, and must be seen to be understood.

GADDA GORU. Tel. Scutia indica.

GADDAH. Hin. The terminal head of the date palm, eaten as a vegetable.

GADDA KANDA. Tel. Colocasia esculenta, Schott. Calla calyptrata, R. iii. 514.

GADDA NELLI. Tel. also Budumaru, Celtis (Sponia) orientalis, L.

GADDA PISINIKE. Tel. or Dhataki kusumamu, Grislea tomentosa, R.

GADDA PUTIKE. Tel. or Bandimurugudu. Getonia floribunda, R.

GADDI. A hill shepherd, about Kangra and elsewhere. See Gadaria.

GADDI JANUMU. Tel. Sorghum cernuum, *Willd* Andropogon cer. R. I. 270. A. laxus R. I. 271. Roxb's two sp. appear to refer to the same plant.

GADDI SIUNGAR. Hind. Chenopodium.

GADERWA. Hind. Erythrina arborescens.

GADES had a temple of Melkarth, where his symbol was an ever-burning fire. See Baal.

GADFLY Eng. Œstrum. Lat.

GADID'HA. Hind. An ass.

GADHA. Hind. A club, a mace, occasionally pourtrayed in the hands of Siva and Vishnu. See Siva, Vishnu.

GADHAPURNA. Beng. Bœrhaavia diandria.

GADHI. A hindu sovereign's throne, a pillow. "The cushion," by which a Rajpoot throne is designated.—*Tod's Rajasthan, Vol. I. p* 391. See Gadi.

GADHINA. Beng. Allium ascalonicum. —*Roxb.*

GADI. Hind. (1) A cushion, a porter's knot, a pad; (2) tobacco twisted up into a rope for sale; (3) a seat of honor; the cushion of the throne. Succession to a kingly dignity, or to the office of chief mahant of a temple, is called succeeding to the gadi, and the occupant is said to be "gadi nishin." Wilson describes it as the spiritual throne of the founder of a hindu sect: the pillow at the original site of the sect; the pillow or seat of the primitive teacher, the spiritual throne. A gadi, is literally, a cushion, and is placed on a rich carpet on the ground and forms the hindu throne. To be raised to or seated on the Gadi, is equivalent to being raised to the throne. See Gadi.

GADI BUNI. Beng. syn. of Trianthema decandra.—*Linn.*

GADI CHIKKUDU KAYA. Tel. Rhynchosia medicaginea, *D. C.—W. & A.* 733.—Dolichos med. R. iii. 315.

GADIDÆ. See Clupeidæ. Fishes.

GADIDE GADAPARA, Aristolochia bracteata, Retz.—R. iii. 490.

GADIDE-GADDA. Tel. Aristolochia bracteata, Retz. *Roxb.*

GADKUJI. Hind. Pyrus variolosa.

GADIMI DONDA PENDALAM. TEL. also Niluva pendalum, Disocorea alata, L.

GADAPATI. The chief of a body of religious mendicants.

GADI SUGANDHI. TEL. or Sugandhipala, Hemidesmus indicus, R. Br.

GADING. MALAY, Elephant's tusk, ivory.

GADJANTERGARH. A fortress in the southern Mahratta country in L. 15° 44′ N. L. 75° 56,′ E The plain at the foot of the fort is 1,996 feet above the sea. *Schl, Herm.*

GADUS. LAT. Cod. See Fishes.

GAD VASSAL. HIND. Allium rubellum.

GAEKWAR. The Gaekwar family, sprang in 1720, from Dammaji Gaekwar Shamsher Bahadur an officer under Khandi Rao Holkar, and they ruled till the treaty with the British Government in 1802. In 1808, Col. Alexander Walker, then Resident at the Gaekwar's court, was able to arrange for payment to the Gaekwar, from ten Rajpoot chiefs, of a certain fixed sum as suzerainty. When the Peishwa was overthrown in 1817, the British succeeded that power in the chief control. An annual tribute in the proportion of $\frac{2}{3}$rds to the British Government and $\frac{1}{3}$rd to the Gaekwar. The tributaries are called Talukdars of whom there are 224 and each of whom possesses exclusive jurisdiction in his own district, and only the Grassia and Mul Grassia are allowed to litigate with their ruling chiefs. These are sprung either from cadets of the ruling tribe or from proprietors of lands which they seized and now defend with all the proverbial tenacity of the Rajput, who freely gives and takes life for acres.

The territories of the Gaekwar have an area of 4,399 square miles, with a population of 1,710,404 and an annual revenue of £600,000. acres. *Thomas Prinsep's Antiquities, p.* 286 *and* 287. See India, Kattyawar. Mahratta Governments in India.

GÆRTNERA GARDNERI. THW. A tree of the Central Province of Ceylon, growing at an elevation of 5,000 to 7,000 feet.—*Thw. Enum. pl. Zeyl. p.* 202.

GÆRTNERA RACEMOSA. ROXB.

Maltilata,	HIND.	Vedala chettu,	TEL.
Madholata,	SANS.		

This is a fine and fragrant flowered creeper, and very hardy. A fine specimen runs over some trees in the Dowlat bagh at Ajmeer.—*Genl. Med. top. p.* 192. Wight in Icones, gives also G. Konigii.

GAETRI. A brief invocation used by hindus, as a prayer. That usually alluded to, under this term, is the "Gaetri-muntram and is considered to be the most sacred verse in the Vedas. In the nature worship of the Vedas, the sun was worshipped under the designation Savitri. This prayer is supposed to be known to brahmans only. They are taught it when they receive the sacred string; and they are enjoined never to communicate it to any other sect. Its Sanscrit words are O'm! Bhurbhuvā ssuvāhā. O'm! Tatsa Vit'hru varennyām. B'hargo devāssyā dhimahi dhiyo yonaha pratcho dāyāth. O'm! Earth, air, heaven. O'm! let us meditate on the supreme splendour of the divine sun. May he illuminate, our minds. See Gayatri, Hindu, Surya.

GAFFAT near Debra Tabor in Amhara, where the European workmen of the emperor resided,—*James.* See Semitic races.

GAGAH, JAV. A rice field "gagah," "sawah," "tipar," are rice fields differing in the mode of cultivation adopted in them.

GAYGARKAND. HIND. Astragalus multiceps.

GAGAT, also Gagata.. GER. also Lustrino, IT. also Gagus. LAT. Jet.

GAGGERA CHETTU. TEL. The Sans. syns. are Kathinjara, and Kutheraka, which signify Ocimum sanctum.

GAGGAR YURMI. HIND. Rhododendron campanalatum.

GAGH-GHO. A long shirt worn by Baluch women.

GAGLI. HIND. (1) Dolichos uniflorus, (2) Arum colocasia.

GAGRA. HIND. A subdivision of the Bhangi or sweeper caste.—*Wilson.*

GAGRA. HIND. Solanum gracilipes.

GAGY. In about lat. 0°, 25′ S. in the Gillolo passage, is an island of considerable extent and moderately elevated.—*Horsburgh.*

GAHAI. HIND. Berries of Eleagnus conferta; the Kankol of Hazara and elsewhere.

GAHALAYA. An outcast predatory race, near Matelle in Ceylon who acted as executioners in the times of the Kandyan kings.

The people of the low lands on the coast of Ceylon are of a Tamulian or Dravidian stock. Those of Kandy, with their habits of polyandry would seem to be allied to the people of Coorg. The Gahalaya, Rhodia and Veddah are wild, out-cast races dwelling in the forests and unfrequented parts.—*Tennent.*

GAHARBA. A resin used in Benares in making lacquer ware.

GAHARU. MALAY also Alua-tan, also Alivah, Aloes.

GAHARWAR. One of the 36 royal races of Rajputs settled at Kanoj. *Wilson.*

GAHLOT. A Rajput tribe in the N. W. of India. The Sisodya are a branch of the

Gahlot, and the rajah of Udyapur is a Sisodya.—*Wilson.* See Gehlot.

GAHRU, Malay. Aloe Indica. *Royle.*

GAHRU, Malay, Japan, also Kaya gahru Agallocha wood. Eagle wood.

GAI. Hind. A cow. Gai Goru. Hind. Horned cattle.

GAIRUN. Duk. Bezoar; Calculus cysticus.

GAJ. An affluent of the Beas river.

GAJA CHINNO. Tel. Celastrus montana, Roxb.—*W. and A. W. Ic.*

GAHUN. Hind. Wheat, Triticum æstivum.

GAILLARDIA PICTA. Flowering plants chiefly from North America, may be grown in any garden soil and may be increased by dividing the roots, common everywhere; the scent of some of the species is unpleasant.—*Riddell.*

GAINA. A dwarf variety of the Bos Indicus, or Indian bullock.

GAINGOOL. Hind.

Panam calang, Tam. Tati kalangoo, Tel.

Is the young plant or shoot of the brab palm tree Borassus flabelliformis. It is boiled and eaten by common people. To obtain it they dig a hole, about three feet deep, in which they put the stone of the fruit and cover it up with earth: about a year afterwards it is dug out and the plant or shoot then produced is called Gaingool.

GAITRI. See Gaetri, Hindoo, Surya, Zonar.

GAJA, Malay. Sansc. Elephant.

GAJA CHINNI. Tel. Celastrus montana, *R.*

GAITA. A wild tribe in the Rajahmundri district.—*Wilson.*

GAJANGI. Tel. Pandanus odoratissimus, *L. fil.*

GAJA NIMMA. Tel. Citrus bergamia, *var.* The *Taba-nibu* of Bengal.

GAJANUMU. A name of the hindu deity Ganesa, it means elephant face. See Ganesa.

GAJA-PATI. A sovereign race that ruled in Orissa, but little is known of them. The name means "lord of the elephant." In the Northern Circars, Chicacole and Rajahmundry were the capitals of the Andhra sovereigns, a race anterior to the christian era.

A more exact knowledge of these and of the early buddhist princes of Vegi or Vengi Desam, who reigned at Dara Nagara on the Kistna, near Amaravati and at Vengipuram the exact site of which is not yet known, is an important desideratum, only likely to be obtained from an investigation of their monumental and architectural remains.

The Kalinga Chalukya power ruled at Rajahmundry, and throughout the Northern Circars. Extant sasanams and sculptured remains exhibit several alternations of superiority between them and the Gajapati of Orissa.

The Ganapati or Kakateya dynasty ruled at Warangul. Though near the frontier, and now in the Nizam's territory, it was once the capital of great part of the N. Circars.

Of the Reddies of Condavir little is known.

The succession of the buddhist race by the Chalukya of Rajahmundry, the subsequent sway of the Ganapati, Vema Reddi and Rayel of Bijanagar, together with their contests and the various relations between them, are little known and may be amply elucidated by existing remains.

GAJA PIPPALI, Sansc. Scindapsus officinalis,—*Schott.*

GAJA PUSHPAMU. Sansc. Mesua *Sp.*

GAJBEL. Hind. The elephant creeper, Bauhinia racemosa.

GAJAR. Hind. (1) Daucus carota, (2) pahari gajar, Hind. Eryngium planum.

GAJER. See Kelat, page 489.

GALI. Tel. Grislea tomentosa, *R.*

GAJJARA. See Inscriptions, page 388.

GAJJARA GADDALU. Tel. Daucus carota, *L.*—Carrot.

GAJLHALLI, or Gazzelhalli, in L. 11° 33' N, L. 77° 1' E, in the Nilgiris, on the left bank of the Moyar, N. E. of Utakamand is 5948 ft. above the sea.—*Scott.*

GAJNA or GAYNI. An ancient name of Cambay.

GAJPIPALI. Hind. Plantago amplexicaulis.

GAJUBA. Leaves and triangular stalks of a small succulent plant, brought from Bombay, heating, and used as a purge.—*Gen. Med. Top. p.* 135.

GAJU-BAM. Hind. Anisomeles Malabarica.

GAJU CHETTU. Tel. Solanum rubrum, *Mill.*

GAJU GUM. Gum of the Cashew tree.

GAJ'M. Tam. A cloth measure. See Gaz; Guz.

GAJUR, Hind. Daucus carota. Carrot.

GAL. Hind. Goitre.

GAL. Hind. Pers. Pennisetum Italicum. Panicum Italicum.

GALAGA. Tel. Tephrosia racemosa.

GALA-GALA. Malay, pitch.

GALAGARA. Tel. Eclipta prostrata.—*Roxb.*

GALAM-BUTTER. A reddish white solid oil obtained from Bassia butyracea.—*Simmond's Dict.*

GALANGA. Dut. Eng. Fr. Lat. Galangal.

GALANGA ALBA. See Galangal.

GALANGA KÆMPFERI. Syn. of Kæmpferia galanga.

GALANGAL. Eng.

Kust-talkh,	Ar.	Colenjun,	Guz. Hind.
Kholangan,	„	Langkwas	Malay.
Laun-don,	Chin.	Langkwe,	„
Galanga,	Dut. Eng. Fr.	Kalgan,	Rus.
„	Lat.	Kolanjana,	Sans.
Galgant,	Ger.		

A brown tuberose root, with a faint aromatic smell, and pungent taste, like a mixture of pepper and ginger. It is supposed to have been introduced by the Arabs, but it was previously mentioned by Ætius. The plant which yielded this root was long unknown, and it has been supposed to be that of a pepper, of an Iris, of Acorus calamus, or to be the Acorus of the ancients. Kæmpferia galanga was so called from its aromatic roots being supposed to be the true Galangal. The tubers of Cyperus longus were sometimes substituted, and called English Galangal. Two kinds, the large and the small galangal, are described; these are usually considered to be derived from the same plant at different stages of its growth, but Dr. Ainslie, in his 'Materia Indica,' insists upon the greater value of the lesser, as this is warmer and more fragrant, and therefore highly prized in India. The plant producing it is a native of China, and the Reverend Mr. Williams says that the root is sent from China to India; and that there are two sorts the greater and the smaller, obtained from different plants, the best of which is the smaller, procured from the Maranta galanga. This is of a reddish color, about two inches long, of a firm texture though light, and possessing an acrid, peppery taste, and a slight aromatic smell. The larger is from a different plant (Kæmpferia galanga), and inferior in every respect. Both are used as spicery, and to some degree in Europe as well as India. The greater Galangal has long been known to be the produce of a Scitamineous plant, the Galanga major of Rumphius ('Herb. Amb.' 5. t. 63), which is the Alpinia galanga of Willdenow, a native of China and the Malayan Archipelago. Several species of this genus have roots with somewhat similar properties. Thus Alpinia alba and A. Chinensis are much used by the Malays and Chinese; the former has hence been called Galanga alba of Kœnig; and the latter has an aromatic root with an acrid burning flavour. The fragrant root of Alpinia nutans is sometimes brought to England, according to Dr. Roxburgh, for Galanga major. Its leaves, when bruised, have a strong smell of cardamoms, and the cardamomum plant is frequently placed in this genus, but has been rearranged under Elettaria. According to Dr. Honigberger (p. 278) the natives of Lahore are of opinion that the root of Piper betel (pan-ki-jar) is what the Persians call Koolian, which is the Indian Galanga. Galanga root is a good deal used in China, and forms an article of commerce, fetching in the London market from 12s. to 16s. per cwt. in bond. Its taste is peppery and aromatic. Externally the color of the root-stocks is reddish brown, internally pale reddish white 1,286 cwt. of Galangal root, valued at 2,880 dollars, was exported from Canton in 1850.—*Williams' Middle Kingdom*, Vol. II. page 400. *Royle, Roxb., Eng. Cyc.* p. 912. *Simmond's Comml. Products*, p. 412.

GALANGA MAJOR. Rumph. syn. of Alpinia galanga. See Galangal.

GALANGA MALACCENSIS. Rumph. syn. of Alpinia malaccensis.—*Roscoe.*

GALANGAN. Jav. An irrigation trench.

GALAPAGOS ISLANDS, almost every indigenous living thing is peculiar to them. Admiral Fitzroy mentions that while one side of them is covered with verdure, the other aspects are barren and parched.—*Wallace, p.* 10.

GALAR-TORI. Hind. Trichosanthes anguina.

GALATIANS, from the Greek, Gala, Milk. Goala, herdsman in Sanscrit. Γαλατικοι, Galatians, or Gauls, and κελτι Celts allowed to be the same, would be the shepherd races, the pastoral invaders of Europe. See Gaola.

GALBANUM. Eng. Fr. Lat.

Barzud,	Ar.	Kinneh.ka-Gond,	Hind.
Mutterharz,	Ger.	Galbano,	It.
χαλβανη	Gr.	Pirzud,	Pers.
Chelbeneh,	Heb.	Birzud,	„
Birija,	Hind.		

The plant producing this gum resin is still undetermined. It has been supposed to be obtained from the Ferula ferulago, also from the Galbanum officinale *Don*, of the tribe Silerinæ, also from the Opoidia galbanifera of the tribe Smyrneæ. It occurs in commerce in agglutinated plastic masses. It is hot, acrid and bitter and in properties resembles asafetida, but weaker.—*McCulloch. Royle Ill. O'Shaughnessey. McClelland.*

GALBANUM OFFICINALE. Don.

Nafiel,	Arab.	Gir-Khat,	Pers.
Kinneh,	Pers.		

This plant has from the seeds, been surmised by Professor Don, to be of the tribe Sile-

rinæ. Ferula ferulago, F. galbanifera, (Nees and Ebermaier) of the coasts of the Mediterranean, the Caucasus, &c. yields copiously a secretion which dries into a gum resin, supposed by some to be galbanum, but Professor Don states that galbanum is yielded by quite a different genus, called by him Galbanum officinale. Little is positively known about the plant which furnishes the galbanum of the druggists, but in the opinion of the best botanists it is not obtained from the Bubon galbanum or Ferula ferulago of most Pharmacopœiæ. The gum resin is obtained by incisions in the root and stems; the juice is cream-coloured, and soon concretes into a solid mass.—*Eng. Cyc. Hogg. p.* 388. *O'Shaughnessy, p.* 367.

GALBOJA. HIND. Pinus Gerardiana.

GALEECHA. HIND. A woollen or cotton carpet or rug.

GALEDUPA ARBOREA.

Kurmeja, HIND. | Kenja, Chetta HIND.

A very common tree in Tenasserim and Pegu, more especially in the Prome district. The seed may be collected in any quantity, it is a large seed and an oil. "Karunga katel" is expressed from it, which is used in Bengal for burning, and medicinally as a liniment. Wight in Icones, gives also G. elliptica and piscidia.—*Dr. McClelland.*

GALEDUPA INDICA. LAM.

Pongamia glabra. *Vent.* | Dalechampa arborea.
Kurmeja, HIND. | Kanuga, TEL.
Kenja, „

A very large timber tree, from 40 to 50 feet high, common all over the Indian peninsula, in Bengal, &c. It flowers during the hot season, and the seeds ripen towards the close of the year. They yield a useful oil. Its wood is light, white, and firm, and serves for a variety of economic purposes. Branches stuck in the ground grow readily, grass and every thing else grows well under its shade.—*Mr. Rohde's MSS.*

GALEDUPA TETRAPETALA. A common tree of Tenasserim and Burmah, more especially in the Prome district. Its seeds yield an oil for burning and the flowers a fine red dye.—*Dr. McClelland.*

GALEEM. ARAB. Carpets.

GALEGA. A genus of plants belonging to the Leguminosæ, tolerably ornamental. As they form a bush of small size they require room when planted out, the colours are mostly blue and white. Wight in Icones gives Galega Heyneana, incana, pentaphylla, and spinosa. And G. cœrulia; colonila; lanceæfolia, and purpurea are syns. of T. purpurea. —*Riddell.*

GALENA.

Lead Glance, ENG. | Sulphuret of Lead, ENG.
Lead ore, „ | Bleiglanz, GER.
Plomb sulfure, FR. GR.

This is the richest ore of lead, and from which that metal is chiefly obtained. As met with in commerce it is in heavy, shining, black, or bluish lead coloured cubical masses; having a great resemblance to the sulphuret of antimony. At the Madras Exhibition of 1857, a rich ore of argentiferous galena was exhibited from Martaban by Dr. Brandis, granular, or in minute crystals, with silver passing through it in thready veins. This ore, assayed by Dr. Scott, contains about 80 per cent. of silver lead. But the quantity of silver was found to vary in the portion examined from 70 to 300 ounces in the ton of ore. It is impossible therefore to say what its commercial value may be, unless an average sample were obtained, but if the ore exists in any quantity and of the same quality as that examined, it is a most valuable one, and would be well worth working by Pattenson's mode for separating the silver crystallization, by careful slow cooling, and as the process proves remunerative where only 7 ounces of silver can be obtained from a ton of metal. This is probably the ore referred to by the Rev. Francis Mason, A. M. in his publication on the natural productions of Burmah, where he says the limestone of the Provinces probably contains large quantities of lead. In the valley of the Salwen there is a rich vein of argentiferous galena, which is reported to appear on the surface. A specimen that Dr. Morton sent to England for analysis, was said to be a very valuable mineral, and destined to make a fortune for some one. Professor Mitchell in the certificate that he furnished Dr. Morton of the analysis, says it contains Lead, Sulphur, Silver, Gold (traces) Lime, Magnesia, Iron, Silica, and Carbonic Acid. It is a sulphuret of lead or galena. The quantity of lead and silver appears to be considerable, but there was not sufficient of the mineral to estimate either." In a small hand specimen from Martaban, the amount of silver was found to vary in different portions of it, the per centage of lead being about 75. In the first trial the silver was found to amount to about 70 ounces to the ton of ore; but in the second to not less than 300 ounces in the ton, or a little less than 1 per cent. Mr. O'Reiley states that the carbonate of lead exists near the head waters of the Hoimgdaram. Another locality from which galena was exhibited was the Dhone Talook, Kurnool, from which galena in very large blocks has been obtained; one piece measured about 18 inches in diameter and

weighed upwards of 3 cwt. This ore, carefully tested by Dr. Scott some years ago, was then found to contain from 53 to 70 per cent. of lead but no silver; it was also tried at the Mint and yielded a large per centage of lead. It has been used for some years at the Madras School of Arts for glazing pottery and answers well for that purpose, though it is found to succeed better when reduced to the form of minium, and then ground with felspar and an alkali. It was brought to notice by Captain J. G. Russell and occurs in large quantities and in blocks of great size in the vicinity of Kurnool. Its history is interesting. It was discovered accidentally by the late ex-Nawaub of Kurnool, in digging a well. The re-examination of the first specimen of the Kurnool ore proved it to contain upwards of 1 per cent. of silver, or 374 ounces in the ton, the quantity of lead and silver together being only 45 per cent. which was occasioned by there being a considerable quantity of gangue disseminated through the portion examined. Another specimen, given by Col. Cotton and also said to be from Kurnool, was found to contain 175 oz. 3 dwts. in the ton. A specimen of this unwashed ore was again analysed by Dr. Scott in 1859 and when fused with carbonate of soda and nitrate of potash, produced about 60 per cent. of metallic lead. The resulting lead, on being coupelled, furnished a bead of silver weighing 1·18 grs. which is equivalent to 96·64 oz. in the ton of ore, or 165·76 oz. in the ton of metal. In the recent researches of Malagah and Dorochet they have found that when sulphide of silver is associated with the sulphides of other metals, it is always unequally distributed. Among the metallic ores holding the promise of being marketable, are a rich ore of galena or sulphuret of lead from Jungumrazpillay in the vicinity of Cuddapah. This ore is rich in silver, and is worked by the Natives on this account, but all the lead is wasted and the silver is obtained by a tedious, clumsy, and expensive process. Galena is found at Rupi of Kulu in the Kangra district, associated with quartz, also in the Khagula in the Shaphur district; in the Kashmir country and in Kandahar. *Powell, Hand book Econ. Prod. Punjab*, p. 54. *M. E. J. R. of* 1857.

GALEODES. A genus of spiders, of which species occur in Central Asia, Tartary and in the Himalaya. The Lycosa or Tarantuloides singoriensis (or Aranea tarantula of Pallas); and the "Scorpion-spiders" common on the steppes, are the Galeodes aranoides (Phalangium aranoides of Pallas). The latter—or a congener common in Afghanistan, was there mistaken for the 'Tarantula' by Elphinstone. Both, but more especially the Galeodes (or Solpuga), are celebrated for their bites, reputed to be envenomed; but this is now denied by naturalists.

This very formidable and most voracious 'Tiger of the Spider class,' is a terrible pest in some parts, as especially on the Astrakan steppe, where its bite is much dreaded by the Kalmuks, who call it the 'black widow' (belbussan charra). Messrs. Zwick and Schill two German missionaries employed by the Russian Bible Society, notice these creatures, as a plague of no mean order. They harbour chiefly under the tufts of wormwood, and about the bones which are always to be found near a Kalmuk habitation, and also at the mouth of the deserted nests of the Spermophilus citillus, where they collect a sort of bed of leaves." On one occasion—"a Kalmuk had been bitten on the back in his bed, about half an hour before, by one of these creatures, which he had killed and preserved. The man's back was swollen to a considerable distance round the part, and water trickled from his mouth. Near the same hut they saw a camel with the body exceedingly swollen by the bite of one of these poisonous spiders. Not long after, they saw a number of camels which had been bitten, in the same state, and nobody seemed to apply any remedy. Of the animal creation, the camels seem to suffer most from these spiders, because they are most addicted to lying on the ground.

GALEODES VORAX. Hutton. An extremely voracious spider, of Northern India, which feeds at night, on beetles, flies, and even large lizards sometimes gorging itself to such a degree as to become almost unable to move, and remaining torpid and motionless for about a fortnight. A sparrow, as also the musk-rat (Sorex Indicus) were put along with it and killed by it.

This "tiger of the insect world," was seen to attack a young sparrow half grown, and seize it by the thigh, which it sawed through. The savage then caught the bird by the throat, and put an end to its sufferings by cutting off its head. On another occasion, says the same authority, Dr. Baddeley confined one of these spiders under a glass wall-shade with two young musk-rats (Sorex Indicus), both of which it destroyed." It must be added, however, that neither in the instance of the bird, of the lizard, or the rats, did the galeodes devour its prey after killing it. Capt. T. Hutton, in the eleventh volume of the *Asiatic Society's Journal*; makes

mention of a lizard bitten by one being "allowed to escape, with only a severe wound on the side; but as it lived for some days before being permitted to run off, the bite of the Galeodes would not appear to be poisonous." —*Gosse* page 237-8. *Tenn. Sketch Nat. Hist. Ceylon*, page 470. *Captain Hutton, in Jour. As. Soc. of Ben.*, Vol. XI. Part II. page 860. *Tennent's Sketches of the Nat Hist. of Ceylon*, page 470.

GALEOPITHECIDÆ. The flying lemurs, a family of mammals of the order Primates, their position in which may be thus indicated,

ORDER PRIMATES.
Fam SIMIADÆ. Monkeys.
Sub-Fam. SIMIANÆ. Apes.
GEN. Simia, 2 sp.
Sub-Fam. HYLOBATINÆ. Gibbons.
GEN. Hylobates, 3 sp. Presbytes, 12 sp.
Sub-Fam. PAPIONINÆ. Baboons.
GEN. Innuus, 7 sp.
,, Macacus, 4 sp.
Fam. LEMURIDÆ Lemurs.
GEN. Nycticebus, 1 sp.
,, Loris, 1 sp.
,, Tarsium, 1 sp.
Fam. GALEOPITHECIDÆ. Flying Lemurs.
GEN. Galeopithecus, 1 sp.

GALEOPITHECUS, the flying lemurs, a family of mammals of the order Primates, which may be thus indicated.

GALEOPITHECUS VOLANS. *Shaw.*

Syn. G. marmoratus; philippensis ternatensis, rufus, undatus, Temminckii; are considered by Shaw and others to be varieties.
Lemur volans *Linn.*
Vespertilio admirabilis, *Bont.*
Cato-simius volans, Camelli.
Colugo. *Griff.* An, King.
Flying macaco of Pennant. ENG.

Flying lemur,	ENG	Gendoo,	JAV
,, Fox,	,,	Kubung,	MALAY
,, Cat,	,,		TEL.

This is the only species of the genus. It inhabits India, Burmah, Penang, the Malay peninsula, Siam, Sumatra, Java and Borneo. It is nocturnal. They live on young fruits and leaves and do very great injury to gardens and plantations. All day long, they hang with their heads down suspended by the claws of the hind legs, to the branch of a tree, in clusters, and keep up a continuous querulous squeaking, as one encroaches on the position of another. As evening approaches, they quit their shady retreat and are to be seen winding their flight to distant gardens. They resemble in flight a flock of crows retiring to roost. *Horsfield's Mammalia.*

GALERIDA CRISTATA. The Alauda cristata; Crested Lark of Europe, Asia, N. Africa; rare in Britain, but common in India, where it is known as the Chandul. It is the most abundant lark, on the plains of Upper India and table land of the Peninsula, it is a European species, though of rare occurrence inBritain; and its song, also its mode of delivery of it in the air, is not very unlike that of the sky-lark, although it does not soar to so lofty an altitude. We have somewhere read of the delight expressed by one who had been many years in India, at seeing, upon his return to his native land, the Sky-Lark rise from the sod at his feet, and mount higher, and still higher, till reduced to a mere speck in the heavens, or utterly lost to view, all the while making the air ring with its music. Had he ventured forth into the fields of any part of India, he would have seen and heard similarly; although the species (Alauda malabarica) is different, and may be somewhat inferior to the European sky-lark in song, so far at least as regards variety in the notes; but there is really so little difference that the two birds could assuredly not be distinguished by the voice alone, nor by the mode of flight, for the common Indian Lark resembles the European Wood Lark in size and shape, with the plumage of the sky-lark. *Blyth.*

GALERIUS. See Sassanian kings.

GALERUCA, One of the Coleoptera of Hong Kong.

GALES and hurricanes occur in the Indian Ocean south of the equator. Trade wind gales occur at all seasons, but chiefly in June, July and August. In these, the wind veers but little In the extra tropical gales between L. 30 ° and 45 ° S, the wind veers much, and in the tropical hurricanes, the winds veer and shift The S. W. monsoon prevails northof the equator, and when it prevails, the S. E trade wind acquires additional strength from the demand made upon it to supply the S. W. monsoon, these two winds being apparently one system under the influence of the earth's rotation and the high temperature which prevails in the northern hemisphere. The hurricanes of the Indian Ocean are usually rotatory, this was shown by Redfield, Thom, Reid and Piddington South of the equator, they occur in the months of November and May and travel to the W. S. W., and afterwards, but not always, to the Southward and S. E.; the wind invariably moving round a central space (which is usually characterised by a calm) from left to right or with the hands of a watch; while the storm which has a diameter of 1 to 1,500 miles moves onwards at the rate of 1 to 20 milesbut more frequently 4 to 7 miles an hour, for a period varying from a few hours to ten days, attended

with torrents of rain and its northern half often with lightning. Dr. Thom showed that South of the equator these rotatory storms are always generated between the N. W. monsoon and S. E. Trade wind. They occur only during the S.W. monsoon months, and their rise and progress are intimately connected with the S. E. Trade wind and N. W monsoon, two opposing winds. With ships the safest course is to lie to and watch the barometer and wind, till the bearing of the centre be known with some certainty. *Mr. Meldrum in Pro. Brit. Assoc.* 1867. See Cyclone, Hurricane, Winds.

GALETENG. A locality in the island of Flores, occupied by a race so called. According to the statements of Bugis traders, who had settled in Flores, that island is inhabited by six different races, speaking as many different languages, the Ende, the Mangarai, the Kio, the Roka, the Konga and the Galeteng, names derived from the principal places of their residence. *Crawfurd Dict* 1 *p.* 94. See India, p. 357.

GALGOJA. Hind. of Pangi, Pinus gerardiana, Gerard's pine.

GALHAS. Port. Galls.

GALIACEÆ. Lindley. The Madder tribe of plants; of these, there have been 17 species discovered in South Eastern Asia viz., 1 of Asperula arvensis, *Linn* 11 species of Galium, and 5 species of Rubia. Madder is the only useful product of the order. *Voigt.*

GALI CHAKKA. Tel. Smilax China. —*Linn.*

GALIJERU. Tel. Trianthema decandrum.—*Linn. Roxb.* also T. obcordatum and its varieties.

GALIUM VERUM. See Galiaceæ.

GALILEE, Chinnereth, also Gennesareth, also Tiberias, also Bahr-ul-Tibariah, is a sea or lake formed by the river Jordan and has many fish. Its surface is upwards of 300 feet below the Mediterranean, and it is enclosed by steep hills 300 to 1000 feet high, it is 12 miles long and 6 broad.

GALIM. Ar. Carpets.

GAL KADDU. Hind. Benincasa cerifera, *Savi. W. and A.*

GALL, Rash. Heb. See Bile.

GALLA. A Semitic race, occupying Shoa in Abyssinia. They are one of the finest races in Africa of a dark brown colour with strong hair, and well limbed. They live in a beautiful country, extending from L. 8° N. to L. 3° S. with a climate not surpassed by that of Italy or Greece, and speaking a language as soft and musical as pure Tuscan. They are from six to eight millions in numbers, amongst them are scattered christian tribes, but the religion of the race in general is Fetish and the seven tribes of the Wollo Galla are mahomedans. The Fetishists worship the serpent as the mother of the human race, and hold their religious services under a tree. They keep every fourth day as a day of rest. They acknowledge a supreme being whom they call heaven (Mulungu) and have a notion of a future state. There seem to be three natures or attributes in their Supreme being, viz., Wak or Waka, Supreme; Ogli, a masculine, and Ateli, a feminine power or embodiment. They have two holy days in the week, viz,, Saturday, which they call Saubatta Kenna or little Sabbath and Sunday, which is their Saubatta gadda or greater Sabbath. See Semitic races, Somal.

GALLA. Hind. Cupressus torulosa, Twisted cypress.

GALLA. The native name of Point de Galle, the Cock's point of the Portuguese, supposed to be the Tarshish of the Old Testament. See Galle.

GALLA DI LEVANTE. It. Cocculus Indicus.

GALLÆ. Lat. Galls.

GALLAH, Singh. the Elephant.

GALL-APFEL. Ger. Galls.

GALLE. A town in Ceylon supposed to be the Tarshish to which the Phœnician mariners resorted. Their Ophir is supposed to be the present Malacca, the Aurea Chersonesus of the later Greek geographers. Galle fort was first built by the Portuguese, and afterwards re-built by the Dutch, who had dismantled it when they stormed Galle, and wrested it from their rivals, in 1640. Considerable additions have since been made by the British to whom Galle was given up in 1796. The fort contains upwards of 500 houses and a garrison. *Tennent.* See Galla.

GALLI. Hind. Phœnix dactylifera.

GALLIAN. Hind. Cupressus torulosa, twisted cypress.

GALLICREX A genus of birds, belonging to the Family Rallidæ and Tribe Macrodactylæ, as under:

Tribe. Macrodactylæ.

Fam. Rallidæ, 7 gen. 15 sp. viz., 1 Porphyrio; 1 Gallicrex; 8 Porzana; 1 Ortygometra, 2 Rallus; 1 Gallinula; 1 Fulica.

GALLIKONDAH. A hill district in the territories of the rajah of Vizianagrum. Like other hill stations, this place had been lying waste for countless ages, populated here and there by a few miserable families of savages, who shared with wild beasts the soil from which they wrung a miserable and precarious existence. The climate of Gallikondah is temperate and fine all the year round.

The country extending from there to Jeypore is all very promising, but has yet to be thoroughly explored. The thermometer falls to freezing on the plateau about 20 miles beyond Gallikondah. To open up a road into the Nagpore territory, viâ Jeypore, would divert a large amount of trade down from those parts, to the sea coast here. Until very lately, this country was thought to be so wild, so barbarous, and so poor, that it was hardly worth anybody's while to die of fever in getting there! Coffee plants are thriving. Cinchona and Tea, will be tried.

GALLINÆ. L. A sub-family of birds of the family Phasianidæ and Order Rasores. The Rasores or game birds are the Gallinæ of Linnæus; the Gallinacei of Viellot; the Pulveratrices of some authors and are the Gallinaceous birds or game birds. Their feet are formed for running: their bills convex; the upper mandible arched over the lower; their food, grain. Nest artless and placed on the ground; eggs numerous, polygamous. Analogous to the order *Pecora* in the class *mammalia*. In this sub-family, Jerdon includes the genera Gallus, and Galloperdix. The European quail is the only real migratory bird of the gallinaceæ, but some other quails, bustard, and rock partridges, Pteroclidæ, wander about to different localities, and the Otis aurita, Ardea bubulcus, some rails, terns and gulls also wander. A few of the gallinaceous birds are polygamous, and their males are very pugnacious. The nests of birds greatly vary. Those of the weaver bird, tailor bird, honey-sucker and oriole, are made with much art. The edible nest of the colocalia swallow is formed in caverns of inspissated saliva: swallows, swifts, bee-eaters and weaver birds build in companies: certain ducks breed on cliffs or trees, and they must carry their young to the water, though this has not been observed. The Megapodidæ gallinaceous birds, says Mr. Wallace, found in Australia, its surrounding islands, and as far west, as the Philippines and the N. W. of Borneo, bury their eggs in sand, earth or rubbish and leave them to be hatched by the sun or by fermentation. They have large feet and long curved claws, and most of them rake together rubbish, dead leaves, sticks and stones, earth and rotten wood, until they form a mound often six feet high and twelve feet across, in the middle of which they bury their eggs. The eggs are as large as those of a swan, and of a brick red colour, and are considered a great delicacy. The natives are able to say whether eggs lie in the mound and they rob them eagerly. It is said that a number of these birds unite to make a mound and lay their eggs in it, and 40 or 50 are found in one heap. The mounds are found in dense thickets. The species of the Megapodidæ in Lombok is as large as a hen, and entirely of a dark hue with brown tints. It eats fallen fruits, earth worms, snails, and centipedes, but the flesh is white and when properly cooked well flavoured.—*Wallace* 154, 156. See Gallus.

GALLINAGO. A genus of birds belonging to the family scolopacidæ and tribe grallatores. They are the various snipe of sportsmen.

Gallinago scolopacinus. Scolopax gallinago; 'Common Snipe.' Europe, Asia, N. Africa: very common in India.

Gallingo gallinula. Scolopax gallinula; 'Jack Snipe' of Europe, Asia, Barbary, common in India.

These are migratory, coming over the Himalaya, in October but the *Gallinago stenura* snipe precedes them, though few sportsmen discriminate it from the common British snipe, which makes its appearance somewhat later, G. stenura is nevertheless a different bird, at once distinguished by having a set of curious pin-feathers on each side of its tail, whereas the British snipe, which is equally abundant in India, has a broad fan-shaped tail, as unlike that of the other as can well be. The pin-tailed is the common snipe of the Malay countries; and is unknown in Europe, excepting as an exceedingly rare straggler from its proper habitat the East. The "Double Snipe" is the Gallinago major of Europe, distinct from the two species of large or 'Solitary Snipes' of the Himalaya, G. solitaria and G. nemoricola. See painted snipe.

GALLINSECTA. See Coccidæ, Coccus.

GALLINULA CHLOROPUS. Moorhen, of Europe, extends to Asia, all Africa, common in India.

GALLIVAT. According to Simmonds, a large rowing boat in the East Indies. *Simmonds Dict.*

GALLOOR KA PUTTA. HIND. A plant used in the cure of goitre.

GALLOPERDIX. A genus of birds of the sub-family Polyplectroninæ and family Phasianidæ as under:

Fam. Phasianidæ.

Sub-fam. Pavoninæ, 2 gen. 3 sp. viz. Pavo cristatus, muticus, 1 Meleagris gallopavo.

Sub-fam. Polyplectoninæ, 5 gen. 10 sp. viz. 3 Ceriornis, 1 Ithaginis, 3 Galloperdix, 2 Polyplectron, 1 Argus.

Sub-fam. Phasianinæ, 3 gen. 2 sub-gen. 16 sp. viz. 3 Gallus, 7 Euplocomus, 1 Puc-

rasia, 3 Phasianus, 1 Thamalea, 1 Lophophorus.

Sub-fam. Tetraoninæ, 2 gen. 2 sp. viz. 1 Tetragallus himalyensis, 1 Lerva nivicola.

Sub-fam. Peteroclinæ, 1 gen. 4 sp. viz. 4 Peteroclis arenarius, fasciatus, alchata, exustus.

Sub-fam. Perdicinæ, 8 gen. 22 sp. viz. 1 Numida, 4 Francolinus, 1 Caccabis, 2 Perdix, 1 Rhizothera, 4 Arboricola, 3 Rollulus, 2 Perdicula, 4 Coturnix.

GALLOPHASIS. A genus of birds generally called pheasants. The "Khalij" Gallophasis albocristatus of the W. Himalaya and G. melanotus of Sikhim, produce an intermediate race in Nepal; and G. Cuvieri of Asam and Sylhet, and G. lineatus of Burma, interbreed in Arakan, &c., so that every possible transition from one to the other can be traced.

GALL-NUT OAK, the Gall-Oak, Quercus infectoria. See Galls; Quercus.

GALLS.

Afaz,	Ar.	Galla,	It.
Afis,	,,	Galluza,	,,
Py-in-ta-gar-ne-thi,	Burm	Gallæ,	Lat.
Mai-phal,	Duk.	Majakani,	Malay.
Gallnut,	Eng.	Mazu,	Pers.
Nut gall,	,,	Fikis,	,,
Galles,	Fr.	Maju-phal,	,,
Noix de Galles,	,,	Galhas,	Port.
Gallapfel,	Ger.	Mayaphal,	Sans.
Gallus,	,,	Masaka,	Singh.
Kekis,	Gr.	Agallas,	Sp.
Maya, Majuphal,	Guz.	Mocha kai,	Tam.
Majuphal,	Hind.	Machi kaia,	Tel.

Galls are produced on different species of oak, by the female of the Cynips or Diplolepis piercing the buds of Q. infectoria and there depositing its eggs. Dr. Falconer, when travelling in the Punjab, was informed that galls were produced on the Balloot oak, Quercus ballota. East India galls of commerce are Bussorah galls re-exported from Bombay. Mecca galls, are also Bussorah galls. A kind of gall is also imported from China, called Woo-peitze, which are said to be produced by an Aphis: they are more bulky than common galls of very irregular shape and hollow. The galls produced on Tamarix indica, or "faras tree," are called "ma-in" and are used for dyeing purposes. They are largely gathered in the Jhang, Gugaira and Muzaffargarh districts, as also in the Dera Ghazi Khan districts, where as much as 500 maunds are annually collected. Galls are imported into England from Smyrna, being produced in Asia Minor; also from Aleppo, the produce of the vicinity of Mosul in Kurdistan. They are also imported into England from Bombay (sometimes to the extent of 1,000 cwt.) having been first imported there from the Persian Gulf. Mr. Wilkinson observed that whenever the prices were low at Smyrna, the Galle came from Bombay, and *vice versa*; but the supply was never abundant from both sources in the same year. They are imported into Bombay from Basra (Bussorah), which is not a great deal farther from Mosul than is Aleppo. They are therefore most probably the produce, like Aleppo Galls, of Kurdistan and of other Persian provinces. The quantity annually imported into Britain amounts to 700 tons. They are employed in tanning, to make ink, and medicinally in infusion, ointment and as gallic acid. They sell at £4 to £6 the cwt. and in the London market are classed as blue, green and white.—*Royle*; *Simmonds*; *Tomlinson*; *McCulloch*, *Faulkner*.

GALL STONES. See Bezoar. Gaolochan. Hind.

GALLUS. A genus of birds belonging to the order Rasores, Family Phasianidæ and Sub-family Phasianinæ, and includes the domestic fowl and all its many species and varieties, the Ouph of the Hebrews, the Murghi of the mahomedans of India, and Koli of the Tamuls.

Fowls, though in numerous breeds and sub-breeds, seem all to have diverged from a single type. The game breed is from the Gallus bankiva called also G. ferrugineus. Its feathers are closely depressed to the body, it is indomitably courageous, evinced even in the disposition of the hens and chickens, it is of various colours.

Malay Fowl. With body of great size, disposition savage.

"*Cochin or Shanghai*" breed, of great size, of Chinese origin, and disposition, quiet.

"*Bantam*" breed, originally from Japan.

"*Creepers*" with "*jumpers*" from Burmah, short monstrous thick legs.

"*Frizzled*" or "Cafir" fowls of India with feathers reversed, "*Silk fowls*," with silky feathers. This is called the Phasianus lanatus, Gallus lanatus, Coq-a-duvet, Silk fowl. Kircher describes them, out of Martini, as woolly hens, the wool of which is much like that of sheep.

"*Sooty fowls*" of India, the hens of which have a white colour, soot stained, black skin and periosteum. The Europe breeds "*Dorking*," "*Hamburgh*," "*Andalusian*" "*Spanish*" "*Sultans*, *Ptarmigans ghoondook*, *rumpless*" are only known in S. E. Asia as introduced varieties.

GALLUS SONNERATII, Temm.

Phasianus gallus Sonnerat.		Jangli Murgh.	Hind.
,, Indicus Leach, Blyth, Sykes Jerdon.		Katu Koli.	Tam.
		Adavi Kodi.	Tel.

This does not range into the Northern parts of India, part of its hackles consist of highly peculiar horny laminæ and it is not now believed to be the parent bird of the domestic fowl.

"*Gallus varius*," called also "*G. furcatus*" is met with in Java and the islands of the Archipelago as far east as Flores. It has green plumage, unserrated comb and single median wattle.

"*Gallus Temminckii*" is supposed to be a hybrid it occurs in Batavia.

Gallus ferrugineus, GMEL.

G. bankiva.	TEMM	Geragogor, male, of Gonds	
Ban-murgh.	HIND.	Kuru female.	
Jangli "	"	Natsu-pia.	BHOT.
Ban-kokra of Sonthals		Parsok-tshi.	LEP.

It inhabits N. India as far west as Sind ascends the Himalaya to a height of 4000 feet, inhabits Burmah, the Malay peninsula, Indo-Chinese countries and the E. Archipelago, as far as *Timor*. *Darwin*.

Gallus Stanleyi. GRAY.

G. lineatus BYLTH,

G. Lafayetti, LESSON, the Jungle fowl of Ceylon,

Is peculiar to Ceylon, and greatly resembles the domestic fowl.

Gallus æneus TEMM. is considered to be a hybrid between G. varius and G. Sonneratii, *Darwin*, *Tod. Cal. Rev. Jerdon*, *Horsfield Yules Cathay*, p. 100.

GALLWORTS. See Myricaceæ.

GALMENDORA. A rather hard, very fine, but not close grained, heavy, Ceylon wood.

GALOT. HIND. Ceropegia esculenta.

GALTIGUL.— ? Calotropis procera.

GALUCHI. TEL. Tinospora cordifolia. *Miers*.

GALUM TAROO. TEL. *Rope* from Calotropis gigantea.

GALVANISM. A form by which electricity is excited, discovered by Galvani an Italian.

GAM. HIND. A village,

GAM. The title of the chiefs of the Singhpo.

GAMAL. AR. HEB. Camel.

GAMALLAVADU. TEL. A toddy drawer; the caste following that business. *Wilson*.

GAMBAROON. The older name of Bandar Abbas, a sea-port town in the province of Kirman. It is the ancient Harmozia. It is situated in a barren country, in a bay of the Gulf of Ormuz. It is fortified with double walls. It did not long benefit by the fall of Hormuz; but appears to have been nearly ruined during the reign of Nadir Shah whose tyranny extended its baneful influence even to this extremity of the Persian empire; so that in 1750 Mr. Plaisted found there nine houses out of ten deserted. In the year 1639, there seems to have been an English factory at Bussorah, subordinate to that at Gambaroon and protected by firmans. *Ousley's Travels*, Vol. I. p. 165. "*A journal from Calcutta to Aleppo, &c*, p. 11. *Lond.* 1758. *Kinneir's Geographical Memoir*, p. 201. See Kirman.

GAMBE, CEL. Bœhmeria nivea, China grass.

GAMBIA. MALAY. Gambier: Catechu, ENG.

GAMBIER is extracted from the leaves of the Uncaria gambir, in Siak, Malacca, and Bittang. After inspissating by decoction it is strained, suffered to cool and harden, and then cut into cakes of sizes or formed into balls. A gambier plantation has much the appearance of brushwood of three years growth with leaves of a dark green colour. The leaves are collected 3 or 4 times a year and boiled in a cauldron from which a strong decoction is poured into square boxes which, when cool, hardens and is cut into small cubes of about $1\frac{1}{2}$ inches. As brought to the market it resembles in appearance and consistency little square blocks of yellow mud. The plant, which is small and bushy, seldom over 7 or 8 feet high, is much cultivated at Singapore, and is planted 6 feet asunder; the leaves are small smooth and of a dark green colour. The cropping of the leaves may commence when about 18 months old, but the plant is at its full growth when two years old and its leaves and young branches may thus be cropped once in two months. The croppings are thrown into a large cauldron of hot water and boiled for 6 or 7 hours till all the extract be inspissated into a thick, pasty fluid. This is now poured into shallow troughs a little more than an inch deep, and allowed to cool and dry, when it is cut up into little inch blocks and is then ready for the market, of Siam, Cochin-China, China, and the Archipelago, where, along with betelnut in a leaf of the piper betel (Siri), it is largely chewed as a masticatory, The average size of the Singapore plantations were of 30 acres and when in full bearing employed 8 men. A plantation becomes exhausted and worn out in 15 years from its commencement. There were in 1850 about 800 plantations in Singapore, 600 of which were under cultivation. The extension of this cultivation increased rapidly after 1830 but since retrograded. A composition of this extract is valuable as a preservative for timber. Dissolve three parts of gambier in twelve of dammar oil, over a slow fire. Then, stir in one part of lime, sprinkling over the top, to prevent its coagulating and setting in a mass at the bottom. It must be well and quickly stirred. It should then be taken out of the cauldron and ground down like paint on a muller till it is smooth, and afterwards returned to the

pot and heated. A little oil should be added to make it tractable, and the composition can then be laid over the material, with a common brush. As a protection against the teredo, black varnish or tar are substituted for dammar oil, omitting the grinding down which would not answer with tar. It is largely imported into Britain, from 1846 to 1850, the average quantity entered was 1,200 tons, priced at £13 to £14 the ton. It is duty free. It is used in tanning (*Jour. Ind. Arch.*) Gambier is employed medicinally as an astringent, in tanning, and has been recommended as a preservative of timber exposed to water, also for canvass. The gambier may be in solution, in water, but if applied to a ship's bottom, it should be in the form of a composition of chunam, gambier and dammar oil. It is also recommended to be applied in house building to protect the beams from the white ants, and in ship building as a composition on the butts, and on the outside of the timber previously to planking. Gambier may also preserve timber from dry rot.—*Journal of the Indian Archipelago*, March 1850., No. III. p. 136, *also Dr. Cleghorn's Report*, 1859-60, para. 13, page 7. *Statistics of Commerce.*

GAMBOGE.

Ossara rewand,	Ar?	Gambogia,	Lat.
Tha-nat-dau,	Burm.	Rong,	Malay.
Gutte-gum,	Dut.	Shir-i-Rewand,	Pers.
Gomme gutte,	Fr.	Ossara-Rewand,	,,
Gummigutt,	Ger.	Gomarum,	Port.
Ravundcheni Sirah,	Guz.	Gokkatu,	Singh.
Shir-i-Rewand	Hind. Pers.	Makki,	Tam.
Ravundcheni, Sirah	Hind.	Passapu-vennai,	Tel.
Gomma guttai,	It.	Ossara rewand,	Tib.
Gumma-gutta,	,,		

Gamboge is obtained from several plants, in southern Asia. From the Hebradendron cambogioides in Ceylon, syn. of Garcinia gambogioides: also from the Garcinia pictoria of Ceylon, a syn. of Hebradendron pictoria: also the Garcinia Cochinchinensis *Rumph* of Siam. It is also obtained from the Garcinia elliptica. *Wall.* of Siam Sylhet and Tavoy, Garcinia pictoria of.—*Roxb.*

Siam Gamboge is usually seen in cylinders, whence its name of pipe gamboge, but it is also seen as *Lump or Cake gamboge* which occurs in round cakes or masses—and as *Coarse gamboge* or fragments and inferior pieces. *Ceylon gamboge* is seen in irregular masses. The first notice of this vegetable gum resin, is by Clusius, in 1605, who described a piece brought from China, by Admiral Van Neck, in 1603. Two trees yielding a gamboge like substance, were first made known by Hermann, in 1670, one "Goraka," Garcinia cambogia, the other "Kana" or edible, Hebradendron cambogioides. At present, gamboge is received principally from Siam and is supposed to be from the last named plant, a small quantity coming from Ceylon.

The composition and properties of the gamboge of Ceylon, are identical, or very nearly so, with those of other gambogioid exudations from Garcinia gambogia, Xanthochymus pictorius and Xanthochymus spicatus. Others, though they have been supposed closely to resemble ordinary gamboge, are really quite different in appearance, nature, and composition, as well as unfit for any of the well-known economic uses of that substance. The Singalese method of collecting the gamboge is by cutting pieces of the bark completely off, about the size of the palm of the hand, early in the morning. The gamboge oozes out from the pores of the wood in a semi-liquid state, but soon thickens, and is scraped off by the collectors the next morning without injury to the tree, the wounds in the bark soon healing, and becoming fit to undergo the operation again. Gamboge is much used as a pigment, and in miniature painting, it is employed to colour varnishes and lackers. Gamboge of Mysore, is the exudation of Garcinia pictoria. See Clusiaceæ. Resins. —*Drs. Ainslie*; *Royle*; *O'Shaughnessy*; *Cleghorn*; *Eng. Cyc.*; *Wight's Illustr.*; *McCulloch.*

GAMBOGE THISTLE. Eng. Argemone Mexicana.—*Linn*

GAMBOGE BUTTER.

Mukki-tilum, Tam. | Arasinagoorghy yennai, Can.

A solid oil, the cocum butter, obtained from the seeds of the "Gamboge tree." *Garcinia elliptica*, which grows abundantly in certain parts of the Mysore and Western coast jungles. The oil, which is procurable in moderate quantities, is prepared by pounding the seed in a stone mortar and boiling the mass, until the butter, or oil rise to the surface. Two and a half measures of seed should yield one seer and a half of butter. In the Nugger Division of Mysore, it is sold at the rate of As. 1-4 per seer of 24 Rs. weight, or at £36-6 per ton, and is chiefly used as a lamp oil by the better classes of natives, and by the poor as a substitute for ghee. The butter thus prepared does not appear to possess any of the purgative qualities of the Gamboge resin, but is considered an antiscorbutic ingredient in food.—*M. E. J. R.*

GAMBROON, a twilled cotton lining made at Khangurh.

GAMBROON. Now called Bandar Abbas q. v. See Gambaroon.

GAMBOGE PLANTS. Garcinia pictoria, Roxb. of India, Syn. of Hebradendron pictoria. Garcina Cochin-Chinensis of Siam. Garcinia elliptica, Wallich of Silhet and Tavoy. Hebradendron Gambogioides, Syn. of Garcinia gambogioides.

GAMCHA. See Cotton manufactures.

GAMELIN—? See Civet.

GAMEN. The largest of several islands on the north side of Dampier Strait.—*Horsburgh.*

GAMING. In passion for play at games of chance, its extent and dire consequences, the rajpoot, from the earliest times, has evinced a predelection, and will stand comparison with the Scythian and his German offspring. The German staked his personal liberty, became a slave, and was sold as the property of the winner. To this vice the Pandus owed the loss of their sovereignty and personal liberty, involving at last the destruction of all the Indu-races; nor has the passion abated.

Most of the advanced nations of the Asiatic islands are gamblers, and the little fighting fish of Siam and cock-fighting are largely betted on. In the Archipelago, in Bali, Lombok, Celebes and the Philippines, cock-fighting is quite a passion. The only material exceptions are the Javanese. The passion for cock-fighting is indeed impressed in the very language of the Malays, which has a specific name for cock-fighting, one for the natural spur of the cock, and another for the artificial spur; two names for the comb; three for the crow of the cock; two for a cock-pit; and one for a professional cock-fighter. The passion is nowhere carried further than in the Spanish dominions of the Philippines. There, it is licensed by the Government, which derives from it a yearly revenue of about 40,000 dollars or about £10,000. Crawfurd Dict., p. 113.

GAM-LANG. JAV. A musical instrument of Java.

GAMMIRIS. SINGH. Piper nigrum.

GAMPA. TEL. Baskets.

GAMPA-KAMALOO. TEL. A race of basket makers in Bellary.

GAN. HIND. Carissa diffusa.

GANA. S. In Mysore, a sect of Lingayats.

GANA. A host of celestials in Kailasa, Siva's paradise.

GAN-ABA. SINGH. Mustard seed.

GANAPATI, or Katakeia, the title of an ancient dynasty in Warungul, once the capital of a great part of the Northern Circars. The dynasty of Warangal, ruled from that town over a great part of the Circars, but the succession of the buddhist Chalukya race to dominion at Rajamundry, the subsequent sway of the Ganapati, Vema, reddi and Rayel race of Bijanuggur, together with their contests and the altering relations between them, are very little known. Condavir, was once ruled by a race of Reddi Ganapati means chief of a host.

GANAPATI. One of many names given to the hindu deity Ganesa, the god of prudence and policy. In Northern India he is usually styled Ganesh, but Ganapati in the South; under the name of Kartikeya he is the leader of the celestial armies and as Ganesa and Ganapati, is the god of wisdom. He is the reputed eldest son of Siva and Parvati. See Ganesa, Kartikeya.

GANAPATYA. A limited hindu sect, worshippers of Ganesa or Ganapati, or of his forms Baktratunda or Dhundhi raj. They are so styled because they worship Ganesa or Ganapati exclusively. There are five grand divisions of hindus who so worship a single divinity, uniting in its person all the attributes of Brahm and the Ganapatya are one of these.

GANARA WOOD. A timber of the Northern Circars.

GANCHICA. SANS. Vinegar.

GANDA, properly "g'handa," in several of the hindi dialects means perfume, aroma, odour, and several plants derive part of their compound name from this word.

Gand Bel. HIND. Andropogon schœnanthus. Linn.

Mirchia gand. HIND. Cymbopogon iwarancusa.

Ganda bute. HIND. Euphorbia helioscopia.

Garba gonda. HIND. Saccharum sara.

Gandaga mara. CAN. Santalum album. Sandal wood.

GANDA. HIND. Sugar-cane.

GANDA, in Indian currency, the hundredth part of an anna, but, in reckoning, means to count by fours: so that Ganda also means four pice, or about one anna.

GANDA-BEROZA. HIND. The crude resin of Pinus longifolia: also a preparation from the resin. It is often confused with barija or barzad, which is the rare drug galbanum.

GANDAK. HIND. Sulphur: hence, Gandak-ka-atr. HIND. also Gandak-ka-tezab. HIND. Sulphuric Acid, Gandaka Rasa, SING. Sulphuric Acid.

GANDAK RIVER, traverses the province of Bahar.

GANDAL. HIND. Avena fatua, *Kwargandal.* Aloe perfoliata, *Soa Gandal,* Asparagus Punjabensis.

GANDALU. HIND. Bergera Konigii.

GANDALUN. HIND. Daphne oleoides.

GANDAM. HIND. PERS. Wheat.

GANDAMAK. A town occupied by the Koghani tribe of Afghans. It is on an elevated site, is cooler than Jellalabad, and its people tend silk worms, it stands in a rich spot, and has a fine view of the Sufaid Koh. It was the scene of a great disaster to the British Indian Army. *Mohan Lal's Travels*, *p.* 340.

GANDAMGUNDU. HIND. Lycopus Europæus.

GANDANA, HIND. GANDHAN. HIND. Allium ascalonicum: the Shallot. See Gandhina.

GANDAR. HIND. Andropogon muricatus.

GANDARA. HIND. Nerium odorum.

GANDAVA, in Sanscrit, Ghandarva, good spirits. See Ghandarva.

GANDASULI. Marsden gives this as the Hedychium coronarium of Linnæus, and adds that its flowers are worn as ornaments in the hair, and in the enigmatical language of flowers stand for inconstancy. *Jour. Ind. Arch.*, *Vol.* V., *No.* 8, *August* 1851.

GANDAVA. The chief town of Cutch-Gandava. See Beluch, Brahui, Kelat.

GAND BEL. HIND. Andropogon nardus, *Rottl.*

GANDEHRA. HIND. of Kulu. Nerium odorum.

GANDELI. HIND. Vitis Indica.

GANDERA. HIND. Rhazya stricta.

GANDERE. HIND. Nerium odorum. Trikh gandere. HIND. Rhododendron arboreum.

GANDHA-BANIK. BENG. A druggist.

GANDHAK. HIND. Sulphur.

GANDHAKA. SANS. Sulphur.

GANDHAKA DRAVAKAM. TEL. Sulphuric acid.

GANDHA-MADANA, in hindu cosmogony, is one of the four boundary mountains enclosing the central region of the world, called Ilavritta, in which Meru, the golden mountain of the gods, is situated. The Puranas are rather at variance as to its position. According to the Vayu it lies on the west, connecting Nila and Nishada, the north and south ranges. The Vishnu Purana places it on the south, the western mountain being there called Vipula. It has, however, a Gandha-madana to the west amongst the projecting branches or filaments of Meru. The Bhagavat places it on the east of Meru. The Mahabarat agrees with the Vayu Purana. The Padma Purana is at variance with itself, and places it in one passage on the west, and in another describes it as on the east. According to this Purana, Kuvera resides on it with the Apsarasa, Gandharba, and Rakshasa. The Sita alighting on its top thence descends to the Bhadraswa versha, and flows to the eastern sea. *Hindu Theatre*, *Vol.* I, *p.* 24 1.

GANDHANA. Allium cepa; the onion, also, Allium sativum, Garlic.

GAND'HA-P'HALI. TEL. Michelia champaca.—*L.* Particularly the flower buds.

GANDAHARA, according to Bunsen, is Candahar. It is named in the inscription of Darius. So far back as the reign of Darius Hystaspes, the early writers placed Indians on both sides of the Indus and made India extend westward to Gandahara.

GANDHARASAMU. TEL. Gendarussa vulgaris. *Nees.*

GANDHARI. Daughter of rajah Gandhara. She married Dhritarashtra, her sons Duhsasana and Duryodhana were named Kaurava, and fell in the eighteen days battle of Kurukshetra. Gandhari after the battle of Kurukshetra retired with Dhritarashtra and his mother Kunti, to the jungle on the Ganges, where the maharajah died.

GANDHARI DUMPA. TEL. Species of Crinum. *Linn.*

GANDHARITIS. See Bactria, p. 284. Greeks of Asia.

GANDHARVA. In hindu mythology, a shade, a spirit, or ghost.

GANDHARVA a celestial musician. These are demigods or angels who inhabit Indra's heaven, and form the orchestra at the banquets of the gods. They are described as witnesses of the actions of men, and are sixty millions in number. *William's Story of Nala*, *p.* 142. See Hindoo; Mahadeva.

GANDHARVA. One of the four Upaveda, the other three are the Ayush, Dhanush, and St'hapatya. See Vidya.

GANDHI, HIND? A tree of Chota Nagpore. Soft white wood. *Cal. Cat. Ex.* 1862.

GANDHILA HIND. A low vagrant caste in the N. W. Province, who make mats, and exhibit feats of activity, they are also thieves. *Wilson.*

GANDHINA. BENG. Allium ascalonicum. *Roxb.* See Gandana.

GANDHUL. HIND. Ixora parviflora.

GANDHULI. HIND. Gynandropsis pentaphylla.

GANDIAL. HIND. Gouffeia holosteoides.

GANDI-BUTI. HIND. Glinus lotoides.

GANDIVA. In hindu mythology, a bow belonging to Varuna given by Agni to Arjuna, one of the Pandava, before burning the forest of Khandaprestha, to enable him to combat Indra. It was used by Arjuna, one of the Pandava, in the Swayamvara or tournament in which he won Draupadi.

GANDLA. Bergera Koenigii.

GANDUM. HIND. Triticum æstivum, Wheat.

GANDU GANNERU. TEL. Alstonia venenata. *R. Brown.*

GANDUR. HIND. Andropogon muricatus.

GANER. HIND. Avena fatua.

GANESA, is the Hindu god of prudence and policy and the patron of letters; he is the reputed eldest son of Siva and Parvati, and is represented as a short, fat, red colored man with a large belly and the head of an elephant, an emblem of sagacity; he is frequently attended by a rat, sometimes riding on one, the conduct of that animal being esteemed by the hindus as peculiarly marked by wisdom and foresight: he has generally four hands, but sometimes six or eight, or only two. He is invoked by hindus, of all sects, in the outset of any business: if they build a house, an image of Ganesa is previously propitiated, and set up on or near the spot: if they write a book, Ganesa is saluted at its commencement, as he is also at the top of a letter: beginning a journey, Ganesa is implored to protect the way-farer, and, for the guardianship of travellers, his image is occasionally seen on the road-side, especially where two roads cross: but sometimes it is little else than a stone, rudely chisselled into someting like an elephant's head, with oil and red ochre daubed over it, decorated, perhaps, with a chaplet of flowers by some pious neighbour or traveller. It is common to see a figure of the god of prudence in or over bankers' and other shops: and, upon the whole, there is perhaps no deity of the hindu pantheon so often seen and addressed. When he has four arms, in one hand he holds the ankas or hook for guiding the elephant, in another a chank or shell, in the third a conical ball, and in the fourth a cup with small cakes, with which he is supposed to feed himself. Ganesa is often represented eating Batasa. He is sitting on the lotus. Images of him are made and set up with those of Durga, in the festivals of that goddess in Calcutta. In an invocation to a superior deity, a salutation is usually made to him; and his image is frequently seen placed as a propitiation, over doors of houses and shops, to ensure success to the temporal concerns of their owners. Siddhi and Buddhi (knowledge and understanding) are represented as the two wives of Ganesa. There are not many temples dedicated to Ganesa; but his images are frequently discovered set up with those of the other deities. Ganesa has several names: among which are Lumbodura? the long-bellied Eku Dunta, one-toothed; Gajanumu, elephant faced; Gunpis; Ganupati; Pollyar, &c. &c. There are five grand divisions of hindus who exclusively worship a single divinity, uniting in its person all the attributes of Brahma himself: one of these divinities is Ganesa, and the sectaries who thus worship him are called Ganapatya. Ganapati, in conversation, but more correctly spelled Ganpati, is the name commonly given to this deity about Poona, Bombay, and places on the western side of India. Ganesa is the chief of the *Dii minores* of the hindu pantheon as the etymology of the word indicates, and like Janus, of the Romans, was intrusted with the gates of heaven; with the right to preside over peace and war. Ganesa is the first invoked and propitiated on every undertaking, whether warlike or pacific. The warrior implores his counsel: the banker indites the words "Sri Ganesh" at the commencement of every letter; the architect places his image in the foundation of every edifice; and the figure of Ganesa is either sculptured or painted at the door of every house as a protection against evil. Though often represented as four-armed, and holding the disk (*chukra*), the war-shell, the club, and the lotus, Ganesa is not, *bifrons*, like the Roman guardian of portals. In every transaction he is "AD," or the first, though the hindu does not, like the Roman, open the year with his name. One of the portes of every hindu city is named the *Ganesa Pol*, as well as some conspicuous entrance to the palace: thus Odipoor has its Ganesa *dwara*, who also gives a name to the hall, the Ganesa *deori*; and his shrine is to be found on the ascent of every sacred mount, as at Aboo, where it is placed close to a fountain on the abrupt face of the hill, about twelve hundred feet from the base. There is likewise a hill sacred to him in Mewar called *Ganesa Gir*, tantamount to the *Mons janiculum* of ancient Rome. The companion of this divinity is a rat, who indirectly receives a portion of homage, and with full as much right as the bird emblematic of Minerva. *Moore, Tod's Rajasthan*, Vol. I. p. 590-91. See Durga, Ganapati, Kartikeya, Karli, Vidya, Parvati, Mahadeva, Saraswati, Vahan. Inscriptions p. 373, 388.

GANESH CHATURTHI, OR CHAUTH. A hindu holiday. On this day, which falls about the beginning of September, was formed Ganesh, called also Ganapati, made from the turmeric and oil off the head of Parvati. He is the god of wisdom who removes obstacles and is invoked at the commencement of all undertakings. Ganapati has a man's body with the head of an elephant, his head is said to have been cut off or destroyed by

Siva, when Ganesh tried to prevent Siva intruding on the privacy of Parvati when bathing. Clay images of Ganesh are made and worshipped for from one to nine days and are then thrown into water. The Chinchor or Chinchwad who resides at a village of that name near Poona is believed to be an incarnation of Ganesh, who promised an ascetic, named Moroba, who lived in Sivaja's time, that he would be incarnate for seven generations in his family. The earth image of Ganesh is one of three forms in which the earth deity Mrittika is worshipped by hindus. The first the Nagapanchami, in which feast a snake of clay is worshipped; the second is Gokul Ashtami, when a clay image of the infant Krishna is worshipped, and the third occasion is that on which Ganesh is worshipped, and this last day of the worship of Mrittika is observed with great pomp. The vahan or carriage of Ganesh is a rat. The feast in honor of his birth is held on the 4th of the month Bhadrapad, and falls on the first days of September and seems to have some connection with the seasons of the year. Ganesh is brought to the house with much pomp.

GANGA. Hind. Sans. A name, properly, of the Ganges, but applied by hindus to several other rivers of India, amongst others to the Kistna and Godavery and two of its affluents are called the Waen Ganga and Paen Ganga.

GANGA, in hindu mythology, the personified goddess of the river Ganges, the source of which the saivas place in Siva's hair; whence, in graceful flow, she

* * * * sprung radiant
And, descending, graced the caverns of the west.

The vaishnavas assert that it flowed out of Vaikoutha, from the foot of Vishnu: and, descending upon Kailasa, fell on the head of Siva, who shook some drops (Bindu) from his hair, and these formed the great lake called Bindu Sarovara, far to the north of Hindustan. Sometimes, the Ganges is fabled to issue from a cow's mouth, and the cleft in the Himalaya is called Gungotri and Gaomuki. Others make it arise from water poured by Brahma on the foot of Siva; others, from the feet of Brahma and others from the fingers of Parvati. The Ganga is also called Dasahara or ten removing, as bathing in her waters, on the tenth day of the month Jyaisha, effaces ten sins, however heinous soever, committed in ten previous births. One of the holiest spots of the Ganges, is where it joins the Jamna, near Allahabad, though, with hindus, the sangam or confluence of any river, is a spot peculiarly revered. A person dying at the confluence of the Ganges and Jumna is supposed to be certain of immediate "moksh" or beatitude without risk of further transmigration. Professor Wilson in his translation of the Mudra Rakshasa describes Ganga as

"by the autumn, led,
Fondly impatient, to her ocean lord,
Tossing her waves, as with offended pride,
And pining fretful at the lengthened way."

Though, as above related, the honor of having given birth to this goddess, the personification of the sacred stream of the Ganges has been claimed for their deities, both by the saiva and vaishnava sects, all sects, and castes of hindus worship this goddess of their sacred stream. Numerous temples are erected on the banks of the river in honor of her, in which clay images are set up and worshipped. The waters of the river are highly reverenced, and are carried in compressed vessels to the remotest parts of the country; from whence also persons perform journies of several months' duration, to bathe in the river itself. By its waters the hindus swear in our courts of justice. Mr. Ward informs us that there are 3,500,000 places sacred to Ganga; but that a person, either by bathing in or seeing the river, may be at once as much benefitted as if he visited the whole of them. For miles, near every part of the banks of the sacred stream, thousands of hindus of all ages and descriptions, pour down, every night and morning, to bathe in or look at it. Persons in their dying moments are carried to its banks to breathe their last: by which the deaths of many are frequently accelerated; and instances have been known wherein such event has thereby been actually caused. The bodies are then left to be washed away by the tide, or numbers of them are to be seen floating up and down with every flood and ebb, or lying all along the banks with vultures, adjutant birds, carrion crows and kites about them feeding upon the remains. Several festivals are held during the year in honor of Ganga. She is described as a white woman with a crown on her head, holding a water lily in one of her hands, and a water vessel in another, riding upon a sea animal resembling a crocodile, or walking on the surface of the water with a lotus in each hand.—*Cole. Myth. Hind. p.* 119. See Ganges, Inscriptions p. 375, 382, 385, 390, Orissa, Siva, Triveni.

GANGA. Singh. A great river; Oya, a small river; Ella, a rivulet.

GANGA-BUL. Tib. Literally, place of the Ganges. A sacred lake on the mountain of Haramuk in Kashmir. It lies under the wildest and most lofty peaks of the mountain; is 1½ mile long and 200 or 300

yards wide, and is about 12,000 feet above the level of the sea.—*Vigne.*

GANGA JAMNI. HIND. A kind of rice of the Kangra district.

GANGAL. A river near Uskalli and Hoshangabad.

GAN-GAN. BURM. Mesua ferrea. *Linn.* In Amherst, a very strong, tough, hard, crooked grained, fibrous, red wood, which would be suitable for machinery or any purpose requiring the above properties.

GANGAPAT, also the Bam, and Lukta, are rivers of Gwalior.

GANGA PAVILI KURA. TEL. Portulaca oleracea. *L.*

GANGA GAVI. TEL. Thespesia populnea. *Corr.*

GANGA REGU. TEL. Zizyphus jujuba. *Lam.* var *B.* oblong fruited.

GANGA VANSA, or Gugu putee, a dynasty that ruled in Orissa from about the twelfth century. Their sway extended from the Hooghly to Conjeveram but in 1558, Gala Paliar the general of Suliman king of Bengal, attacked and killed Mookund Rao, the Gugupatee chief of Orissa. Kala Paliar, was a bramin convert to mahomedanism, he razed the hindu temples, and seized the image from Juggurnath which he burned on the banks of the Ganges.

GANGELA ORIENTALIS. One of the Leguminosæ.

GANGER. HIND. (1) Grewia betulæfolia; (2) Sageretia brandrethiana; (3) Ehretia aspera; (4) Lycium Europæum.

GANGES. A great river which rises in the Himalaya mountains and runs in a valley through British India to the Bay of Bengal. It has been known to Europe from very early times. The fleets of the Egyptian kings sailed round the peninsula of India and Ceylon. Seleucus Nicator is said to have penetrated to the mouth of the Ganges and it had been sailed up by the Romans, as far as Palibrotha, before the time of Strabo. Its valley seems to have been peopled by several races, long before the Aryan hindus arrived there, and all the conquerors who have entered India from the North West have striven to occupy the fertile valley of this great river. Hindu poets have celebrated its praises in a multitude of songs: the river is fabled in their mythology to be the goddess Ganga; they long to see it, to bathe in its waters and be purified from their sins, and at last to die on its banks, or to have their bones conveyed to it from the most southern parts of India. No hindu raises such a question as in 2nd King's v. 12, for the Ganges is recognised as the most efficacious of all the hindu sacred rivers. On its banks have dwelt the chief of the religious reformers, whom India has seen. Its valley was the cradle of Buddhism; which, from its rise in the sixth century before Christ, gradually spread over the whole of India, was extended by Asoka to Kashmir and Kabul, shortly after Alexander's invasion, and now prevails amongst 222 millions of men. Numerous dynasties have ruled there. The Andra race was in power on the Gangetic province of India, about the beginning of the Christian era, but the most enduring was the great Chetrya family that long ruled at Indraprestha, and terminated with Prithi-raj in A. D. 1200.

The whole valley is now part of British India. The river issues from the mountains at Gangotri, at an elevation of 13,800 feet, and is there known as the Bhagaratti. It issues from beneath a great glacier, thickly studded with enormous loose rocks and earth. The glacier is about a mile in width, and extends upwards of many miles, towards an immense mountain covered down to its base, with perpetual snow, its glittering summit piercing the very skies, rising 21,000 feet above the level of the sea. The chasm in the glacier, through which the sacred stream rushes forth into the light of day, is named the Cow's Mouth, and is held in the deepest reverence by all hindus; and the regions of eternal frost in its vicinity are the scenes of many of their most sacred mysteries. The Ganges enters the world no puny stream, but bursts forth from its icy womb, a river thirty or forty yards in breadth, of great depth, and very rapid. From the source at Gangotri it runs N. W. to Johnioi; W. and S. W., 36 m.; S., 15 m.; S. E., 39 m.; S., 8. m.; W., 24 m.; S. W; 15 m.; S., 130 m.; S. E. to Allahabad, E. 270 m.; E. to Sikrigallee; and S. E. the remainder of course into the Bay of Bengal, by numerous mouths. The Ganges gives off some of its waters to form the Hooghly, and also anastomoses with the Megna. Length, 1,514 m. It receives the Jumna, 860; Gogra, 606; Gunduck, 450; Goomtee, 482; Sone, 465; Coosy, 325; Ramgunga, 373; Mahananda, 240; Karumnassa, 140; Koniae or Jummuna 130; Aluknunda, 80; Bhillung, 50 m. 398,000 square miles drained, exclusive of Hooghly. The Ganges is navigable for river craft as far as Hurdwar, 1,100 m.; steamers ply as far as Gurmukteesur, 393 miles above Allahabad, distant from Calcutta via Delhi, 930 m.; at Cawnpore, 140 m. above Allahabad, the navigation is plied with great activity. The breadth of the Ganges at Benares varies from 1,500 to 3,000 feet. Mean discharge of water there, throughout the year, 250,000

cubic feet, per second. It falls rapidly to Hurdwar, which is 1,300 miles from the mouth. At Allahabad 840 miles from the sea it receives the river Jumna, which rises at the south western base of the Jumnotri Peaks. At about 240 miles from the coast it begins to divide into branches. The two on the west, called the Bhageratti and Jalingi unite to form the river Hugli, the other stream passes to the Brahmaputra with which the waters mingle and are known as the Kartinassa river. The Ganges receives as tributaries, the Ramgunga, Gumti, Ghogra, Gundak, Kosi and Mahananda, from the left bank; and, from the right bank the Kali, the Kali Naddi, Jamna and Sone. Another dividing stream of the Ganges is the Matabhanga. In its course sixteen hundred miles through the plains, it receives eleven rivers, some of which are equal to the Rhine, and none smaller than the Thames, besides as many others of lesser note. It is owing to this vast influx of streams, that the Ganges exceeds the Nile so greatly in point of magnitude, while the latter exceeds it in length of course by one-third. It is a much discussed question in India, whether the Gangetic plain was ever covered with forest, the best authorities consider that it never was so; but there are others who hold the contrary opinion, and aver that the destruction of the timber has produced a great change in the climate. The absence of vegetable remains in the alluvium appears unfavourable to the latter opinion. There are frequent notices in the ancient writings of the hindus of great forests but whether these were limited locally or were general is unknown. In the plain of the Ganges are the *provinces* of Bengal, Bahar, the Doab or Mesopotamia of the Jumna and Ganges, Oudh and Rohilcund. It is of exuberant fertility. The population of the, *Gangetic* Doab is 800 to the square mile, of the Central Provinces 365. The chief town on the banks of the Ganges are Hurdwar, Bijnour, Furrakkabad, Cawpore, Merzapore, Benares, Ghazipur, Patnan Monghir, Bhagulpur, Rajmahal, Rampur, Pubna. Calcutta is below the sea level. Benares 265 feet above it, Allahabad 305 feet, and Agra 670 feet. The Gangetic Delta is an extensive tract of cultivated and forest-covered country, composed of alluvial or transported soil brought down the country by the Ganges and Brahmaputra rivers, and their numerous tributaries, the water-sweepings of two basins whose aggregate area is 432,480 square miles. The Ganges, in its course of 1,680 miles e plains of India, receives the following eleven rivers; from its left bank the Ram Ganga, Gumti, Kosi and Mahananda, Gogra, Gandak, and from its right bank the Kali Naddi, Jamna and Sone, and some of which, as Rennell observes, are "equal to the Rhine, and none smaller than the Thames."

The Ganges receives its first increase by the junction of the Bhagarathi and Alacananda 30 miles from Srinagur and then by the Jamna (at Allahabad) (the Jamna rises near its own source, and by the Chumbul and Betwah rivers, which drain the north of the Vindhya mountains. In its course it receives the Spen (Sone) and then the Gogra, Cosi and Gunduk (the last at Moonghyr) where the river is 3 miles broad and 30 feet deep.

Between Sikrigulli and Benares, alone, the Ganges receives the tribute waters of the Gumti, the Gogra, the Sone the Gunduk, the Baghmati, the Gogari the Kosi, and the Mahanadi, of which the Gogra itself is fully equal to the Ganges at Benares. To these we must add innumerable minor streams called nullahs, but which in England would be represented by the Isis, Cherwell, Itchin, Severn, Orwell, Humber, Dee and Trent. Eighteen of these rivers are several hundreds of miles in length, and none less than fifty, whilst there are hundreds under fifty miles in length, all assisting to fill the mighty river Ganges. The Delta is intersected from North to South by many broad rivers, and by endless creeks running one into the other filled for the most part with salt water when near the sea. This tract of land, occupies approximately 28,080 square miles of superficial area, or double the area of the Delta of the Nile; measuring from West to East, or from the right bank of the Hooghly river opposite to the Saugor tripod on the South-west point of Saugor Island, to Chittagong it is 270 miles in width; presenting to the Bay of Bengal a series of low, flat, mud banks, covered at high water and dry at low water; a few miles from low water mark commence mangrove swamps, a little further inland trees appear, and lastly cultivation; the nearest cultivation in the central portion of the Delta being forty-seven miles from the sea. In the sea front of the Delta there are nine principal openings having a head stream, that is having water flowing direct from the Ganges, or from the Megna or Brahmapootra,—they are 1, the Ganges; 2, the Megna or Brahmapootra; 3, Horinghatta; 4, Pussur; 5, Murjatta or Kagga; 6, Barapunga; 7, Mollinchew; 8, Roymungul or Juboona; 9, Hooghly. Besides these large rivers there are numerous openings having no head stream, being mere salt water tidal estuaries; these openings or headless rivers are the deepest as no silt or

deposit is poured into them from the higher lands. The tides in the Hooghly run with a rapidity in the springs of seven miles an hour, between Saugor and Calcutta. At Calcutta it is high water about 2h. 30m. on full and change of the moon. The Bore is of not unfrequent occurrence in this river.

The waters of the Ganges are generally muddy yellow. Those of the Jumna are green or blue, and the yellow and blue rivers of China are named from the colours of their waters. This river's annual rise begins in the end of April and continues to increase till the middle of August, when it reaches in many places 32 feet and the level districts in its lower course are inundated sometimes to the extent of 100 miles. About 200 miles from the sea, the river breaks into a labyrinth of rivers, forming islets covered with woods and known as Sunder-buns, but the force of their waters is insufficient to clear the bars of their mouths, and the most westerly branch, the Hooghly is alone navigable for large vessels. At Benares, after the Ganges has received the waters of its tributaries, the Kalli Naddi, the Gumti and others, the average discharge, each second of the year, has been estimated at 250,000 cubic liquid feet. By the latter end of July, all the lower parts of Bengal, contiguous to its banks are overflowed, forming inundations of a hundred miles in width, where little appears above the surface of the flood, save isolated villages and trees. Barks of every kind then steer a direct course, husbandry and grazing are alike suspended and the peasant sculls his boat across the fields. In some parts of Bengal, whole villages are every now and then swept away by changes in its course through districts, from which a few years before, it was several miles distant.

Along the sandy shores of the Ganges valley the ever-present plants are mostly English, as Dock, a Nasturtium, Ranunculus sceleratus, Fumitory, Juncus bufonius, common vervain, Gnaphalium luteo-album, and very frequently Veronica anagallis. On the alluvium grow the same, mixed with tamarisk, Acacia Arabica, and a few other bushes. *Hooker, Him. Jour.* Vol. I. p. 80. *Markham's. Shooting in the Himalaya, p.* 57-8. *Cal. Rev. Pages* 1 *and* 2. *Horsfield. Royal Sanitary Commission Report.*

GANGES CANAL. The provinces of Upper India are as remarkable for their fertility and high state of cultivation, as for their being subject to periodic visitations of famine. *Tr. Hind.* From the Ganges at Cawnpore to the Jumna at Agra the distance is nearly two hundred miles. All this long tract is unwatered by a single natural stream. To conquer nature, the great Ganges Canal was projected by Sir Proby Cautly K. C. B., during the administration of Lord Dalhousie and it is unquestionably the greatest work of irrigation ever accomplished in any tropical country at any epoch of history. It cost a million and a half sterling, nearly all of which was expended during the seven years of Lord Dalhousie's administration and the main stream was opened on the 8th April 1854. It extends over 525 miles in length; measures 170 feet in its greatest depth. Its length is five fold that of all the main lines of Lombardy united, and more than twice the length of the aggregate lines of Lombardy and Egypt together, the only countries in the world whose works of irrigation rise above insignificance. It nearly equals the aggregate length of the four greatest canals in France: greatly exceeds all the first-class canals of Holland put together and is greater by nearly one-third, than the greatest navigation canal in the United States of America. When completed it will be 900 miles in length, and it is estimated that the area which may be irrigated by its waters, will not be less than 1,470,000 acres. The following are the principal levels along the various lines of the Ganges Canal. The levels refer to the bed-flooring of all works.

(*a*) Main trunk line.

Maiapur, head of the Ganges Canal,	1,015 ft.	Chitaura Fall,	867 ft.
Ranipur Fall,	997 ,,	Salaur ,,	845 ,,
Pattri,	965 ,,	Bhola ,,	817 ,,
Rurki Bridge,	954 ,,	Dasna ,,	783 ,,
Asofnagger Fall,	941 ,,	Pabra ,,	735 ,,
Rahmudpur ,,	923 ,,	Simra ,,	702 ,,
Bailra ,,	900 ,,	Kanhpur and Etava Terminal Regulator.	680 ,,
Fatigarh Branch, head works,	881 ,,		

(*b*) Kanhpur terminal line.

Jansor Bridge,	654 ft.	Bahosi Bridge	551 ft.
Pachaur ,,	615 ,,	Barapur ,,	535 ,,
Kassad ,,	584 ,,	Ranjitpur,,	510 ,,

Etava terminal line.

Nuh Bridge,	651 ft.	Giror Bridge	609 ft.
Jaira ,,	631 ,,		

The Ganges Canal bouches in two branches, one to the Jumna, and the other to the Ganges.

GANGHI. A river of the Ghazipur district runs near Syedpoor in Gazeepoor.

GANGI. Hind. Grewia bitulæfolia.

GANGHI CHU. Hind. Tib. Euphorbia, sp.

GANGHI SHO. Hind. Tib. Cactus Indicus.

GANGORI. A hindu festival sacred to the goddess Gouri. Col. Tod remarks that by the prefix of *Ganga* (the river) to *Gouri*, the *Gangori* festival is evidently one, essentially sacred to a river goddess, affording proof of the common origin of the rites of the Isis of Egypt and India. For Gouri is the goddess of abundance, and is called Isa, also Isani or Parvati, also Lakshmi and corresponds to the Ceres of Greece. The festival relates to the Bassant or spring, the vernal equinox. An image is made of earth, barley is sown and by watering and artificial heat is made to grow. In Rajputanah beautiful girls carry the idol and bathe it in the water, and return with it to the palace. The festival resembles that of the Egyptian Diana, at Bubastis, and of Isis at Busiris within the Delta of the Nile. During the festival, Iswara yields to his consort Gouri, and occupies an unimportant position near her at the waters edge, meanly clad, smoking intoxicating herbs, and, whether by accident or design, holding the stalk of an onion in full blossom as a mace or club, a plant regarded by some of the Egyptians with veneration, but held by the Hindus erally in detestation: but why the Hindus should, on such an occasion, thus degrade Iswara is not apparent. *Tod's Rajashan*, Vol. I. p. 575. See Gauri, Gouri

GANGOTRI, 31° 0', 78° 56', in Garhwal. A celebrated hindu temple is on the right bank of the Bhagiratti in its upper course, 10,319 feet above the sea. Near the temple the scenery is grand. Four peaks rise there, huge, lofty, covered with snow, and the river runs impetuously in its shingly bed, the stifled sound of the stones which it rolls along, mixes with the roar of its waters. Soorgarounee is the nearest of the peaks and forms the western point of the great snowy hollow. Roodroo Himala is the eastern, and forms the other point; but from that point runs down, a huge snowy shoulder that seems to give off or end in the mountains that surround and form a great unbroken, though unequal, snowy ridge, bounding and confining the glen of the Bhagirattee. The other three peaks form different points in the back of the immense hollow, and altogether compose one of the most magnificent and venerable mountains, perhaps, that the world can produce.—*Fraser's Himala Mountains*, p. 468, 473. *Herbert, Hodgson.*

GANGPUR. A tributary estate S.E. of the Colehan. With the exception of Gangpoor and Bunni, all the districts in the Sumbulpore and Patna groups have been recently put under the administration of the Superintendent of the Cuttack Tributary Mehals See Kol.

GANGRI or Kailas mountain range extends in one unbroken chain from the source of the Indus, to the junction of the Shayok, and forms the natural boundary between Ladak, Balti and Rongdo on the south, and Ruthog, Nubra, Shigar and Hunnager on the north. It has six passes, at heighths from 15,000 to 18,105 feet. Gangri, in Tibetan, means ice-mountain. Kailas means crystalline or icy, and is derived from Kelas, crystal, which is itself a compound of *Ke* water and *las* to shine. Kailas or ice mountain, is the Indian Olympus, the abode of Siva and the celestials. The Tibetans look upon Ti-se or the Kailas Peak as the highest mountain in the world. See Indus. Kuen-lun.

GANGRI. Tib. Ice mountain.

GANGSALAN. Jav. Pomegranate.

GANGTUNG. See Kunawer.

GANGUE is the mineral substance which encloses or accompanies any metallic ore in the vein. Quartz, lamellar carbonate of lime, sulphate of baryta, sulphate and fluate of lime, are common gangues; but many other substances become such when they predominate in a vein. The word is pronounced *gang*: it is from the German *gang*, a vein or channel. *Faulkner.*

GANGUN. A river near Moradabad cantonment, and near Nageena in Bijnour.

GANHAR. Hind. Amarantus anardana; also A. mangostanus.

GANHILA. Hind. Premna mucronata.

GANHIRA. Hind. Nerium odorum,

GANHULA. Hind. Sambucus ebulus.

GANHULI. Hind. Phænopus, sp.

GAN-HWUY is the western division of the ancient province of Keang-nan, being composed of about two-fifths of that province.

GANI. Hind. Oxystelma esculenta.

GANIRA. Hind. Nerium odorum.

GANITRUS SPHÆRICUS, Gaertn, syn. of Elæocarpus prinoides. The nuts, cleared of the soft pulp or flesh that covers them, are curiously sculptured, and being bony and taking a fine polish they are frequently set in gold and strung into necklaces. Ganitrus sphæricus, is a middle-sized tree, common in various parts of India, as well as the Malay Archipelago, and those of Monocera tuberculata, from the forests of Travancore, are what are principally used for this purpose.

GANJ. Hind. A wholesale grain market. *Wils.*

GANJ-I-BAR. A bald tract in the central dorsal plateau in the Manja or middle part of the Baree doab. The soil of the Ganj-i-Bar is intensely arid, often saline and produces only some salsolaceous plants with a few bushes of jhand.

GANJA. HIND.

Kanub,	AR.	Cannabis,	LAT.
Mafuen, Chutsao,	CHIN.	Ging-i-lacki lacki,	MAL.
Sjarank,	EGYPT.		
Hemp,	ENG.	Ganjika, Bijiah,	SANS.
Ganjah,	,,	Ganja maram,	TAM.
Ganza,	GUZ.	Ganja chettu,	TEL.
Gindshi	JAV.		

The leaves and flowerhead of the hemp plant; also the knots or stocks of the plant picked of. The dried hemp plant which has flowered and from which the resin (see churrus), has not been removed, is, in the Punjab, called ganjah. Bundles of ganjah are about two feet long, and three inches in diameter. The colour is dusky green, the odour agreeably aromatic, the whole plant resinous, and adhesive to the touch. Ganjah is used chiefly for smoking. The narcotic effects of the hemp plant are popularly known in the north of Africa, South America, Turkey, Egypt, Asia Minor, India, and the adjacent territories of the Malaya, Burmese, and Siamese. In all these countries, hemp and its products, are used in various forms, by the dissipated and depraved, as the ready agent of a pleasing intoxication. The leaves or young leaf buds of the hemp-plants, are smoked by itself, or rubbed between the hands and added to tobacco, to increase its intoxicating powers. —*Faulkner. Royle. Waring. Birdwood.*

GANJA. HIND. of Kalesar forest, &c., Robinia macrophylla.

GANJA. The boat used for travellers on the Nile is so called.

GANJA-YENNAI. TAM. Hemp seed oil. See Oil.

GANJAL. A river near Hoshangabad.

GANJAM is the most northerly revenue district in the Madras Presidency, with two chief towns, Ganjam and Chicacole. It suffered from famines in 1789, 1800, 1836, 1866 and in the last, nearly the half of the people were lost. The third known period of scarcity in Ganjam, occurred in 1836, after an interval of 36 years. Cholera was very prevalent, and many of the cattle also perished. After the further lapse of a quarter of a century, Ganjam was a fourth time visited by a severe drought, during the latter part of 1865 and the early months of 1866. Contrasted with 1836 & 1866, it is worthy of note that the two earlier famines of 1789 and 1800, began in the north of the Ganjam district, and increased in intensity towards the south, whilst that of 1836, as in 1866, was felt with greatest severity in Orissa and parts of the district adjacent to Bengal. In the 20 years ending 1867, the value of land in Ganjam increased 50 per cent. and carts from 6,000 to 32,000. Ganjam in 1867 had 1,235,790, people in 285,253 houses, in an area of 6,400 square miles. The area of that part which extends from the Chilka Lake on the north, southwards as far as Itchapoor, and then turning again towards the north, forms a sort of basin enclosed by the Khond Hill ranges, and amounts to about 2,500 square miles with a population of 631,929. Of this number 363,288 are cultivators. The district comprises the two divisions of Chicacole (the southern) and Itchapore (the northern), with Preaghee. It contains seven government talooks, viz., Waddah, Itchapore, Paulatalagum, Poobacondah, Goomsoor, Soradah, Moherry. The revenue of the Government lands therein, is about 4¾ lacs. There are nineteen ancient zemindaries, paying an annual peshcush of about 3 lacs; and thirty-seven proprietary estates. The district contains several petty chieftainships, which yield no revenue and it embraces a large portion of the mountainous tracts known as Khondistan, and the valley of Chocapaud from none of which is any revenue derived. The Ooria language prevails in the northern part of the districts, as far south as Itchapore. In the southern division, the Telugu prevails. The Khond race have a language peculiar to themselves, which was reduced to writing by Captain J. P. Frye of the Madras N. I. Of the inhabitants, about 4¼ lacs are Oorias. A great many of the Ooria bramins obtain their livelihood as cultivators. Bramins of this sect also trade, and follow the occupations of brick-makers, brick-layers, &c. Chicacole is the principal civil station in the Ganjam district. It is in Lat. 18° 18′ N. Long. 83° 58′ E. about 567 miles from Madras. It lies four miles direct west of the sea, and is situated on the north bank of the river Naugooloo. It is the station of the judge, and the sub-collector. The town of Ganjam is in lat. 19° 22′ N., long. 85° 10′ E. It was nearly deserted in 1835 in consequence of fever, and Chicacole is now the largest town. Aska is a large sugar manufacturing place, Mansoorcottah and Calingapatam are increasing seaports. Chilka lake, in Ganjam, is 35 miles long and about 8 broad with numerous islets.

GANJAYI. TEL. Cannabis sativa, *L.*

GANJ BAKHSHI. See Hindu; Sikh.

GANJIFEH. HIND. Playing cards.

GANJI GADDA. Tel. Commelina Q. Urgenia sp ?

GANJIKA. Sans. Ganjah.

GANNA. Hind. Saccharum officinarum, Sugar-cane.

GANNA, Sans. Amarantus campestris. *Willde.*

GANNERU. Tel. Nerium odorum. Ait. Oleander.

GANNET. A sea-bird, the Sula alba. It measures about 5 feet across and $2\frac{3}{4}$ feet long.

GANONG, generally called Ayen Panas, hot springs in Nanning. All the hot springs of the Malayan Peninsula, and some of those in Sumatra, occur in swampy flats. That of Ganong occurs at or close to the line up to which plutonic action has converted the rocks of the district into granite.

GANPATTY. The hindu god of wisdom. See Ganapati; Ganesa.

GANTHA. A bell: one used in the holy ceremonies of hindus, and which is rung at certain times to keep away evil spirits. These bells, as well as the lustral spoons, are usually surmounted by the figure of the deity in whose worship they are used.—*Cole. Myth. Hind.* p. 380.

GANTELU. Tel. Pencillaria spicata. *Swartz.*

GANTH. Hind. Also ganthi, a knot, Mahomedans usually keep a string for their children on which they tie a knot, each birth day, hence baras-ganth a birth day knot, a birth day.

GANTHIA. Hind. Allium cepa.

GANTHIAN. Hind. Ipomœa reptans.

GANTU BHARANGI. Tel. A species of Clerodendron, a low herbaceous plant, common about Lamsingi in Vizagapatam, the roots of which are largely exported for medicinal purposes.

GANUKA PINDI KURA. Tel. Melochia corchorifolia.

GANYERI. Hind. Zizyphus vulgaris.

GAO, written also Ganw or Gaon. Hind. a village. Travellers in India reckon the day's distance of journies by the Gao or village. Das Gao would mean ten days' journey.

GAO. Hind. A Cow. In hinduism, the gao, or cow, is symbolic of Prit-hu, the earth. A Gao-kos is the distance that is measured by the audibleness of the bellowing of a cow from one extremity to another. *Tr. of Hind.* Vol. II., page 40.

GAO-CHARHAI. Hind. Grazing.

GAOHATTY. A town in Assam the ancient Kasawati. See Gowhatty.

GAOLA. The milkman race, they have considerable herds of cattle. Greek, Gala, milk. See Gala: Galatian, Goala, India. p. 327.

GAO-LOCHAN. Gall stones, extracted from the gall bladders of dead cows, much used in medicine, also in charms; and in painting.—*Gen. Med. Top.* page 136.

GAON. Hind. A village pronounced gam also gang, supposed to be from the Sanscrit grama, and to be represented in the Chinese heong and Singalese gama.

GAON KORAWA. A section of the Korawa race. See Corawa Korawa.

GAOON. Guz. Wheat.

GAO ZABAN. Pers. Lit. cows tongue, of the bazaars of India, is obtained from Cacalia Kleinia, *W.* Anisomeles Malabarica; Trichodesma indicum: Heliotropium erosum, H. ophioglossa, Trichodesma indicum, Onosma bracteatum, O. macrocephala, and Macrotomia euchroma.

GAPTA. A part of the name of Chandragapta.

GAPURJI. Hind. Bixa orellana.

GAR. Tibetan, a fort. In Sanscrit a district, a region, as Kash-gar, Gujar-gar, Cutchwahagar. See Ghur.

GARA. An agricultural tribe in Seharunpore. They are mahomedans and are supposed to be converted slaves, like the Jhoja.

GARA. A river of Rewah.

GARA CHETTU. Tel. Balanites Ægyptiaca *Delile.* var. Indica.

GARAGA. Tel. Gardenia gummifera. *Linn.*

GARAIN. Hind. The Himalayan nettle, a species of Urtica.

GARAKHPUR. Near Magor, the place where the hindu reformer Kabir died. See Kabir Panthi.

GARANDU. Hind. of Murree, Prinsepia utilis.

GARAN. A mole. See Kuwera.

GARAPAGARI. Mahr. A person who pretends to have the power of diverting hailstones off from fields. See Garpagari.

GARAR. Hind. The Gurgura of the Salt Range, Reptonia buxifolia.

GARBA GANDA. Hind. Saccharum sara.

GARANTOGNES? Ginseng.

GARCE. A grain measure equal to 9256½ lbs.

GARCIAS AB HORTO. Physician to the viceroy at Goa, author of a work entitled De Arom. et Simp. Historia. 1565. King.

GARANIA SPECIOSA? Balawa. Burm. A tree of Moulmein. Used in common purposes of building.—*Cal. Cat. Ex.* 1862.

GARCINIACEÆ. A natural order of plants consisting of trees or shrubs, of which

sixty occur in the East Indies, in Ceylon, the peninsulas of India, the Khassya mountains, Silhet, Java and the Moluccas. Of these are 30 species of Garcinia. 20 of Calophyllum, 6 of Mesua, 1 of the genus Gynotroches, 1 to Kayea, 1 to Calysaccion and 1 to Apoterium. The species of this order all abound in a viscid, yellow, acrid, and purgative gum resinous juice, resembling gamboge. This gum resin is obtained by removing the bark or by breaking the leaves or young shoots. It is met with in commerce as the fine or gum gamboge, cake or lump gamboge, and coarse gamboge, and the finest kinds are obtained from Siam. The genera are as under,

Garcinia	Calysaccion	Micranthera
Mammea	Rheedia	Quapoya
Mesua	Pentadesma	Clusia
Calophyllum	Moronobea	Tavomita
Kayea		

GARCINIA. A genus of plants, trees of considerable size, consisting of about 30 species, growing in Ceylon, Travancore, Malabar, and other parts of the peninsula of India, in Sylhet, Assam, the Malay peninsula, and the southern parts of China. Several of them yield edible fruits, and one of them is the Mangosteen fruit tree, G. Mangostana, L., a tree of the Malay peninsula and islands of the Moluccas: G. Kydia, Roxb., of the Andaman islands, is a tree with a sharp but agreeably acid fruit, similar to the large fruit of G. pedunculata, Rox., which grows on Rungpore: G. paniculata, Roxb., a tree of Sylhet, has a palatable fruit something like the mangosteen: G. Roxburghii, Wight, a tree of Travancore, Malabar and Chittagong, has an edible but very acid fruit: G. purpurea, Roxb., grows on the western coast of peninsular India. Useful timbers are obtained from others, but the species are not defined, viz., the Parawah, Youngzalai and Plloua of Burmah. The other species, are speciosa? celebica, dioeca, lanceæfolia, porrecta, Cochin-chinensis, Javanica, bhoomicowa. The fruits of several species of Garcinia besides the mangosteen, are brought to table in the countries where they grow, but they are regarded as very inferior. The Mammee Apple, or Wild Apricot of South America, is said to be very delicious. Its seeds are anthelmintic; its flowers yield on distillation a spirit known as Eau de Creole, and wine is obtained by fermenting its sap. The large berries of the Pacourynva (Platonia insignis) of Brazil are highly prized on account of their delicious flavour.—*Voigt. Ainslie, Eng. Cyc. O'Shaughnessy.*

GARCINIA CAMBOGIA, *Desrous.*, not *Roxb.*

G. gutta,	L.	G. Kydia,	W. & A.?
G. Roxburghii,	Wight.	G. Indica,	Choisy.
Wontay,	Cam.	Gorakah-gass,	Singh.
Valaitie amlie,	Duk.	Karka-pulie maram?	
Kurka pulie,	Maleal.		Tam.
Racta shrava,	Sans.	Woda chinta chettu?	
			Tel.

A tall tree, growing in Ceylon up to 1,500 feet, grows in Travancore and in the forests of Malabar, is very abundant in Tenasserim, and very common in Siam and Cambodia. It yields a pleasant tasted acid fruit.—*Eng. Cyc. Drs. Ainslie, Mason. Thwaites.* See Gamboge.

GARCINIA CORNEA, *Linn.* A tree of Moulmein, Penang, and Amboyna, with a tall though not very thick trunk. The wood is heavy though not very hard, like horn, and is used for the handles of tools. The young trees are used also for house building purposes, but the timber of old trees is too hard to work. The fruit has a resinous smell. *Dr. O'Shaughnessy, Eng. Cyc. Roxb.* ii, *p.* 229.

GARCINIA COWA?

Toung-tha-lai,	Burm.	Cowa,	Hind.
Toung-da-lai,	,,		

Garcinia cowa was found by Drs. Hamilton and Royle, M. D. at Monghir.

GARCINIA ELLIPTICA. *Wall.*

Gamboge Tree,	Eng.	Tha-nat-dau,	Burm.

Dr Wight considers this to be the gamboge-tree of Tavoy and Moulmein, and not improbably of Siam, the juice is quite emulsive, it could be used readily as a pigment. All the other juices of the Guttiferæ examined are resinous, and do not mix with water, in short are not emulsive. *Drs. Wight and Christison.*

GARCINIA GLUTINIFERA? *Ainslie.*

Panichekai maram. Tam.

Dr. Wight says this is one of the very few trees admitted into his list of Coimbatore woods that he had not himself seen and verified, and it was introduced in the hope that some resident on the Malabar coast, would favour him with specimens to determine its name and botanical relations. Dr. Gibson believes that a Diospyros must be here meant, but thinks it may be that the Garcinia sylvestris of the Bombay forests is alluded to. If so, the tree, he says, is common in the southern Konkan, Malabar and Canara: always planted, affording a good wood and palatable fruit, from the kernel whereof is extracted by boiling the vegetable concrete oil "kokum." The dried fruit is a common ingredient in native cookery, having an agreeable acid.—*Drs. Wight and Gibson.*

GARCINIA GUTTA, *R. W.*

Cambogia gutta, *Linn.*
Hebradendron cambojioides, *Graham.*

A tree, native of Ceylon, not uncommon about Colombo, and generally on the south-west coast of the island. Produces a kind of gamboge.---*Wight's Illustrs.*, i. 126.

GARCINIA MANGOSTANA. *Linn.*

Mangosteen,	ENG.	Manggusta,	MALAY.
Mungeestun of	BOMBAY.	Manggosta,	"
Men-gu,	BURM.	Manggis Malay of	
Manggisi, Bugis of	CEL.	Baloi Java,	SUNDA.
Manggos,	LAMPONG.	Mangu,	"

A tree of the Malay peninsula and the Archipelago, which yields the delicious mangosteen, the most palatable of all known fruits. It is a very handsome tree, the foliage, which is large and opposite, being of the darkest shining green. The fruit, is a drupe as large as a moderate apple, is composed of an outer skin of a soft and fibrous nature, brownish red or dark purple on the outside, but when cut, of a bright crimson, the snow white pulp which envelopes the seeds, lying within this, has an appearance no less beautiful to the eye than the flavour is grateful to the palate. Its characteristic quality is extreme delicacy of flavour without being rich or luscious. When cultivated, as in the peninsula of Malacca, it fruits twice a year, being ripe in July and December. It grows in perfection as far as 14° N. of the equator and 7° South of it. A congenial proportion of heat and moisture throughout the year seems much more requisite than soil or latitude for the successful growth of this fruit. The coat or rind of the mangosteen fruit, and the bark of the Katapping or wild almonds (Terminalia catappa), are used for dyeing black. It has been introduced into Travancore. *Crawfurd's Dict. Low's Sarawak*, p. 72, *Marsden's Hist. of Sumatra*, p. 97, *Roxb. ii.* 618. *Voigt.*

GARCINIA PEDUNCULATA. *Roxb.*

Tikal, HIND. Tikur. HIND.

A tree of Rungpore, its fruit weighs about 2 pounds. The fleshy part has a sharp pleasant acid taste, and is used in curries sliced; they keep for years and might be useful in long voyages. *Roxb.*

GARCINIA PICTORIA. *Roxb.*

Hebradendron pictorium. CHRISTISON.

It yields Ossara-rewund, a gamboge at least equal to that of Siam or of Ceylon.

GARCINIA PURPUREA. *Roxb.*

Kokum of Bombay, ENG.	Brindao of Goa
Kokum butter tree, "	G. Cochinensis D. C.

This tree grows on the western coast of peninsular India and in ravines of the Konkan. Its fruit yields a solid vegetable oil which melts at a temperature of 95°. It now forms an article of export. The seeds are first sun dried, and then pounded and boiled in water, the oil collects on the surface, and on cooling concretes into a solid cake. When purified from extraneous matter, the product is of a rather brittle quality, of a pale yellowish hue, inclining to greenish, and mild to the taste. The seeds yield about one-tenth of their weight of oil. It is admirably adapted for compounding healing ointments.

GARCINIA ROXBURGHII, *R. W.*

G. Cambogia, not	ROXB. DESR.	G. affinis,	W. & A.
G. Zeylanica,	ROXB.	G. cowa,	ROXB.
Toung-tha-lay,	BURM.	Cowa,	HIND.

A tree of Ceylon, Travancore, Malabar, Chittagong, and scattered over the hills of British Burmah but scarce. Wood not used, but is yellow and fit for a fancy wood. A cubic foot weighs lbs. 42. In a full grown tree on good soil the average length of the trunk to the first branch is 20 feet and average girth measured at 6 feet from the ground is 6 feet. Fruit eatable, but very acid.—*Drs. Brandis & McClelland, Cal. Cat. Ex. of* 1862, *Voigt, Wight's Illust.* i. *p.* 125.

GARDALA. HIND. of Kangra, Bergera Konigii, *Linn, W. & A., Roxb.*

GARD-DEZ. In Afghanistan, remains of Pyrethræ or fire altars are still to be seen on its hills, as also at Bamian, Seghan and other places, showing that fire worship had existed to a certain extent. See Kaffir.

GARDEN. Balsam is the flowering plants of the genus Impatiens.

GARDEN CRESS. Lepidum sativum.

GARDENIEÆ. CHAM. and SCHLECHT, section of the Order Cinchonaceæ. In this order of plants there are seven sections, in which 233 genera are included, of these, there are 695 species known in the East Indies, 3 in Zanzibar, 4 in Arabia, 3 in Persia, 18 in China, 3 in Timor, and 3 in Japan.

The *Sec.* B. *Gardeniæ* comprises
20 Mussænda, 2 Gynopachys, 14 Stylocoryne.
22 Gardenia, 17 Randia, 1 Griffithia.
4 Menestoria, 1 Heliospora, 1 Hyptianthera.
3 Bertiera, 4 Petesia, 4 Petunga.
2 Macrocnemum.

GARDENIA. A genus of plants of the Order Cinchonaceæ and section Gardenieæ. Wight in his Icones gives figures of 11 species, but the known species in the S.E. of Asia are 23 in number, amœna, anisophylla, arborea, calyculata, carinata, chinensis, coronaria, densa,

dumetorum, enneandra, florida, gummifera, latifolia, longispina, lucida, macrocarpa, rothemannia, montana, radicans, thunbergia, turgida, uliginosa, and obtusifolia.

Two of the species G. florida and G. radicans, are known as Cape Jasmine, their flowers are highly scented, readily grown by cuttings, they thrive in any garden soil and only require a moderate share of water to flower abundantly, their colours are pink, white, and pale yellow. G. arborea grows in the South of India. G. campanulata is a shrub of Chittagong. Its berry is about the size of a golden pippin apple and is employed as a cathartic and anthelmintic. One species of Gardenia (Telaga. Tel.) is a tree of the Godavery forests and Dekhan, and furnishes a very hard wood which would be very good for turning. G. cariata *Wall*, grows in the Batticoloa district of Ceylon.—*Riddell, Thw. En. Pl. Zeylan*, ii. 159, *Voigt* 377.

GARDENIA CORONARIA. *Buch.*

G. costata, *Roxb.*

Yin-gat, BURM. | Yen Khat, BURM.

A tree of Chittagong and Moulmein indigenous in Tenasserim. It produces a profusion of flowers that are white when they first open out in the morning, but on exposure to the sun, become quite yellow. Wood used for building purposes. This wood has a fragrant smell, and would be useful for boxes, but, unfortunately, when cut into planks there are so many flaws and cracks, that it is difficult to procure a piece of any size; it is a strong tough wood and useful for turning. Fruit edible.—*Mason Voigt, Cal. Cat. Ex.* 1862, *Major Benson.*

GARDENIA DUMETORUM. *Retz.* syn. of Randia dumetorum.

GARDENIA ENNEANDRA, *Kon. W. & A.*

Gardenia latifolia, *Roxb.*; *Cor. pl.*
Bikki, TEL.

A small tree of peninsular India, growing in the Carnatic, the Nalla Mallai, the Circars, Khandesh and Guzerat. It furnishes a light wood of little use. Native combs are made of it.—*Voigt, Mr. Latham.*

GARDENIA FLORIBUNDA—?

Thet-ya, BURM. | Tung-hson-pan, BURM.

A tree of Moulmein. This wood is made use of for ordinary house building purposes —*Cal. Cat. Ex.* 1862.

GARDENIA FLORIDA. LINN.

Wax flower Gardenia, ENG. | Tngu-hsen-pan, BURM. | Gul-chand, HIND. | Thet-ya, BURM.

Wax-flower gardenia is a small shrub of slow growth, cultivated in Japan, the Moluccas and India. Both double and single varieties are common in gardens at Ajmeer; the foliage is beautiful and the pure white double blossom are elegant and fragrant. Most Tenasserim gardens, are graced with this tasteful shrub. Its pure snowy blossoms, strongly fragrant, smell "like the narcissus;" and they contrast delightfully with the thick deep green foliage in which they are set.—*Genl. Med. Top. p.* 185. *Mason.* See Gardenia.

GARDENIA FORTUNIANA, is a most fragrant Chinese plant and now common in English gardens, to which it was introduced by the Horticultural Society in 1845.—*Fortune's Tea Districts, p.* 17.

GARDENIA GUMMIFERA. *Linn.; Roxb.; W. & A.; W. Ic.*

Gardenia arborea, ROXB.

Gummy Gardenia, ENG. | Chiri bikki, TEL. | Chatta matta, TEL. | Garaga, „

A large shrub or small tree, with large fragrant flowers, which, in the morning, are white, and become yellow by the evening. The wood is hard. The natives eat the fruit. It grows in Ceylon, in the Gingi hills, on the Godavery and in the Circars, and is very common about Duddi, on the Gutpurba river, grows wild on the hills in the Kotah jungles, the leaves and unopened blossoms being shrouded at the point in pure fragrant gum resin, said to be one of the sources of the Dikamully resin.—*Genl. Med. Top. p.* 185. *Voigt, Captain Beddome. Mr. R. Brown.*

GARDENIA LATIFOLIA *Ait.*

Papura, HIND. | Kumbay maram, TAM. | Bikki, TEL. | Konda manga, „ | Kakkiti chettu, „ | Karinguva, TEL. | Kokkita, „ | Kurukiti, „ | Pedda karinga, „

GARDENIA LATIFOLIA.

Broadleaved Gardenia, ENG | Papura, HIND.

Grows wild in the moist Kotah jungles and is also cultivated in gardens. It is a small tree in the south of the peninsula of India and also on the Godavery, wood close grained, and promises well for turning.—*Genl. Med. Top. p.* 185. *Captain Beddome.*

GARDENIA LUCIDA. *Roxb.; W. & A.*

Gardenia resinifera. ROTH.

Kun kham, AR. | Tsay-thsm-by-ah, BURM. | Dikamalli, DUK. GUZ. HIND. | Cumbi, TAM. | China karinguva, TEL. | Tella manga, „

Grows in the southern Mahratta country, Circars, on the Godavery, Chittagong and Burmah, and gives a close grained wood, well adapted for the lathe: like that of several other species of Gardenia and Randia, it is used for making combs. A cubic foot

weighs lbs. 49. In a full grown tree on good soil the average length of the trunk to the first branch is 15 feet and average girth, measured at 6 feet from the ground is 3 feet. Its resin, Cumbi-pisin, Tam., is a strong disagreeable smelling gum-resin ; procurable in most Indian bazaars. It is much used by native doctors, when dissolved in spirits, as an external application, for cleaning foul ulcers. It is now used by some European practitioners in cases of worms in children.—*Faulkner, Voigt, Dr. Brandis, Captain Beddome.*

GARDENIA MONTANA, is common in the coast and inland jungles of Bombay and may be recognised by its straight stem, long stout thorns and general absence of leaves. The wood is hard, but always small, never squaring to more than 3 inches.—*Dr. Gibson.*

GARDENIA PAVETTA. Roxb. Syn. of Stylocoryne webera.—*A. Ridl.*

GARDENIA RADICANS, Cape jasmine. This favourite shrub should be planted in a well manured flower bed or border which has been drained with sand, they require a soil more approaching to sand than clay and plenty of water; propagated by cuttings in boxes or seed pots during the rains. It is a native of China.—*Riddell.* See Gardenia arborea.

GARDENIA RESINIFERA. Roxb., syn. of Gardenia lucida.—*Roxb.*

GARDENIA SPECIOSA. Roth., syn. of Guettarda speciosa.—*Linn.*

GARDENIA SPINOSA. Linn. syn. of Randia dumetorum.—*Linn.*

GARDENIA TETRASPERMA.

Kurkuni, tulikukar of Hazara.
Bandaru, putkanda, daru, bakshi of Kangra.
Jirndu of Ravi.
Bisindidi, Chenab.

GARDENIA TURGIDA, *Roxb.*

Nunjoonda maram, Tam.

Dr. Wight says, he only knew this from small specimens, and was unable to say whether it is a tree or shrub, but believed the former; the wood is hard and close grained, and is useful in cases where small timber will serve. Dr. Gibson asks if Wight's Gardenia turgida be not G. montana (?) and adds "I do not recognise this species or variety; neither do I find it noticed in Dr. Wight's Prodromus. If it be our Gardenia montana, the tree is rather common in the coast and inland jungles. It may be recognised by its straight stem, long stout thorns, and general absence of leaves. The wood is hard, but always small, never squaring to more than 3 inches."

The Gardenia turgida of Roxburgh is a tree of Bhootan, both it and G. montana are in Wight's Icones, ii. t. 577 and 579.—*Drs. Wight and Gibson.*

GARDENS, are kept up by almost every European in the South and East of Asia. Exotics, principally annuals, are largely cultivated and exotic vegetables are grown for the table. But the British India Government have a large gardenat Saharunpore, gardens at Garden Reach, Calcutta, Ootacamund, and Dapoolee, and they aid the garden of the Agri-Horticultural Society at Madras. The Mysore Government support a good garden at Bangalore. A botanical garden is kept up at Batavia in Java, at a considerable expense, defrayed by the Netherland Government. The Government gardens, as also those of the Agri-Horticultural Societies are for the object of encouraging the cultivation of useful and ornamental plants. A garden is the delight of the mahomedans in India, who give them loving names as Lal Bagh, Farkh Bagh, Roushan Bagh. Alike amongst mahomedans and hindus, the formation of a garden as a place of retreat is a great object. In Wilson's specimens of the hindoo drama, which he translated from the Sanscrit, "The Necklace," and "The Toy cart," contain beautiful allusions to gardens in India;

"The garden is now most lovely. The trees partake of the rapturous season, their new leaves glow like coral, their branches, wave with animation in the wind, and their foliage resounds with the blythe murmurs of the bee. The bakula blossoms lie around its root like ruby wine; the champaka flowers blush with the ruddiness of youthful beauty ; the bees give back in harmony the music of the anclets, ringing melodiously as the delicate feet are raised against the stem of the asoka tree."—*The Necklace, Act I, page* 272.

"Look round the garden with these stately trees,
Which, daily by the king's command attended,
Put forth their fruits and flowers
And clasped by twining creepers, they resemble
The manly husband, and the tender wife."

Toy Cart, Act 8, page 125.

This play is supposed to have been written by king Sudraka, over what kingdom he reigned, is not ascertained with certainty. Mr. Wilson remarks in his introduction to the 'Toy Cart,' page 9, that it may be safely attributed to the period when the sovereign Sudraka reigned, whether that be reduced to the end of the second century after Christ, or whether we admit the tradition, chronologically, and place him about a century of our era. These

specimens of the hindoo drama show how little is the change in the customs of the hindoos since the plays were written.

The British Indian Government has recently encouraged its European and Native soldiers to form kitchen gardens and the following list will show the time needed for the ordinary plants to come to maturity.

Name.	Period required to grow fit for use.	Period lasting afterwards.
	Days.	*Months.*
Mustard...	10 to 12	1
Cress	„	1
French Bean	45	3 to 6
Double „	50	24
Scarlet runner...	50 to 75	6
Amarantus tristis, (Arakiri.)	45 to 60	12 to 24
A. oleraceus, (Tandakiri,)		3 to 6
A campestris, (Sirrookiri)		18 to 24
Egg plant, Brinjal ...	90	24
Momordica charantia, (Pavookai)	60 to 90	12
Luffa acutangula, (Pekrun-kai)	90 to 105	3 to 6
Rozelle	150	12 to 18
Snake gourd	90 to 135	6
Radish	42	2
Lettuce	35 to 42	1½ to 2
Onions	60 to 90	4 to 6
Maize	90 to 105	4 to 6
Spinage...	40	24
Lagenaria vulgaris, (Sori kai,) Tam	60 to 90	24
Cyamopsis psoraloides, (Kotavaram Kai,) Tam	150 to 180	24 to 36
Sorrell	42 to 60	3
Parpoo kiri, (Portulaca ? ?) .	42 to 56	2
Fenugreek	42	1 to 2
Soi kiri, Tam ? ...	42	2
Sakotti kiri, Tam ?	42 to 60	1½ to 2
Turnips ...	90	3 to 6
Cucumber	60	3 to 4
Water Melon ...	90 to 120	6
Musk „ ...	„	6

Specimen of the Theatre of the Hindoos, translated by Mr. Wilson.—Chow Chow, page 218.

GARDEN SNAIL. Helix, *species*. See Helicidæ.

GARDHA-BHELA of Kakustha or Sooryavansa. A rajah who ruled in Balabhipoora in S. 523, is surmised to have been a son of Bahram Gour, one of whose sons, it is known obtained dominion at Puttun. All that is known of him, is from a passage in an ancient Jain MS., which indicates that in "S. 523, rajah-Gardha-bhela, of Kakustha, orSooryavansa, ruled in Balabhipoora."

GARDI GAVAPU. Tulu. Aristolochia bracteata.—*Retz.*

GARDNERIA NUTANS. *S. & Z.* A tree of Japan.

GARDUL. Hind. of Bombay. Entada pusætha. D. C.

GAREE a carriage and the man who drives it is called a Gareewan; also pronounced Gadi and Gadeewan.

GARCIA SILVA FIQUERVA in A. D. 1627, visited Persia on a diplomatic mission.

GARELU. Hind. Ficus reticulata.

GARERITA. One of the Coleoptera.

GARG. A celebrated rishi and founder of the Garga family, one of the 66 sub-divisions of the Kanojia brahmans. *Wils.*

GARGA. A ruler of the Shaka. See Inscriptions, p. 374. Karli.

GARGA. A hindu astronomer. See Yudhisht'hira.

GARGA BANSI. Hind. A tribe of rajputs so called, chiefly in Gorakhpur and Azimgarh. *Wils.*

GARGES. Hind. of Salt Range, Grewia rothii.

GARGUSA. Hind. of Salt Range, Acacia leucophlœa.

GARH. Hind.

Garh,	Hind.	Gadi,	Karn.
Garhi,	„	Gadhi,	„
Gad,	Mahr.	Gadh,	Hind. *Wilson.*
Gud,	„		

A fort: a house; a fortified village; the watch tower in the centre of a village.

GARHA MANDAL. See Inscriptions, p. 383.

GARHWAL. A district on the N. W. frontier of British India, having the Simla district on its west, Nepal, Kumaon to the east. The sanitorium of Mussoori is in Garhwal as also the famous hindu temple Badarinath. There are forest tracts in the valleys of the Giri, Tonse, and Pabar rivers, which flow into the Jumna. These valleys adjoin the district of Garhwal, in which deodar forests are in abundance; in the valleys themselves, there appear to be detached forests of deodar, and some of "kail," Pinus excelsa, while lower down, there are forests of "chill," Pinus longifolia, or "sulli" as it is called in Garwal. These rivers are all rapid in their course, and have rocky beds. The Tonse river is under the Garhwal and Dehra Dun authorities: the Pabar and the Giri run through Bashahir and Sirmur, respectively: there is but little deodar in the upper valleys, the streams are rapid, and the volume of water scanty. Garhwal is to a large extent Bhot, the language spoken is hindi. Mr. Powell.

GARI. Hind. A carriage of any kind, from a coach and four to a wheel barrow.

GARI. Tel. syn. of Balanites Ægyptiaca.

GARI-GOND. A light substance like the decayed cotyledons of a seed, or decay-

ed soft grains of the pith of wood, very bitter to the taste. The native druggists of India call it a foreign white gum: it is a purge, and given when vision is much obstructed from any cause: one massee with other ingredients is a dose.—*Genl. Med. Top. p.* 136.

GARIKE. TEL. Cynodon dactylon PERS. The d'hurba grass of India. It is sacred to Ganesa under the name of Durva or Durbba. *W.* 419.

GARIKUN. TAM. Agaric.

GARINDA. HIND. Carissa diffusa. *Roxb.*

GARITI KAMMA. TEM. Vernonia cinerea.—*Less.*

GARIAN. HIND. Dipterocarpus lævis. Its oil, Garjanka tel.

GAR-KULAI. BENG. Soja hispida.

GARKUN. A Chinese officer, as commissioner of Gartok in Hundes.

GARLANDS are in constant use in India, amongst native christians, hindus and mahomedans. On festive, on religious and on funeral occasions, they are placed around the hindu idols, over the graves of mahomedans, at the doors of churches, and are hung around the necks of visitors. This seems to have obtained from the most ancient time, for garlands made part of the bridal as well as sacrificial ornaments amongst the Greeks. Thus, in Agamemnon, Clytemnestra, in addressing Achilles, says—

Offspring of Thetis pity my distress
Succour a virgin named, tho' falsely named
Your bride: yet I with flowers adorned her brow,
And fancied that I led her to your arms,
But now I to the bloody altar lead.
Iphigenia in Aulis.

Hind. Theat, Vol. ii, *p.* 68.

GARLIC.

Sum,	AR.	Lahsan,	HIND.
Kesun,	BALI.	Bawung,	JAV.
Loshun,	BENG.	Allium sativum,	LAT.
Belluly,	CAN.	Bawang putih,	MALAY.
Lahsan,	DUK.	Sir,	PERS.
Ail,	FR.	Lasuna,	SANS.
Knoblauch,	GER.	Sudulunu,	SINGH.
Skorodon,	GR.	Ajo sativo,	SP.
Lussun,	GUZ.	Vella pundu,	TAM.
Shumim; Shum, HEBREW of Numbers xi, 12.		Vell-Ulli,	TEL.

Garlic is largely used as a condiment by all the hindu and mahomedan races of India, who consider it a valuable stimulant. It is added to their curries. It is common all over India, and grown from the seed or bulbs—the latter method being most in practice. One of the bulbs is broken and the cloves taken out and planted in beds about four inches apart: no particular care is required, save watering and keeping clear of weeds. When the leaves dry and wither, then take up the roots and preserve in a safe place.—*Riddell.*

GARLIC OIL.

Lashan ka tel, HIND.	Vellai pundu yennai, TAM.
Bawung putih minak, MALAY.	Vel ulli nuna, TEL.

This is obtained by expression from the cloves of the garlic bulb. It is prescribed internally by native practitioners to prevent the recurrence of intermittent fevers, and externally in paralytic and rheumatic affections.—*Faulkner*; M. *E. of* 1855.

GARLIC PEAR. ENG. See Crataeva.

GARM. HIND. Warm.

GARM. HIND. Panicum aintidotale.

GARM-AB. A hot spring in Jell, which preserves its temperature throughout the year.

GARM-SAIR. PERS. The term applied to winter pasture grounds of the nomade pastoral races of Asia. They are numerous, —indeed every pastoral mountain tribe, in the Himalaya, in Tibet, in the Afghan and Baluch mountains, in Arabia, Syria, Persia, and in Kurdistan, has its wintering region. The province of Fars has its Garm-sair and its Sarhad or Sard-sair, its warm and cold climates. The Kashgoi, are a nomade Turkish tribe of about 12,000 families, whose chief is the Il-Khani of Fars. They and the Bakhtiari from the warm pastures of Arabistan and the head of the Persian Gulf, arrive in spring on the grazing of Isfahan. At the approach of winter, both the tribes return to their respective Garm-Sair or wintering lands. The entire southern region of Fars, bordering on the Persian Gulf, is called the Garmsaer or "hot region." It extends from the sea to the latitude of Kazeroon, and runs parallel with the Persian Gulf, from the banks of the Tab to the confines of Laristan. From Bushire, eastward, as far as Cangoon, the tract is named the Dushtistan or "land of plains." The Tungistan, commonly pronounced Tungistoon, or "narrow land," is a small tract of land east of Bushire. The greater portion of the people of the whole Garm-sair, consists of an independent lawless set, many of the tribes being robbers by profession.

A huge wall of mountains separates the Garmsair, or low region, from the Sard-sair. Sard-sair, signifies the cold region, but it is also termed the Sarhada, a word literally signifying "boundary or frontier," but generally applied to any high land where the climate is cold or the high table-land of Persia. One of the most conspicuous of these, is an abrupt lofty hill, named Hormooj; where coal occurs. In Fars the Garm-Sair of Sijistan is a narrow tract of country along the lower

course of the Helmund. The Baluch races seem to pronounce it "Gurmsehl" or Garmsail, and one of their wintering places is north-west of Nooshky, and distant about 75 miles.—*Pottinger's Travels Beloóchistan and Sind*, p. 103. *Rich.*

GARNET.

Grenat.	Fr.	Granati,	Lat.
Granat-stein,	Ger.	Yakut ?	Malay.
Granaten,	„	Sang-i-mahtab,	Pers.
Tambra,	Hind.	Granatnoi-kamen,	Rus.
Granate,	It.	Granadas,	Sp.

Garnet is a word supposed to be derived from the Grenatici, specified by Marhodus, the red hyacinths of the Romans is one of the inferior gems, of which there are many varieties. Some of them are probably distinct species; but agreeing in form, and some other properties, they are classed together. It occurs crystallised, massive, and granular. The varieties are:—1. Almandine or noble garnet. 2. Grossular garnet. 3. Cinnamon stone, essonite, hessonite or kaneel stone; romanzonite; hyacinth. 4. Common lime garnet. 5. Magnesia garnet. 6. Iron garnets. 7. Common iron garnet; rothoffite; alloclorite. 8. Melanite; pyreneite. 9. Colophonite. 10. Uwarorite. 11. Pyrope, almandine, hexahedral garnet. 12. Helvine or tetrahedral garnet. 13. Idocrase or pyramidal garnet. Garnet occurs abundantly in mica-slate, hornblende slate, and gneiss, and less frequently in granite and granular limestone. It is found sometimes in serpentine and lava. The best precious garnets are from Ceylon and Greenland. Grossularite occurs in the Wilin River, Siberia, and at Tellemarken in Norway; green garnets are found at Swartzenburg Saxony; Melanite in the Vesuvian Lavas; Ouvarovite at Bissersk in Russia; Topazolite at Mussa, Piedmont; Aplome in Siberia on the Lena, and at Swartzenburg. Garnets also occur in several parts of the United States. The Garnet is the Carbunculus of the Romans. The Alabandic Carbuncles of Pliny were so called because they were cut and polished at Alabanda. Hence the name Alamandine. The clear deep red garnets make a rich gem, and are much used for ornament. Those obtained from Pegu are most valued. They are cut quite thin on account of their deep colour. Cinnamon-stone is also used for the same purposes. Garnet when powdered is used for the same purposes as emery.—(*Eng. Cyc.*) Precious garnets, or almandines, in the form of pebbles, are often seen for sale among the Burmese; but it is not certain that any are found in the Tenasserim Provinces. Mineralogists say the most beautiful come from Sirian the capital of Pegu. In a creek on the Siamese side of the Tenasserim valley, Dr. Helfer says "rubies are found. They are however of a very inferior description"—probably garnets. The common garnet is occasionally seen in the sands of the rivers, but it is not abundant.—(*Mason.*) At the Madras Exhibition of 1857, Garnets, Carbuncles and Ruby Garnets of very good quality, were exhibited from Nellore, Masulipatam and Bezwarrah; but they were not nearly so large, as the garnets from Mysore and Cuddoor, shown at the Exhibition of 1855. The red variety of the gem is very generally diffused over India. Its geognostic position, is the hypogenic or metamorphic schists, more particularly near their line of junction with plutonic rocks, or trap dykes; for instance, in the crystalline and metalliferous areas of Salem and Nellore, whence the finest crystals are procured, and sold by the native merchants at an insignificant price. Colophonite is not uncommon in these tracts, as also in Mysore, the Neilgherries, the Carnatic, and other provinces of Southern India. It usually occurs in the granite, associated with the hypogene schists. That beautiful variety of dodecahedral garnet, called cinnamon-stone or essonite, was discovered by Dr. Benza, in the Neilgheries in the hypogene hornblende rock, near the Seven Cairns Hill, where entire portions of the rock are formed almost exclusively of them. The essonite and hornblende are in large separate crystals, imbedded in a paste of compact felspar and hornblende; the former is very liable to disintegrate, leaving in falling out, small cavities in the rock. Green garnet is of rare occurrence: the only locality where Newbold discovered this gem was in the Salem district at Sankerydroog, lat. 11° 29′ N., long 77° 58′ E., associated with other green crystals in quartz veins, penetrating hornblende schist. The latter is associated with gneiss, garnet rock, actinolitic schist, and altered lime-stone, thrown into disorder by the intrusion of a porphyritic granite. The green garnet is not found in any considerable quantities. A mine of precious garnet occurs at Gharilpit, about eight miles south of Palunshah, in the Hyderabad country, in the detritus of a granitic rock, penetrated by trap-dykes, and composed of mica, garnets, kyanite, quartz, and felspar. Dr. Voysey, states that the precious garnets are found at the depth of eight or ten feet in the alluvium at the foot of the rock. The surface of the rock and soil were strewed with garnets in great profusion, but these were generally of a very

coarse kind. The garnets when collected are gently pounded, and the bad ones broken: those which survive the blows are reckoned of good quality. In a river near the Munserabad ghat in Mysore, the natives search for garnets, which are sold at one rupee each. They occur there as deposits from a hill of Mica schist which occurs higher up the river, which Captain R. Roberts of the Engineers followed up. The garnet is classed amongst gems, but only one variety is of value, and inferior kinds are so plentiful that, in some parts of Germany, they are even employed as a flux in smelting iron. In Southern India they are almost universally employed by the cutler, the stone-mason, and others, as a substitute for emery, under which name the coarser garnets are sold in the bazaars. Unlike corundum, however, the hardness of which is only inferior to the diamond, and ranks ninth in the scale of hardness, the garnet is only 6·5 to 7·5 in degree. Garnets are of various colors, a circumstance due to the varying proportions and combinations of the three or four silicates of alumina, lime, iron and magnesia, of which they are composed. The precious garnets are of a clear, deep red, and on account of their depth of color are cut by the jeweller quite thin. It is this thin stone which is now termed the carbuncle and it is supposed to be identical with the hyacinth or essonite or hessonite.—*Madras Museum Report. King, McCulloch's Commercial Dictionary*, p. 595. See Corundum. Alabandic Carbuncles.

GARNA. Hind. Carissa diffusa. Hiungarna, Capparis horrida.

GARNI-KURA. Sans. Hibiscus cannabinus.

GARO. Ta-yan. Burm. A tree that grows in the Moluccas, called garo, which the Burmese call ta-yan. Linnæus has described it as Excœcaria agallocha. It is abundant near the sea, the juice is said to produce the most intense pain, and often blindness if it enter the eye. From this the Karen call it the "blind tree"; and all are so much afraid of it, that Mr. Mason has sometimes found it difficult to induce his boatmen to pull up beneath its shade.—*Mason.* See Aloes-wood: Eagle-wood: Excœcaria agallocha.

GARO, Garoo, Gartop, Sur, Yoogar, or Gurtokh, for it is known by all these names, is a collection of black tents inhabited by pastoral tribes for six months. In winter, the Tartars retire chiefly to Eegoong on the bank of the river, two stages down the stream, and the Chinese governors reside at the fort of Tuzheegung, where they have houses. Garo is the most famous mart for wool in Chinese Tartary, and there is a fair of 10,000 or 22,000 people in July, well attended by merchants from Kumaon, Koonawur, and Ladak, and sometimes from Yarkund. Wool, borax and salt are the principal exports, and these articles are exchanged for the produce of the plains of India. The country about Garo must be very elevated, since the only productions are prickly plants and small tufts of short brown grass. It is the great summer mart of Gnari Khorsum. The pass over the range between Garo and the Sutlej, is 19,200 feet above the sea. It is near the source of the Indus river. The Garo river, is the Singge-chu or Indus, also called there Garjung-chu, and there is no great eastern branch as some suppose. At Garo, according to Moorcroft, it is a very insignificant stream.—*Capt. Gerard's Account of Koonawur, p.* 144. See Indus.

GARO. Malay. Aloes wood.

GARO. A race occupying the mountains to the south of the valley of Assam in Lat. 25° 20′ N. and Long. 90° 40′ to 91° 20′ E. They are about 40 miles south from Goalpara, and to the north of Mymensing. They are a race of hillmen inhabiting the mountainous country called the Garo or Garrow Hills, which bound the north-eastern parts of Bengal. They differ in many respects from other hill tribes. The Naga, Mikir, Kachari, Garo, and Khassya, are the five races in whose possession chiefly, are the broad lands of the Assam chain extending from the N. E. near Kynduayn and Namrup on one side, along the valley of the Brahmaputra to its southern bend round the western extremity of the chain; and, on the other side, South-westerly along the valley of the Burak and Surmu: these highlands are thus embraced by the valleys of the Brahmaputra and its affluents on all sides but the S. E. where they slope to the Kynduayn. The Garrow are called by the villagers and upper hill people, Coonch Garrow; though they themselves, if asked of what race they are, will answer, "Garrow," and not give themselves other tribal appellation, though there are many tribes of the Garrow. A Garrow is a stout, well-shaped man; hardy, and able to do much work; of a surly look; flat, caffre-like nose; small eyes, generally blue or brown; forehead wrinkled, and over-hanging eye-brow; with large mouth, thick lips, and face round and short: their colour is of a light or deep brown. The women are short and squat, with masculine expression of face; in the features they differ little from the men. The dress of these people corresponds

with their persons. They eat all manner of food, even dogs, frogs, snakes, and the blood of all animals. The last is baked over a slow fire, in hollow green bamboos, till it becomes of a nasty dirty green colour. They are fond of drinking to an excess. Liquor is put into the mouths of infants almost as soon as they are able to swallow. Their religion is a mixed hinduism and shamanism, they worship Mahadeva; and at Bauntjaur, a pass in the hills, they worship the sun and moon. To ascertain which of the two they are to worship upon any particular occasion, their priest takes a cup of water, and some wheat: first calling the name of the sun, he drops a grain into the water; if it sink, they are then to worship the sun; and should it not sink, he then would drop another grain in the name of the moon, and so on till one of the grains sink. All religious ceremonies are preceded by a sacrifice to their god, of a bull, goat, hog, cock, or dog. Except milk they use everything. They live in houses raised from the ground on piles. The youngest daughter inherits. The woman marries the brother of her deceased husband; if he die, the next: if all, the father. The dead are kept four days, then burnt amidst feasting and drinking and the ashes buried on the spot. A small dish of bell metal with embossed figures, called a Deo-Kora is hung up as a household god and worshipped and sacrificed to: and the Garo believe that when the household are asleep, the Deo or figure of the Kora issues in search of food and returns to its Kora to rest. The Garrow are under British control. They are classed as Che-anna (6 Annas) and Das-Anna (10 Annas) but they consider themselves one and the same people. They use sharp bambu panji or stakes, four inches long as a means of opposing invasion. In a treaty in 1848, they consented to abstain from hanging human skulls in their houses. They build their houses on piles. The Marquis of Hastings' description of them, however, somewhat differs from the above. He says they are divided into many independent communities, or rather clans, acting together from a principle of common origin, but without any ostensible head of their league. With them all property and authority descends wholly in the female line. On the death of the mother, the bulk of the family possessions must go to the favourite daughter (if there be more than one), who is designated as such, without regard to primogeniture, during the lifetime of her parent. The widower has a stipend secured to him at the time of marriage. A moderate portion is given to each of the other sisters. A son receives nothing whatever, it being held among the Garrow that a man can always maintain himself by labour. The woman acknowledged as chief in each of the clans is called Muhar. Her husband is termed Muharree. He is her representative in all concerns, but obtains no right in her property. The clan will interfere if they see the possessions of the Muhar in course of dissipation. If a daughter be the issue of the marriage, a son of the issue of the Muhar's father is sought in preference to become her husband; and in default of such a person, the son of the nearest female relation of the Muhar (he being of due age) would stand next for selection. The husbands to the sisters of a Muhar are called Lushkur, and it is a denomination to which a notion of rank is attached.

They have frequently made descents on the plains. A party of them, in May 1860, murdered sixteen natives of the plains in the North of the Mymensingh district, and afterwards mutilated the bodies. They confessed the crime and three were executed in their own villages before their own people. Their accomplices, in number some twenty men, were condemned to transportation for various periods. Their object was not so much plunder, as human heads to offer to their spirit of the mountains. The Rajah of Nustung one of the Khassyah states subsequently undertook to aid in repressing these raids.

The Garo, or Garrow hills, are a confused assemblage, from 1,000 to 6,000 feet. Estimated area, 4,347, square miles. Character of country, wild. The rock formation is supposed to be chiefly of gneiss. or stratified granitic rock.—*Cole. Myth. Hind.* p. 320, *Hasting's Private Journal*, vol. II., page 132-316. See Khassya, Mikir, Kuki, Singhpo, India 317, 327, 338, 339.

GARO-DE-MALACCA. Fr. also GAROS. Malay. syn. of Aquilaria malaccensis, Sonnerat.

GAROFANI. It. Cloves.

GAROODOO. Beng. Polygala ciliata minor.

GAROREE. A wandering race in Woon.

GARO-TSJAMPICA. Eagle-wood.

GAROU-BUSH. Daphne gnidium.

GARPAGARRI. A tribe, class, race, or sect in the Oomraoti district, hindu sudras, who profess to have the power to prevent the fall of hail stones on fields. Possibly the term is derived from the Arabic "Ghar," ice. Wilson says the word is mahratta and that they are retained in some vil-

lages as part of the establishment to prevent their injuring the crops.

GARP. Gee. Yarn.

GARRA. A river running near Shahabad in Oudh.

GARRAR. Hind. Andropogon muricatus.

GARRAH, and Ubrassa, districts in the west of Cutch, in which are the towns of Mhar, Narna and Lakpat Bandar.

GARRULINÆ, A sub-family of birds of the tribe Insessores and family Corvidæ. It comprises two sections:

a. Magpies, 4 gen. 9 sp. viz.: 3 Pica, 4 Dendracitta, 1 Crypserina, 1 Temnorus.

b. Jay-Magpies, 6 gen. 10 sp. viz : 2 Cissa, 3 Psilorhinus, 2 Garrulus, Perisoreus, 1 Lophocitta, 1 Turnagra.

GARRAH, often written Gharra, a river of the Punjab, the modern name of the ancient Hyphasis. See Gharra.

GARRI. Hind. Arundinaria falcata.

GARRULACINÆ. A sub-family of birds, of the tribe Insessores and family Corvidæ. It comprises 5 gen. 27 sp. viz.: 20 Garrulax, 2 Actinodura, 2 Sibia, 1 Cutia and 2 Pteruthius.

Garrulax cinereifrons of Kelaart, is allied to G. delesserti of the Nilgiris, but differing much in its colouring. General hue a rich brown above, much paler below; forehead and cheeks pure ashy; chin and borders of the outer primaries, albescent. Bill blackish. Legs dusky corneous. Length 8½ in.; of wing 4⅓ in.; and tail 4 in.; its outermost feathers 1⅛ in. less; bill to gape 1¼ in. tarse 1½ in.

GARTOP. See Garo, Indus.

GARU. Malay. Eagle wood. See Garo.

GARU BANS. Hind. Bambusa, the Bamboo. Arundinaria falcata.

GARUDA or GURUDA. This demigod, of the hindus, with the head and wings of a bird and the body, legs, and arms of a man, is of considerable importance in hindu mythology. He is the son of Kasyapa and Vinata, the brother of Aruna and the vahan or vehicle of Vishnu

"When high on eagle-plumes he rides."

As Aruna, the charioteer of Surya ('the sun'), is the dawn, the harbinger of day, so does Garuda, the younger brother, follow as its perfect light. He is the emblem of strength and swiftness, and besides being the bearer of the omnipotent Vishnu, is greatly distinguished in hindu legends on many very important occasions, Aruna in the Sabean system of the Veda, as the charioteer of the sun, driving his six horsed car—corresponds with the Aurora of the Greeks. The emblem or vahan of Vishnu is Garuda, or the eagle, and the Sun-god both of the Egyptians and hindus is typified with this bird's head. Aruna (the dawn), in hindu mythology, also the son of Kasyapa and Vinata, is the brother of Garuda and is described as a handsome youth without thighs or legs. His two sons, Sumpati and Jutayoo, attempting in imitation of their father to reach the sun, the wings of the former were burnt and he fell to the earth: of this the Greeks may have made their fable of Icarus. Aruna's imperfect form has been supposed to be allusive to his partial appearance, his head and body may be seen, but his legs are yet in invisible night, or lost in the blaze of Surya's brilliancy. The images of Garuda are set up and worshipped with those of Vishnu, in the temples dedicated to that deity. Sculptured images of him are also found in the magnificent cavern temples of Elephanta, Ellora, &c., &c. In the last mentioned excavation he is seen in several places accompanying Parvati, the consort of Siva. Garuda has many names. He is called Superna, from the beauty of his plumage, which in the pictures of him is of rich blue, red, and green, colours embellished with the variety of gems which usually adorn the hindu deities. He is also termed Naga-antaka, or the enemy of serpents, Vishnu rat'ha, or the vahan of Vishnu, &c. &c. In many of the vaishnava temples, Garuda is represented as a man with wings, and is so sculptured on the pillars, or large plaster figures are placed at each corner of the temple walls. In the Elephanta cave, Garuda is often seen with an appendage, and on several very old coins, he has snakes or elephants in his tail or beak; for he is sometimes spread double headed, like the Prussian eagle —and one snake round his neck. But he is not so represented either in pictures or casts. Some legends make Garuda the offspring of Kasyapa and Diti. This all-prolific dame laid an egg, which it was predicted would produce her a deliverer from some great affliction: after a lapse of five hundred years, Garuda sprung from the egg, flew to the abode of Indra, extinguished the fire that surrounded it, conquered its guards, the devata, and bore off the amrita (ambrosia), which enabled him to liberate his captive mother. A few drops of this immortal beverage falling on the species of grass called Kusa, (the Poa cynosuroides,) it became eternally consecrated; and the serpents greedily licking it up, so lacerated their tongues with the sharp grass, that they have ever since remained forked; but the

boon of eternity was ensured to them by their thus partaking of the immortal fluid. This cause of snakes having forked tongues is still, in the popular tales of India, attributed to the above greediness; and their supposed immortality may have originated in some such stories as these; a small portion of amrita as in the case of Rahu, would ensure them this boon. In all mythological language, however, the snake is an emblem of immortality; its endless figure, when its tail is inserted in its mouth, and the annual renewal of its skin and vigour, afford symbols of continued youth and eternity, and its supposed medicinal or life-preserving qualities may also have contributed to the fabled honours of the serpent tribe. In hindu mythology serpents are of universal occurrence and importance, and the fabulous histories of Egypt and Greece are also decorated with serpentine machinery. Ingenious and learned authors attribute this universality of serpent forms to the early and all-pervading prevalence of sin, which is as old as the days of our greatest grandmother. If such writers were to trace the allegories of sin and death, and the end of their empire, they might discover farther allusions to the christian dispensation in the traditions of the hindus than have hitherto been published. Krishna crushing, but not destroying, the type of sin, has been largely discussed. Garuda is also the proverbial but not the utter destroyer, for he spared one, they and their archetype being, in reference to created beings, eternal. His continual and destined state of warfare with the serpent, a shape mostly assumed by the enemies of the virtuous incarnations or deified heroes of the hindus, is a continued allegory of the conflicts between Vice and Virtue so infinitely personified. Garuda, appears the coadjutor of all virtuous sin-subduing efforts, as the vehicle of the chastening and triumphant party, and conveys him on the wings of the winds, to the regions of eternal day. Bartolomew says, that the vehicle of Vishnu is called Paranda? in the language of Malabar, where it is held in great veneration, particularly by women; and if one of these animals snatch a fish from their hand, they consider it as a most fortunate omen. The bird here alluded to, is the Pondicherry or Malabar eagle; the Haliætus Pondicherianus, *Linnæus*, commonly termed the Brahmany kite. It is this bird that the friar must have seen pouncing on the fish-baskets borne by the Makati (women of the Makwa, or fishing tribe), on the coast of Malabar. The Brahmany kite is very useful in the populous sea-port towns of India in removing carrion and refuse and is never killed. Its usefulness was, perhaps, originally the cause of its obtaining, like the cow, a protecting legend in the popular superstition of the hindus, as with the ibis, and ichneumon in Egypt, where filth and noxious animals abound. Major Moor mentions as one instance of this birds boldness of which he was a witness, viz. its stooping, and taking a chop off a gridiron standing over the fire that cooked it. The religious hindu feeds these birds on holidays, by flinging up little portions of flesh, to which they are attracted by the call Hari! Hari!—*Moor*, p. 447. *Cole. Myth. Hind*, p. 374. *Tod's Travels. Taylor's Mackenzie MSS.*, p. 57. *Cole. Myth. Hind. Inscriptions* p. 379 to 383. *Krishna*, p. 545. See Garuda. Surya, Vahan, Arian. Nandi, Ravana, Serpent. Siva, Vahan, Veda, Vishnu, Vrishala.

GARUDA-BASIVI. A Murali or deva-dasi woman devoted to Siva.

GARUDA PURANA. See Serpent.

GARUDA MALLE. TEL. A species of Jasminum, probably J. angustifolium. Its bitter root is used medicinally.

GARUDA MUKKU. TEL. Martynia diandra. *Glox.*

GARUDAR. HIND. Elsholtzia polystachya.

GARUGA PINNATA. *Roxb.*

Toom,	BENG.	Carrivembu maram,	TAM.
Khyong-youk,	BURM.	Garnga chettu	TEL.
Kuruk,	HIND. MAHR.	Kalugudu,	„
Kanghur,	„		

In Coimbatore, a considerable sized tree, with a round umbrageous head; leaves pinnate, deciduous; flowers of a yellowish white, in panicles covered with a mealy kind of white substance; fruit size of a small plum, used for pickling. Grows in Coimbatore, is common in the Bombay jungles, where the wood is thought of little value; but might be creosoted. The tree is rather common in the plains and on the hills of British Burmah, but the wood is not much used. A cubic foot weighs lbs. 52. In a full grown tree on good soil the average length of the trunk to the first branch is 40 feet and average girth measured at 6 feet from the ground is 9 feet. It sells, in Pegu, at 8 annas per cubic foot.—*Drs. Riddell, Wight, Gibson and Brandis, Cal. Cat. Ex.* 1862.

GARUKI. A town in the Hormara district, a sterile province, subject to Las. The Gujar tribe occupy Jab-Malan: Garuki is occupied by the Sangur tribe, and at Hormara in Mekran, with 400 houses is a tribe of this name. The Hormara tribe say they came originally from Sind. See Kelat.

GARUNDA. Hind. of Murree Hills, Carissa diffusa.

GARVANZOS. Sp. Cicer arietinum.

GAS. Sp. Achyranthes aspera. *Linn.*

GASAGASALA CHETTU. Tel. Alysicarpus styracifolius. *D. C.*

GASAKA. Sans. poppy-seed.

GAS-MADDOO. Singh. A snare: one kind is called gas maddoo, tree-snare, to distinguish it from the smaller, called atmaddoo hand-snares.—*Forbes' Eleven years in Ceylon*, Vol. II, p. 58.

GAS-MIRIS. Sing. Cayenne pepper.

GASPAR BALBI. A traveller in India from 1579 to 1588. See Balbi.

GASPAR ISLAND or PULO GLASSA, in lat. 2° 25′ S. long., 107° 6′ E. and 14 miles east from Batavia, has on it a peaked hill, visible for 30 miles, and is a principal mark in sailing to or from the Gaspar Straits.—*Horsburgh.* See St. Barbe.

GASPAR STRAIT, is formed between the island of Banca on the west and Billiton on the east. It was named after a Spanish Captain who passed through it from Manilla in 1724. Many navigators prefer this Strait to that of Banca.—*Horsburgh.*

GASTEROPODA. The third class of mollusks, according to the system of Cuvier, who remarks that it is very numerous, and that an idea may be formed of it from the slugs and shell-snails.

According to other classifications it is the second class. It comprises 4 orders 40 families and many species, viz.:—

Order i. Prosobranchiata.

Sec. A. Siphonostomata, Carnivorous gasteropods.
Families Strombidæ; Muricidæ; Buccinidæ; Conidæ; Volutidæ; Cyprœidæ.
Sec. B. Holostomota; Sea-snails.
Families Naticidæ; Pyramidellidæ; Cerithiadæ: Melaniadæ; Turritellidæ; Littorinidæ; Paludinidæ; Neritidæ; Turbinidæ; Haliotidæ; Fissurellidæ; Calyptroidæ; Patellidæ; Dentalidæ; Chitonidæ.

Order ii. Pulmonifera.

Sec. A. In-operculata.
Families Helicidæ; Limacidæ; Oncidiadæ; Limnæidæ; Auriculidæ.
Sec. B. Operculata.
Families Cyclostomidæ: Aciculidæ.

Order iii. Opisthobranchiata.

Sec. A. Tecti-branchiata.
Families Tornatellidæ; Bullidæ; Aplysiadæ; Pleurobranchidæ; Phyllidiadæ.
Sec. B. Nudibranchiata.
Families Doridæ; Tritoniadæ; Æolidæ; Phyllirhoidæ; Elysiadæ.

Order iv. Nucleobranchiata.

Families Firolidæ; Atlantidæ.

Eng. Cyc. vol. II, *p.* 924. *Woodward's Manual.*

GASTRODIA SESAMOIDES, *R. Br.* A curious herbaceous species of orchis, native of New Holland, is edible, and preferred by the aborigines to potatoes and other tuberous roots: being a parasitic plant, it could scarcely be systematically cultivated. It flourishes in its wild state on loamy soil in low or sloping grounds, and, in the spring, appears as a whitish bulb above the sward, of a hemispherical shape, and about the size of a small egg. The dusky white covering resembles a fine white net, and within it is a pellucid gelatinous substance. Again within this is a firm kernel, about as large as a Spanish nut, and from this a fine fibrous root descends into the soil. It is known in Van Diemen's Land and Australia, by the common name of native bread, also wild yam. —*Simmonds.*

GASSIM. See Jakun.

GASTOROSTEUS DUCTOR; Pilot fish.

GATA. Hind. (1) a plot, or piece of land; (2) two bullocks in yoke, treading out the grain; (3) a brahmin or banya associating with a strange woman.

GATA. Tel. Diospyrus sylvatica.—*Roxb.*

GATHA. Sans. A song, the songs of Zarathrusta.

GATHI. Hind. Bell. See Gantha.

GATPARBAH. A river of the S. Maharatta country.

GATRINTA. V. Tel. Hugonia mystax, L.—*W. & A.*

GATTARU. An outcast race in Ceylon.

GATTA. Hind. Allium cepa.

GATWA. Hind. A kind of grass in Lahore.

GAU. Hind. Carissa diffusa.—*Roxb.*

GAU. Sans. Earth, land, the German Gau, Armenian Gawar, land, province. It was also a settlement of the Aryans near Sogdiana.

GAUDA. Kar. An agricultural tribe in Mysore, sometimes labourers, small farmers under a lease from the land-holders.—*Wilson.*

GAUDAMA. A Buddha of Burma, prior to Sakya Sinha.

GAUDAMA. An image of Buddha Gaudama. They are largely manufactured in Burmah, in marble, wood, stone and metals.

GAUDA-PALEN. A buddhist temple at Paghan "Gauda Palen," signifies the Throne of Gaudama. Height 180 feet. It is cruciform in plan. It is very conspicuous in approaching Paghan from the southward, with numerous pinacles and tall central spires, it is seen glistening with its white stucco like plaster, far down the Irrawaddy river rising like a dim vision of Milan Cathe-

dral. It is compact in structure and elevated in proportion to its bulk. It has a massive basement with porches and rising above in a pyramidal gradation of terraces crowned by a spire "htee." From the top of the terrace, just below the spire, is a fine prospect of a vast field of ruined temples stretching North east and South-west.

GAUDA. TEL. A bricklayer race of hindus.

GAULA. A milk man, the Gaula race are tall, robust and fair. Those of the Peninsula of India have no resemblance to any other race in the Dekhan. The name is evidently from Gala, milk. They are pastoral and migratory.

GAULIGA of Mysore, rear buffaloes, sell milk and ghee and accompany camps —*Wilson.*

GAULTHERIA NUMMULARIA and several other plants which extend into the North-west Himalaya are also found in the Javanese mountains nearly 3,000 miles distance. Some of these have already been found in intermediate localities, as the Gaultheria, which occurs along the whole Himalayan range, and in the Khasia, and which will probably be found in the mountains of the Malay peninsula and of Sumatra; many other Java plants are more uniformly spread over the hilly districts of India and Ceylon. G. fragrantissima, and G. trichophylla also occur in the Himalaya, but are represented by a few species in the plains of the Punjab, on the outer slopes of the western Himalaya, and even on the Khasia mountains. Spiræa Kamtchatica, chamœdrifolia, and sorbifolia, and Paris polyphylla, are other Siberian forms which extend into the rainy Himalaya, and Corydalis Sibirica and Nymphæa pumila are remarkable instances of specific identity between Khasia and Siberian plants.

GAUMEDI. MOLUCCAS. Caryophyllus aromaticus. *Linn.*

GAUNDI. TEL. A bricklayer.

GAUNRI. HIND. Trapa bispinosa.

GAUR. A province north of Ghuzni, gave the Gori dynasty to India. It and Balkh are separated from the Seistan by the Paropamisan chain. See Gour.

GAURI. See Gouri.

GAURI COW or GWARIKA of the Indian forests, is the Gowri Gao of Nepaul, one of the Bovine family. See Bos.

GAURIKUND. In L. 30° 36', N. L. 79° 3', in Garhwal, is on the right bank of the Mandagni, below Kidarnath. The heights above the sea are as under:

Hot springs - - -	6,417 ft.
Upper limit of wallnut - -	8,116 ,,
Upper limit of chesnuts -	10,016 ,,
Upper limit of "kanchua" -	10,559 ,,

Robert Schlagent.

GAURI SANKAR, the Nepaulese name of a mountain in the Himalaya of Nepal in Lat. 27° 59' 17" N. and Long. 86° 54' 40" E. attaining a height of 29,000 feet above the sea, it is also called Mount Everest, and in Tibetan, Chin-go-Pa-mari. It is on the Nepal and Tibet frontier, and is the highest mountain of our globe as yet measured. The hindu name is from Gauri-white, or fair, a name of Parvati, the wife of Siva; and Sankar, or Sankara, one of the forms, assumed by Siva. Gaurisankar is the term in use, among the hindu pandits of Nepal; its signification shows a remarkable identity with the meaning of the name Chamalhari, the prominent object of western Bhutan. The name given to Gaurisankar by the Tibetans, and that by which it is generally known in the northern-most parts of Nepal is Chin-go-pa-ma-ri.

GAURI SANKAR. In hinduism, is the term usually given to the idol of Siva or Mahadeva and Parvati, in which she is sculptured sitting on Mahadeva's knees, with the bull Nandi at his feet and the Sinha or lion at hers.

GAUTAM HIND. A branch of the Chandravansi, or lunar family of rajputs, very numerous in the lower Doab, and formerly very powerful. Offshoots from them, termed Gautamian are settled in Azimgarh. *Wilson.*

GAUTAMA. Also written Gaudama, and Gotama, in the mythical legends of hinduism, the father of Kripa.

GAUTAMA. A name of Buddha.

GAUTAMA. One of the seven Rishi. See Brahmadica.

GAUSAM. HIND. Schleichera trijuga.

GAUSHIR, also Jaushir; Opoponax.

GAUZEREH. PERS. Bezoar: Calculus cysticus.

GAVAKSHI VRIKSHAMU. TEL. A species of Cucumis, probably, C. pubescens (Maderaspatanus).—*W.* and *A.*

GAVELKIND. ENG. The equal division of the inheritance amongst the sons. It was brought to England by the Jut brothers who settled in Kent. It was the custom of the Getic hordes, and is still followed by the Jharija rajputs. See Polyandry.

GAVIAL. See Gharial, Crocodile.

GAVITELLI. IT. Buoys.

GAVU. TEL. See Hindu.

GAWILGHUR. A fortress and hill about 21 miles N. W. from Ellichpoor. It is in Lat. 21° 22' N. 77° 21', E. in Berar

in the hills of the Vindhya range. It was taken by storm on the 15th December 1803. The Gawilgurh hills separate the Tapti and Purna. They rise in peaks to heights of 3,000 feet. Mean height of the Gawilghur village is 1,043 feet. *G. T. S.*

GAWN. GUZ. Triticum æstivum.

GAW-SHIR. PERS. Opoponax.

GAW-ZERAH also Padzahr-i-kani. PERS. Bezoar.

GAWPURGEE. HIND. Arnotto,

GAYA. A town in Bahar province. It was the birth place of the Gautama, Sakya Sinha.

Gaya is Fa Hian's Kia Ye. It is famous for the hindu Vishnupud, which is a rival counterpart of the impression of Buddha's foot and Gaya and Bood'ha Gaya in each others proximity point out the alternate predominance of the antagonistic hindoo and buddhist sects. The Vishnupud had been set up prior to Fa Hian's visit.

The Gayalese widowers are barred the privilege of wiving after the death of their first wife, as hindoo widows are barred the privilege of taking a husband after the death of their first husband. This savours of the celibacy of the Buddhaic priests. There are two places of the name of Gaya, one of which is called Budd'ha Gaya, Buddhistical Gaya, to distinguish it from the town of Gaya, which is situated six miles to the northward. In the town of Gaya itself there are no ancient buildings now existing; but most of the present temples have been erected on former sites and with old materials. Statues, both buddhistical and brahmanical, are found in all parts of the old city, and more especially about the temples, where they are fixed in the walls, or in small recesses forming separate shrines in the court-yards of the larger temples.

Budd'ha Gaya is famous as the locality of the holy pipal tree, under which Sakya Sinha sat for six years in mental abstraction, until he obtained buddhahood. A long and detailed account of this sacred place is given by the Chinese pilgrim Hwen Thsang, between the years A. D. 629 and 642. He describes minutely all the temples and statues which surrounded the celebrated pipal tree, known throughout the buddhist world as the bodhi-drum, or "tree of knowledge." Several of the objects enumerated by the Chinese pilgrim can still be identified from their exact correspondence with his description. *Tr. of Hind.* Vol. I. p. 223. *Arch. Surv. Report* Vol. XXXII. *Beng. As. Soc. Journ.* 1864. See Bakror; Punawa; Kurkihar; Rajgir; Bhitari; Bihar; Buxabur; Kesarya; Buddha. Inscriptions, p. 378. Lakshmi.

GAYAC. FR. Guaiacum officinale.

GAYA or Geddy—? Jewellery.

GAYAPU AKU. TEL. Sida humilis. *Willd. W. and A.* also S. radicans.—*Cuv. W. and A.* From gayam "a wound" aku "a leaf." The leaves are used as a styptic. *Elliot.*

GAYASHAA. The tea-house girl of Japan. They are virtuous; it is part of their profession to assist at the orgies of the Pans and Nymphs. *Hodgson's Nagasaki*, p. 240.

GAYATRI. From the Sanscrit Goi to sing, the most sacred verse of the Vedas. See Gaetri: Gatha.

GAYER. MALAY. A fruit of Singapore. Its seeds are used as marbles.

GAYA KARMA. See Inscriptions, p. 390.

GAYSA GUSA. CAN. Poppy seed.

GAZ or Gazu, which is much used for making sweetmeats in Persia, is a glutinous substance, like honey, deposited by a small green insect upon the leaves of the oak tree. It is the manna of the chemist. See Diod. Sic., Book XVII, Chap. VIII. *Ferrier Journ.*, p. 500. See Gazanjabin.

GAZA. An ancient town which has still 15,000 inhabitants, is above 15 miles S. of Askelon, upon the edge of the desert, to which it stands in the same relation as a sea port to the sea. *Eothen's Travel from the East*, p. 240.

GAZA half a day's journey from Jaffa, occupies the summit of a mount about 3 miles from the sea, and contains about 3,000 people "The king shall perish from Gaza." "Baldness is come upon Gaza." See Zech. IX, 5, and Ezek. XXV. 16. *Robinson's Travels Palestine and Syria, Vol. I*, p. 23.

GAZANJABIN. PERS. The manna produced on branches of the Tamarix Indica, by the punctures of the Coccus maniparus. This is often called Arabian manna, to distinguish it from Turanjabin, Persian manna, from the Shir-kist or Khorasan manna and from Sicilian manna. See Gaza.

GAZEE PEER See Hot Springs.

GAZELLE. The name given to several species of antelope.

The Indian Gazelle is the Antelope Arabica, *Kemprich.*

The Gazella ruficollis is a beautiful Antelope of Eastern Africa, known there as the Andra. It is gregarious and resides in herds in the desert between Nubia, Dongóla and Kordofan. It is 5 feet 4 inches long and 3 feet high at the shoulder. Its horns 12½ inches long.

The Ahu or Jairou, is the Gazella subguttirosa and it inhabits all the central

parts of Asia around the Baikal lake, Daüria, Persia, and from East Bucharia to the Black Sea. It assembles in large herds on open plains. See Antelope. Cervus.

GAZLU. Tel. Bangles.

GAZNAVI, from the town of Ghuznee, a dynasty of kings who ruled there and over part of India from A. D. 1002 when Mahmud ruled, till the date of Khosru Shah's death, in 1157. See Ghazni.

GAZPIPAL. Hind. Plantago major; also Abies Smithiana.

GAZZA EQUULÆFORMIS. *Ruppell.* In the Straits of Malacca this species is very numerous at all seasons, and forms like the rest an article of food.

GBEIG. Beng. Goitre, also called Anbi, and in Bootan, Ba, or Ke Ba. The swelling forms immediately below the chin, extending from ear to ear, and grows sometimes to such an enormous size as to hang from the throat down upon the breast. It prevails among the people inhabiting the Morung, Nepal, and Almora hills. It is particularly met with in the low lands adjacent to these hills, from the frontier of Assam, through Binjee. *Turners Embassy*, p. 87.

GE. Hind. Corylus colurna.

GEASTER LIMBATUS and G. mammosus are Fungi.

GEBANG PALM. The Corypha gebanga, *Blume*, of Java, a useful tree, thousands of boys and girls are employed in fabricating its leaves into baskets and bags: thatch, and broad brimmed hats are made of them; fishing nets and hats are woven from their fibre and ropes are manufactured from their stalks *Seeman.*

GEBANTÆ, also known as the Catabeni, a race who occupied the country immediately within the Straits of Bab-ul-Mandeb. Their sea-port was Okelis, which was long the centre of commerce between Europe and the East. Its ruins are situated about a mile inside the Straits, at a place called by the natives Dakooa. See Okelis.

GEBBE. An island in the Eastern Archipelago, between N. Guinea and Gilolo, not far from Gilolo. The island is occupied by a Negro race, with nose flat; the lips thick and projecting, the complexion a dark olive, the eyes deep seated, and, on an average, the facial angle 77 °, but as high as 81 °. In Gebbe and Waigyu and in some parts of the coast of N. Guinea the complexion is lighter and the peculiar texture of the Negro hair is absent. See India 353. Papuan. See Geby.

GEBRAUNTE MAGNESIA. Ger. Magnesia usta. See Magnesia.

GEBY. See Gebbe.

GEB'L. Any mountain, the Egyptian pronunciation of the Arabic Jabl, such as Geb'l Musa, Geb'l Afrit, Geb'l Dukhun, Geb'l Gu, Geb'l Tur. The porphyry quarries of Gebel Dukhan, the Mons Porphyritis of the Romans, are probably coeval with the celebrated breccia quarries of Wadi Keneh, and worked in the time of the first Osertasen, the supposed Pharoah who ruled over Egypt in the time of Joseph. The beautifully coloured porphyries, green, purple, and red, and much of the basalt used in ancient Egyptian sculpture were derived in great measure from Gabel Dukhan and its vicinity, whence they were probably conveyed to Coptos on the Nile, and thence easily distributed to various parts of Egypt. The Wadi from Gebel Dukhan to Keneh, the ancient Koinipolis, a little N. of Coptos, is to this day called the Stikket-el-Arabiyeh, the High road of the Carts. An inscription on the frieze of the temple near Geb'l Dukhan, bears the name of the emperor Adrian, with the surname of Trajan, whose son, by adoption he was. The temple is dedicated to Serapis the great, (with his titles of Pluto and the Sun, ΔΙΙ ΗΛΙΩΙΜΕΓΑ ΔΩΙΣ ΑΡΑΙΙΙ ΔΙ and to the other gods in the same temple. Small temples, to Sarapis are very common in the vicinity of mines and quarries, as Pluto is supposed to preside over demons and the evil genii, who, the orientals imagine, watch over the treasures of the earth, Gebel Dukhan lies in about latitude N. 27 ° 16′ and longitude E. 33. There is an ancient road leading from it to Myos Hormus, an old port on the Red Sea from which it is distant about 32 miles as the crow flies.

In Wadi Billi, there are ruins of signal-posts, mile-stones, guard-houses, forts, wells and stations. Near Ain Abu Markhah are quarries, and traces of buildings, Sakiya or watering places, gardens, a citadel, magazines, brothels, sacred groves, temples, priest's residence, baths, forum, villages, grottos, pottery, green sarcophagus, troughs, blocks of green, and purple porphyry and of black grey-veined breccia. Many tarantulas, "Abu Shebbath" literally, father of the spiders. Wadi Guttar runs in the direction of the crags of Gebel Dukhan, but after passing the well in the middle of the Wadi, it sweeps southerly towards Gebel Altarash, runs into Wadi Keneh receiving along its course the Wadi Altarash, Gerzoo Kohel and others. The well station in the middle of Wadi Guttar below the Mazra, is 150 feet square; it contains remains of buildings with strong walls and there are the remains of buildings, stables and out-houses outside. At Tellaat el Um, Gesher, is a Roman station

of unburnt brick with an area of a fort with towers at the angles : it bears S. S. W. by S. from Gebel Dukhan. A large gateway in the centre opens upon the valley. The enclosure contains a saki, and a cistern of cement 200 feet by 15. The old Roman station of Gebel Gir stands on a hill. There are still the remains of a reservoir and a lake 300 feet in diameter and 20 feet deep, also of several cisterns and three aqueducts, attached to the station. In the valley are the traces of regularly laid out stables and lodgings built of limestone. *The Eastern Desert of Egypt, from Gebel Afrit, by the ancient Porphyry quarries of Gebel Dukhan, near to the old station of Gebel Gir, with a brief account of the ruins at Gebel Dukhan by Hekekyan Bey.*

GECARCINUS. A genus of land crabs, called by the French Tourlouroux, Crabes Peints, and Crabes Violets. G. carnifex and G. hirtipes occurs in India.

GECHCHANGI. Tel. Celastrus montana; *R.*

GECHHI-SHIM. Beng. Broad bean, Lablab-macrocarpum.

GECININÆ. A sub-family of birds of the family Picidæ, as under—

Fam. Picidæ.

Sub-fam. Campephilenæ, 6 gen. 16 sp. viz., 1 Campephilus ; 2 Hemicercus ; 4 Hemilophus ; 3 Chrysocolaptes ; 2 Brachypterus ; 4 Tiga.

Sub-fam. Gecininæ, 4 gen. 19 sp. viz., 12 Gecinus ; 1 Gaciuculus ; 3 Meiglyptes ; 3 Micropternus.

Sub-fam. Picinæ, 2 gen. 15 sp. viz., 1 Dryocophus ; 14 Picus.

Sub-fam. Picumninæ, 2 gen. 3 sp. viz., 1 Picumnus ; 2 Sasia.

Sub-fam. Yuncinæ, 1 gen. 1 sp. viz., 1 Yunx torquilla.

Sub-fam. Indicatorinæ, 1 gen. 1 sp. viz., 1 Indicator xanthonotus. See Birds, p. 470,

GECKO. A genus of Saurian reptiles, of the natural family Geckotidæ, the species of which are widely distributed throughout the world. In the Malay tongue, they are called Tokke or Tokai. In Burmah, the ordinary call of the house Gecko is "Tooktay." They are harmless, but their sudden clear call, and their hideous forms alarm strangers. A French traveller, M. Touquet, hearing his name pronounced, repeatedly answered to it. "Eh! bien," until made aware that it was the Gecko's call. There are in Ceylon Hemidactylus maculatus, *Dum et Bib.*, H. Leschenaultii, *Dum et Bib.*, H. frenatus, *Schlegel.* Of these, the last is very common in the houses of Colombo. Colour grey ; sides with small granules ; thumb short ; chin-shields four ; tail rounded with a transverse series of small spines ; femoral and frenal pores in a continuous line. *Gray*, Lizards, p. 155. The Geckoes, frequent the sitting rooms, and being furnished with pads to each toe, they are enabled to ascend perpendicular walls and adhere to glass and ceilings.

The Tokai or Takke, Malay, Le Gecko de Siam of Cuvier, are numerous in Siam but also occur in Java and other places of the Archipelago. It is from 6 to 9 in. long and marked with red and green spots and frequent tubercles. *Crawfurd's Embassy. Tennent's Sketches of the Natural History of Ceylon, p.* 281. *Gosse's Natural History, p.* 31.

GECKOTIDÆ. A family of Saurian reptiles.

Gen. Gecko verus *Merr.* Bengal. Assam. Andamans. Tenasserim.
Gen. Reevesii, China.
Gen. Chinensis, ,, and Japan.
Gen. Monarchicus. Amboyna, Borneo.
Gen. Smithii, Pinang.
Gen. G. stentor, Cantor, Andamans.
Gen. Ptychozoon chomalocephalum. *Dum. et Bib.*, Pegu.
Gen. Hemidactylus coctæi, *D. et B.*, Calcutta.
H. Kelaarti, *Theob.*, Ceylon.
H. Leschenaultii, *D. et B*, Nilgiri, Ceylon.
H. maculatus, *D. et B.*, Ceylon.
H. sublœvis, *Gray*, Mergui, Ceylon.
H. fasciatus, *Gray.*
H. frenatus, Ceylon.
H. vittatus, ,,
Gen. Peripria Cantoris, *D. et B.*, Andamans.
Gen. Nycteridium platyurus, *Schneid.*
Gen. Doryura Berdmorei, *Blyth*, Mergui.
Gen. Phelsuma cepedianum, *Per.*, Maurit.
P. Andamanense, *Blyth*, Andam.
Gen. Gymnodactylus Jerdonii, *Theob.*
G. Geckoides, Spix., Salt range.
G. triedrus, *Gunth.*, Ceylon.
G. pulchellus, *Gray*, Pinang, Singapore
G. frenatus, *Gunth.*, Ceylon.
G. Kandianus, *Kelaart*, Ceylon.
G. Mysoriensis, *Jerdon*, Bangalore.
G. Indicus, *Gray*, Nilgiri.
G. Malabaricus, *Jerdon*, Malabar.
G. littoralis, *Jerdon*, Malabar.
G. Deccanensis, *Sykes*, Dekkan.
Gen. Naultinus variegatus, *Blyth.* Tenass.
N. fasciolatus, *Blyth*, Sabathoo.
Gen. Puellula rubida, *Blyth.*, Andamans.
Gen. Eublepharis Hardwickii, Chiabassa, Pinang, Chittagong.
E. macularis, *Blyth*, Salt range.
Gen. Homonota fasciata, *Blyth*, Central India.
Gen. Platyurus schneiderianus, Java.
Gen. Boltalia sublvis, India.
Gen. Peropus mutilatus, Manilla.
Gen. Theconyx seychellensis, Seychelles.
Gen. Pentadactylus duvaucellii, Calcutta, India.
Gen. Tarentola borneensis, Borneo.
Gen. Goniodactylus timorensis, India.
Gen. Cyrtodactylus marmoratus, Java, Philippines.
C pulchellus, Singapore.
Gen. Heteronota Kendallii, Borneo.

GEDANGI MOGALI. Tel. Pandanus odoratissimus.—*Linn.*

GEDAUN, in Beluchistan, the tent of black felt, in which families reside. The Afghans call it Kizhdi, the Turks Kara Ulli: and the Persians Siah Chadr. It is the "Namdah" of India, from which is the Indo-European word nomade. See Afghan. Biluchi.

GEDE. Tel. A Buffalo.

GEDE DULAGONDI. Tel. also Enuga dulagondi or Elephant cowhage, Mucuna atropurpurea. The first words mean "buffalo cowhage."—*D. C.*

GEDEE. A cliff in Karang Bollong.

GEDE MANDA. Riocreuxia bubulina. *Ell.*

GEDE PEYYARA CHETTU. Tel. Combretum ovalifolium, *R.* The words mean "buffalo-calf tree."

GEDIA. The fruit of the jack-tree, Artocarpus integrifolia.—*Linn.*

GEDROSIA of the Greeks, the modern Mekran. See Kej.

GEELKOPER. Dut. Brass.

GEER. A tract in the south of the Guzerat peninsula, stretching 50 miles East and West and 30 miles N. and S. It consists of ridges and hills covered with dense forest trees and jungles, and full of almost inaccessible fastnesses which for ages gave shelter to robbers, outlaws and the Aghori fanatics, said to be canibals. See India, 334. Kattyawar.

GEERI, GOTOOMBA. Sans. Xanthochymus.

GEESB. A small village on the southern bank of the Nile, opposite to Masr-el-atik. Its origin is unknown.—*Niebuhr's Travels, Vol.* i. *p.* 65.

GEESH-PATI. Sans., from gir a word, and pati, a lord.

GEESOO. Tib. Koutouktow, Mongol, amongst the Mongols, the title of the highest class of the priests of buddha. The one resident at Oorga, is called by the Mongols, Gheghen Koutouktow. The Oorga high priest seems also to be called Geeso-tahba and is a regenerated Buddha of great sanctity. There are 30,000 Lamas under several heads at Oorga. See Kouren. Koutouktow.

GEETA. Sans., also Gita from Goi to sing a hymn or song. Bhagavat Gita, a divine song, a Sanscrit poem in the form of a dialogue, between Arjuna and Krishna. Geeta, is a discourse on the Yoga philosophy. See Bhagavat Geeta.

GEH. Hind. Kanawar, Corylus lacera, the hazel.

GEHAI. Hind., or Gawai, or Rul of the Sutlej valley, Eleagnus conferta.

GEHAR. A large class of child stealers in the valley of the Nerbuddah.

GEHELA. Mar. Randia dumetorum.

GEHENNA. This valley is celebrated for the inhuman and barbarous, as well as idolatrous, worship paid to Moloch; to which deity parents often sacrificed their offspring, by making them pass through the fire. (2 King's xxiii, 10; 2 Chron. xxvii, 3.) To drown the lamentable shrieks of the children thus immolated, musical instruments (in Hebrew termed Toph) were played; whence the spot, where the victims were burnt, was called Tophet. After the captivity, the Jews regarded this spot with abhorrence, on account of the abominations which had been practised there: and, following the example of Josiah, they threw into it every species of filth, as well as the carcasses of animals, and the dead bodies of malefactors, &c. To prevent the pestilence which such a mass would occasion if left to putrify, constant fires were maintained in the valley, in order to consume the whole: hence the place received the appellation of Gehenna. By an easy metaphor, the Jews, who could imagine no severer torment than that of fire, transferred this name to the infernal fire,—to that part of the invisible world, in which they supposed that the demons and the souls of wicked men were punished in eternal fire.—*Robinson's Travels, Palestine and Syria, Vol.* i., *p.* 107.

GEHLOTE, a rajput race founded by Bappa. They long held power in Saurashtra. Before they became saiva hindoos, they chiefly worshipped the sun. The name is also pronounced Grahlote and they are also called Sesodia. Arore, on the Indus is claimed by the Gehlote to have been their ancient site, and they claim to be the Balicaputra who occupied it. They were driven from Balabhipura when it was taken and sacked by the Huns or Parthians. The Gehlote cula is subdivided into twenty-four sacha, or ramifications, few of which exist:—

1 Aharya . . . at Dongurpoor.
2 Mangulia. . . In the Desert.
3 Seesodia . . . In Mewar.
4 Peeparra. . . In Marwar.

Gehlote and Cotemporary Princes.

Gehlote Princes.	Eras. Samvat.	Eras. Christian.	Caliphs of Bagdad and Kings of Gazni.	Eras. A. H.	Eras. A. D.	Remarks.
			Caliphs of Bagdad.			
Bappa, born ...	769	713	Walid (11thCaliph)	86 to 96.	709 to 715	Conquered India to the Ganges.
Bappa obtained Cheetore.	784	728	Omar II. (13th do.)	99 to 102.	718 to 721.	Sinde conquered. The Mori prince of Cheetore attacked by Mahomed (son of Kasim), the General of Omar.
Bappa governs Mewar.	...	....	Husham (15th do.)	104 to 125.	723 to 742.	Battle of Tours, A. D. 732, and defeat of the Caliph's army under Abdulrahman, by Charles Martel.
Bappa abandons Cheetore.	820	764	Al-Mansoor(21stdo	136 to 158	754 to 775.	Final conquest of Sinde, and the name of its capital, Arore, changed to Mansoora. Bappa, founder of the Gehlote race in Mewar, retires to Iran.
Aprajeet.. .. Khalbhoj.. ..	....	...	Haroon al Rashid, (24th do.)	170 to 193.	786 to 809.	Partition of the caliphat amongst Haroon's sons. The second, Al-Mamoon, obtains Zabulisthan, Sinde, and India, and ruled them till A. D. 813, when he became Caliph.
Khoman.. .. Bhartribhat. .. Sing-ji.. .. Ullut.. .. Nurbahan.. .. Salbahan.. ..	868 to 892.	812 to 836.	Al-Mamoon (26th do.)	198 to 218.	813 to 833.	Invasion and attack on Cheetore from Zabulisthan.
			Kings of Gazni.			
Sancti Komar. ..	1024	968	Aleptigin. ..	350	957	Inscription of Sancti-komar from ruins of Aftpoor.
Umba Pussao. .. Narvarma.. .. Jussoovarma. ..	....	....	Soobektegin. ... Mahmood.. ..	367 387 to 418.	977 997 to 1027	Invasion of India. Invasions of India, destruction of Aitpoor.

From the Gehlote have branched the two illustrious stems of the Seesodya and Aharya. They are spread over different parts of the N. W. Provinces; but, though they sometimes call themselves Seesodya, they are rarely known by any other name than that of Gehlote. The name Seesodya is said to be from Seesoo, a hare. Their neighbours, who for some unexplained reason are fond of imputing cowardice to them, say their name of Gehlote is derived from Gehla, a slave girl; but the real origin which is universally believed in Mewar is the following. When the ancestors of the rana of Mewar were expelled from Guzerat, one of the queens, by name Pooshpavuti, found refuge among the brahmins of the Mallia mountains. She was shortly afterwards delivered of a son, whom she called, from the cave (Goha), in which he was born, by the name of Gehlote, from him are descended the present ranas of Oodypoor. Their claim to be descended from Noshirwan and a Grecian princess which has frequently been discussed, invests this clan with a peculiar interest. *Elliot, Tod's Rajasthan*, Vol. I. p. 84.

GEHUN. Hind. Triticum æstivum, Wheat. The word is variously corrupted in the districts of India into Goon, Gohun, &c., &c.

GEKANTAKA. Sans. Asteracantha longifolia. *Nees.*

GELA. Hind. Mimosa scandens.

GELADA RUPPELLII. See Simiadæ.

GELASIMI, land crabs, most of these have a single large claw. They move about with that half erected and quickly retreat to their holes in the sand. There are several species known, G. annuli annulipes; G. dussumieri; G. tetragonum.—*Collingwood.* See Crabs; Crustaceæ.

GELATINE is very abundantly diffused through the animal kingdom. Though not contained in any of the healthy animal fluids it is obtained in large proportion from skins, from most of the white and soft parts of animals as cartilage, tendon and membrane; also from bone and horn. It is likewise found in large proportion in cartilaginous fishes and forms the natural cement of many shells. From all these gelatine may be extracted by simple boiling in water with different precautions in regard to cleaning. The preparation of gelatine in the form of glue from skins, &c., is well known in India, and described in the Persian works on

Materia Medica under the name of "ghur-ree-al-jallad," "sureshum-i-jild," and "sniss." From bones it may be obtained by the same process but with the assistance of pressure and still more easily if they have been first acted on by muriatic acid to remove the phosphate of lime. The obtaining of gelatine may thus give rise to a number of employments which may be practised wherever these offals are obtainable and the product in the form of gelatine can be turned to account. The solution of gelatine which on cooling becomes a tremulous mass, may by further evaporation be converted into a hard and brittle substance well known by the name of glue. This is made from the parings of hides or horns of any kind, the pelts obtained from farriers, the hoofs and ears of horses, oxen, calves, sheep, &c. In France it is made from the raspings and trimmings of ivory, the refuse pieces and shavings left by button-mould makers and from other kinds of hard bone. Size, again, is made by boiling down in water the clippings of parchment, glove leather, fishskin and other kinds of skin and membrane. This is used either alone or mixed with flour, paste, gum arabic or tragacanth and employed by bookbinders, paper-hangers and painters in distemper. Gelatine is one of the principal constituents of most of the animal substances employed as food and it is arranged by Dr. Prout among the albuminous group all of which he says "differ from the oleaginous and the saccharine principles in this respect that they contain a fourth elementary principle, namely azote."—*Royle on Isinglass, p. 5.* See Food. Isinglass.

GELBHOLZ, also Fustick. Ger. Fustic.

GELIDIUM CORNEUM. One of the Algæ; according to some narrators, it enters into the formation of the edible swallow nests of the Japanese islands. See Nostoc edulis.

GELIT. Dut. Litharge.

GELLATI. A Kurd tribe. See Kurdistan.

GELOCHELIDON. A genus of birds of the Family Laridæ, Sub-family Sterninæ. The Laridæ and its genera may be thus shown:—

Fam. Laridæ.

Sub-fam. Larinæ, 2 gen. 5 sp. viz.: 1 Catarracta; 4 Larus.

Sub-Fam. Sterninæ.

Div. 1 Skimmers, 1 gen. 1 sp. viz.: 1 Rhynchops albicollis.

Div. 2 Marsh Terns, 7. gen. 10 sp. 1 Sylochelidon; 1 Gelochelidon; 2 Hydrochelidon; 1 Thalasseus; 1 Seena; 3 Sterna; 1 Sternula.

Div. 4 Oceanic Terns, 2 gen. 4 sp. 2 Onychoprion; 2 Anous.

GELOCHELIDON ANGELICA. Sterna angelica: the 'Gull-billed Tern.' Warmer regions of the old world, extending also to America; Java: common in India.

GELONIUM LANCEOLATUM. *Willd. Roxb. Fl. Ind.* iii, *p.* 831.

G. bifarium, Willd. | Hsai-than-bayah, Burm.

This tree is not G. fasciculatum. *Roxb.* and not Erythrocarpus glomerulatus.—*Blume.* It is found in the Rangoon district, it seldom exceeds three feet in girth. Wood white color, fit for house posts and adapted for every purpose of house-building. It is common in rather open forests, up to an elevation of 4,000 feet. It is a very variable plant; and Mr. Thwaites thinks that all the specimens he had seen of the genus, from different and distant parts of India, might with safety be referred to one species.—*Thw. En. Pl. Zeyl. p.* 274.

GELUM. Tibet. A Monk.

GEMITORES. The Pigeons, an order of birds including one family and three subfamilies, as under:—

Fam. Columbidæ.

Sub-fam. Treroninæ; 5 gen. 3 sub-gen. 23 sp. viz.: 3 Toria; 8 Treron; 3 Sphenocercus; 4 Ptilonopus; and Carpophaga.

Sub-fam. Columbinæ, 7 gen. 21 sp. viz.: 2 Alsocomus; 3 Palumbus; 2 Columba; 4 Macropygia; 2 Geophilia; 7 Turtur; 1 Calcophaps.

Sub-fam. Gourinæ, 1 gen. 1 sp. viz.: Calænas nicobarica.

GEMS, called precious stones, also precious gems, are mostly minerals, remarkable for their lustre and beauty. Precious stones are frequently mentioned in the Bible in Ex. xxxv, 27; xxviii, 17 to 20; xxxix, 10 to 13. Ez. xxviii, 13. Is. liv and 12. Ez. xxvii and 16. Job xxviii, 18. Ez. iii, 9. They have always been in high esteem in all countries where political changes have been frequent or violent. From their small bulk and consequent portability, they have always risen in price during wars. In the great French revolution from 1789 to 1796 diamonds are stated by Mr. Emanuel to have doubled their usual price. The prices of those of larger value are also regulated by the demand and by the fancies of purchasers.

Transparency, brilliancy, lustre and freedom from defects, to be of value, should also have associated with them the exact quantity of colouring to furnish the desired tint.

Mr. Emanuel informs us, (p. ix.) that, as with many other things, most of what has been written upon gems is only simple reprint, or, at most, compilation from previous writers.

The precious minerals, though mostly tropical, occur in many countries, and generally in rocks or deposits differing widely from them in appearance but generally in granite or gneiss, or are washed into beds of rivers, they are generally accompanied by the precious metals and often various kinds of gems are found together.

Many of those known to the ancients are not now recognised. Akik, Arab is any gem of red hue, cornelian or ruby. The sapphire of the Greeks and Romans is described as intermixed with gold, but, according to Mr. Emanuel, that of Scripture was a transparent blue stone.

Gems are often imitated and Mr. Emanuel lays much stress on the hardness of a stone as a test for gems. Doublets are partly true gems above, and partly false, being a portion of a true joined artistically to glass or other gem below. Lapidaries are sometimes deceived by false gems and Birmingham sends many blue cutglass false gems to Colombo for sale.

The diamond was considered by the Romans a remedy against incubus and succabos. The ruby against poison: the jacinth procured sleep: the sapphire procured favour with princes. It was on tables of the sapphire, so often mentioned in holy writ, that the ten commandments were engraved: it was also supposed to preserve the sight; the chrysolite assuaged wrath. Each of the twelve apostles was symbolised with a precious stone. Peter by jasper, John by emerald and so on. A sardius, was placed in the breast plate of the jewish high priest, and any precious stone of

a red hue was supposed by the Jews to be a preservative against plague, and, amongst the Arabs, to be useful in stopping hæmorrhage. The topaz was so named from the island Topazion in the Red Sea. The carbuncle, in Hebrew, Barĕkăt, signifying flashing stone, or lightning stone, was supposed to fall from the clouds, amid flashes of lightning. The Nophek of the Old Testament, translated emerald, seems to have been a carbuncle. The carbuncles of superior brilliancy are called "males" and those of inferior colour females.

The value of the ruby exceeds that of every other gem. The precious opal is the most beautiful of all gems. Its price depends on the play of colours displayed. The hydrophane or Mexican opal loses its beauty when exposed to water.

Since the middle of the 19th century, fresh sources of precious stones have been discovered near Melbourne in Australia and at the Cape of Good Hope colony and much alteration has occurred in the prices. Gems have been selling in India, at 25 per cent. higher than in London. In Australia, the rare varieties of corundum, the oriental emerald and topaz, have been obtained, and artificial gems have been more largely manufactured. India, however, long famed for its wealth in gems, continues largely to export them, and in the four years 1856-7 to 1860-1; the quantities exported were valued at more than half a million sterling, four-fifths of that amount having been sent to Aden and Suez.

Table showing the value of precious stones exported from India to all parts of the world from 1856-57 *to* 1860-61.

Years.	Whence exported.	Countries whither exported.							Total exported to all parts.
		United Kingdom	France.	Other parts of Europe.	Suez and Aden.	China.	Arabian and Persian Gulf.	Other parts.	
		Value.	Value.	Value.	Value.	Value.	Value.	Value.	Value.
		£	£	£	£	£	£	£	£
1856-57.	Bengal	16,776	272	1,122	1,800	250	.. ..	971	21,191
	Madras	8,205	70	35	.. ..	.. ..	. ..	290	8,600
	Bombay	.. .	13,000	.. ..	84,908	3,546	5,195	1,784	108,433
	All India	24,981	13,342	1,157	86,708	3,796	5,195	3,015	138,224
1857-58.	Bengal	9,618	261	2,125	5,060	50	.. ..	416	17,530
	Madras	14,915	... ..	.. ..	.. ..	.... ..	. ..	134	15,084
	Bombay	22	3,000	.. ..	61,304	4,459	6,839	2,591	78,215
	All India	24,590	3,261	2,125	66,364	4,509	6,839	3,141	110,829
1858-59.	Bengal	16,296	.. ..	.....	8,530	1,958	.. ..	746	27,530
	Madras	9,927	1,000	.....	....	60	.. ..	536	11,523
	Bombay	12,129	.. .	.....	66,318	8,865	1,486	397	89,195
	All India	38,352	1,000	.....	76,848	10,883	1,486	1,679	128,248
1859-60.	Bengal	7,645	710	.....	10,990	6,542	.. ..	698	26,585
	Madras	2,243	470	.....	. ..	280	.. ...	1,947	4,940
	Bombay	18	1,800	.....	90,206	15,018	3,623	644	111,309
	All India	9,906	2,980	.....	101,196	21,810	3,623	3,289	142,834
1860-61.	Bengal	7,955	2,140	.....	7,490	1,317	.. ..	2,363	21,965
	Madras	1,578	115	.....	. ..	150	.. ..	913	2,756
	Bombay	1	600	.....	108,309	9,367	9,963	787	129,027
	All India	9,534	3,555	.....	115,799	10,834	9,963	4,063	153,748

The prices of gems seem always to have been higher in Asia than in Europe. Tavernier tells us "there are but two places in all the East where coloured-stones are found, within the kingdom of Pegu and the island of Ceylon. The first is a mountain twelve days journey, or thereabouts, from Siren, towards the North-east, the name whereof is Capelon. In this mine are found great quantities of rubies and espinels or mothers of rubies, yellow topazes, blue and white sapphires, jacinths, amethysts, and other stones of different colours. Among these stones which are hard, they find other stones of various colours that are very soft, which they call Bacan in the language of the country, but are of little or no esteem. Siren is the name of the city where the king of Pegu resides: and Ava is the port of his kingdom. From Ava to Siren you go by water in great flat bottomed barques, which is a voyage of sixty days. There is no going by land, by reason the woods are full of lions, tigers, and elephants. It is one of the poorest countries in the world, where there is no commodity but rubies; the whole revenue whereof amount not to above a hundred-thousand crowns. Among all the stones that are there found, you shall hardly see one of three or four carats that is absolutely clean, by reason that the king strictly enjoins his subjects not to export them out of his dominions; besides that, he keeps to himself all the clean stones that are found. So that I have got very considerably in my travels by carrying rubies out of Europe into Asia. Which makes me very much suspect the relation of Vincent le Blanc, who reports that he saw in the king's palace, rubies as big as eggs.

All rubies are sold by weights which are called Rati; that is, three grains and a half, or seven-8th of a carat: and the payments are made in old pagodas. Rubies of the following weights have been sold as under,

	Pags.
Of 1 rati,	20
Of 2⅛ rati	85
Of 3¼ rati	185
Of 4⅜ rati	450
Of 5 rati	525
Of 6½ rati	920

If a ruby exceed six rati, and be a perfect stone, there is no value to be set upon it.

The other place where rubies are found, is a river in the island of Ceylon, which descends from certain high mountains in the middle of the island; which swells very high when the rains fall; but when the waters are low, the people make it their business to search among the sands for rubies, sapphires and topazes. All the stones that are found in this river, are generally fairer and clearer from those of Pegu.

I forgot to tell you that there are some rubies, but more balleis-rubies, and an abundance of bastard rubies, sapphire and topazes found in the mountains that run along from Pegu to the kingdom of Camboya.

Coloured stones are also found in some parts of Europe, as in Bohemia and Hungary. In Hungary there is a mine where they find certain flint of different bigness, some as big as eggs, some as big as a man's wrist, which being broken, contain a ruby within as hard and as clean as those of Pegu." (*Chamber's Journal, June* 1868.) (*Tavernier's Travels*, p. 143, 144.)

Arabia has the topaz, the onyx, and the yemani or akik. The agate is found near Mocha, emeralds in the Hejaz, beryls and cornelian, near San'a and Aden, malachite in the cavern of Beni Salem, also jasper, amethyst, and turquoise, in the environs of the village of Safwa, about three days journey from Medina. Diamond, the sardonyx, and the topaz, were obtained from this country in former times. Of metals, silver, iron, lead, and copper, are met with in different parts of Arabia, and the last, recently in Oman. Gold is mentioned by the ancient writers, but at present is not known to exist in Arabia. Bitumen is obtained in Arabia Petræa; and in Arabia Deserta, lignite and coal.

In Ceylon, the ruby, amethyst, topaz, sapphire and cinnamonstone are found in great abundance, but not emeralds. Sapphire, spinell, chrysoberyl and corundum are found in Ceylon. The sapphires which are red, purple, yellow, blue, white and starstone, are met with at Matura and Saffragam, and rubies and sapphires at Badulla and Saffragam. The corundum is very plentiful at Battagamana, on the banks of the river Agiri Kandura. The great bulk of the gems, however, come from Ratnapura, which means the city of gems, the river near which is regularly worked. Ceylon affords all the varieties of quartz; as rock-crystal, amethyst, rose-quartz, cats'-eye, and prase. Rock-crystal occurs in abundance, both massive and crystalized, of various colours, good

quality and in large masses. Amethyst also is pretty abundant, very beautiful specimens of this mineral are found in the alluvion, derived from the decomposition of gneiss and granitic rock, at Saffragam and the Seven Korles. A large crystal of it was found near Buanwelle, containing apparently two distinct drops of water. Rose-quartz, which is pretty common, is often found in the same place as amethyst. Ceylon produces the finest cat's eyes in the world, indeed the only kind that are highly esteemed, and that bring a high price. The best specimens have been found in the granitic alluvion of Saffragam and Matura. Prase is of rare occurrence in the island, only amongst the pebbles on the shore of Trincomalee. Belonging to the schorl-family, are topaz and schorl. The topaz commonly passes under the name of the "white or water sapphire." It is generally white, or bluish or yellowish white, it is commonly much water-worn, and perfect crystals of it are very rare. It occurs in many places in the alluvion of granitic rock.

The Zircon family is richer in Ceylon than in any other part of the world. It is found in the districts of Matura and Saffragam; and, is most abundant in the former, "Matura-diamond" is the name applied to its finest varieties by the dealers in gems. Besides the two well-established species, common zircon and hyacinth, there is a third, massive, opaque and uncrystallized, and of a dark brown colour. Specimens of it from Saffragam weigh two or three ounces. The natives are completely ignorant of the true nature of zircon. The yellow varieties are sold by them as a peculiar kind of topaz, the green as tourmalines, the hyacinth red, as inferor rubies, and the very light gray, as imperfect diamonds. All the varieties are found in the beds of rivers, or in alluvial ground, which, both in Saffragam and Matura is of the same kind.

For the ruby-family, Ceylon has been long celebrated. Four species of it, viz., spinell, sapphire, corundum and chrysoberyl occur. In gneiss or granitic rock, spinell is comparatively rare. Dr. Davy got small and very beautiful crystals of it, which were said to have been brought from the interior, and he found it in specimens of clay iron-ore, from a part of the Kandyan country where gneiss is the prevailing rock. Sapphire is much more common, it occurs in considerable abundance in the granitic alluvion of Matura and Saffragam, and in the neighbourhood of Avisavelli, and on the Neura-Ellia-patam.

The corundum of Battagammana is frequently found in large six-sided prisms, is commonly of a brown colour, whence it is called by the natives "Curundu galle" cinnamon stone; occasionally it is to be met with partially or entirely covered with a black crust which is merely the stone with an unusual proportion of iron.

Adularia is very abundant in some parts of the interior, particularly in the neighbourhood of Kandy, where it is occasionally the predominating ingredient of the rock.

Ava gem-sand, comes from the neighbourhood of Ava, and is sometimes one of the Shan articles of merchandise. It consists of small fragments of nearly all the precious stones found in the country, but garnet, beryl, and spinell are its principal constituents, more especially the last, which seems to constitute nearly three-fourths of the whole mass. A single handful will contain specimens of every shade, black, blue, violet, scarlet, rose, orange, amber yellow, wine yellow, and white. *Mason.*

The *beryl*, of which mineral many of the stones used as emeralds in India consist, occurs in the Siberian Altai range; a number of these gems also come from Khotan, Ilchi, and the Chinese provinces. Natives of India say they are found in gold mines, and take 20 years to come to perfection. They are called "Zamrad," or "Zabrjad," and in Punjabi "Panna," the most esteemed colors are the "Zababi," next the "Saidi" said to come from the city Saidi in Egypt. "Raihani," new emeralds; "fastiki," old emeralds, that is, such as have completed their 20 years; "Salki," "Zangari" color of verdigris, "Kirasi" and "Sabuni."

The finest beryl (aquamarine) says Mr. Tomlinson, come from Siberia, Hindostan, Brazil. In the United States very large beryls have been obtained, but seldom transparent crystals: they occur in granite or gneiss. A reputed beryl of large size mentioned in most books on mineralogy has recently been discovered to be a lump of quartz. *Tomlinson.*

Aquamarine includes clear beryls of a sea green, or pale bluish, or bluish green tint. Hindoos and mahomedans use them pierced as pendants and in armlets. They are the "seign" of the Burmese and the Zamarud of the Persians. At the Madras Exhibition of 1855, a good specimen of aquamarine, or beryl, was contributed by Lieut. Puckle from Mysore: other samples of long reed crystals were forwarded by the Nellore Local Committee; small pieces of amethyst, tourmaline, rock crystal, agate and cor-

nelian were exhibited from Masulipatam. Perhaps the aquamarine of the South of India may become more valued.

Prismatic corundum or chrysoberyl, is found among the Tora Hills near Rajmahal on the Bunas, in irregular rolled pieces, small and of a light green colour. These stones are sold as emeralds by the natives, under the name of "puna," but the native dealers are aware that they are softer than the real emerald of India, which is generally green coloured sapphire. It is this green sapphire, the oriental emerald, which is so often seen in Burmah, but beryl (Seing, Burm) and emeralds are brought from the north of Ava, though the localities in which they are found are not known. Chrysoberyl is of a green colour, sometimes with a yellow or brownish, tinge, and occasionally presenting internally an opalescent bluish white light. When transparent and free from flaws, it is much prized. Mr Faulkner says it is found in Ceylon, Connecticut, and Brazil.

Carbuncle, (ανθραχ GR.) Under this term, the ancients included all gems of a red colour, such as hyacinths, rubies, garnets. At present the carbuncle is a gem manufactured from the garnet.

Cat's Eye.

Chashm-i-maidah,	PERS.	Zmilaces,	LAT.
Bel occhio,	IT.	Zmilampis,	"
Beli oculus,	LAT.	Mata-kuching,	MALAY.

Cat's eye is chiefly found in Ceylon, but specimens are also obtained from Quilon and Cochin, and in the neighbourhood of Madras, the site of the last, however, has not been traced. Cat's eye is much valued in India. It is a transparent quartz full of minute fibres of asbestos and is cut in a highly convex form. It is of a yellow hue, slightly tinged with green. The cat's eye is often set in rings, and is brought to Tenasserim from Burmah. Comstock says: "it is in great request as a gem, and bears a high price:" but those seen in the Maulmain market are not much valued. A small one may be purchased for two rupees, and one of ordinary size for five; while ten rupees is the highest price given for the best.—(*Mason.*)

Coral, pale delicate pink colour, is now the most valued in England, a large drop or bead selling at £30 to £40, and smaller pieces at £120 to £150 the ounce. Red is esteemed in India.

Corundum, if translucent, when red is a ruby; when blue a sapphire and when yellow a topaz. *Sapphire* (sapphirus) with the ancients, was a generic term for all blue gems.

It was on tablets of the sapphire, so often mentioned in holy writ, that the ten commandments were engraved. It was supposed to preserve the sight. It occurs in parts of India.

Diamond frequently becomes phosphorescent on exposure to light. It is found chrystalline and amorphous, and of all colours, white, yellow, orange, red, pink, brown, green, blue, black and opalescent. Stones with naturally acute angles are used for cutting glass and sell at £10 the carat, for most gems will scratch but diamonds alone cut glass. The diamond is found in India, Sumatra, Australia the Ural mountains, Brazil, and North America.

In India, in the Dekkan, in the river Pennar in the Cuddapah district and near Banganapilly, in the lower part of the Kistnah, formerly near Ellore and at Golcondah. The diamond lately sold to the emperor Louis Napoleon, for £5,000, was said to have been obtained in the Pennar or at Banganapilly. In Tavernier's time the mines of Golcondah employed 60,000 persons. At Pannah and the river Sonar in Bundelcund, at Sumbulpur on the Mahanaddy also in Malacca? Borneo and Celebes. The diamonds of Borneo occur in the mountain chain in Jannah Laut. Thara and Tora, are two diamond washing tribes who possess sixteen Jaghire villages at Sumbulpore. They are supposed to be of African origin.

Diamonds are found in quartz conglomerates, containing oxides of iron, also in alluvium, in loose and imbedded crystals, almost always of small size, and most frequent in company with grains of gold and platinum. Ordinary diamonds are mostly taken to Europe from the Brazils, but on an average, of 10,000 stones, there will not be one of 18 carats found.

The Nassik diamond was sold to the marquis of Westminster for £7,200. Even with those who profess to be acquainted with gems, the white sapphire and topaz occasionally pass for the diamond. Diamonds in the rough are unattractive pebbles. Diamonds are cut in the rose or brilliant or brilliolette (Briolette) forms. They were usually cut in the rose pattern, till the middle of the 18th century, but roses are, in general, only now used where the space in the setting prohibits the introduction of the brilliant form, brilliants being at present universally worn. Diamonds are cut into facets by rubbing two stones against each other and polished by being held to a rough revolving metal wheel, carrying diamond powder. The double cut brilliant is at present the common form.

The following diamonds are most known:

Name.	Character.	Weight —Carats.	Estimated value 2 St. 9, where found.	Present owner.
Eugenie,	Brilliant,	51	£3,000, Pennar.	Emperor of Russia.
Austrian,	Yellow Brilliant,	...	.....	
The Shah,	Diamond,	86	.....	
Hope,	Blue diamond,	44½	.....	Pasha of Egypt.
Polar Star,	Diamond,	...	.....	King of Hanover.
Saucy,	do.	53½	.....	Rajah of Mattam.
Pigott,	do.	82½	.....	Marquis of Westminster
Cumberland,	do.	...	£20,000	Emperor of Austria.
Mattam,	do.	367	£8,000 ? Borneo.	
Nassak,	do.	78⅝	.....	
Florentine,	Yellowish Brilliant,	139½	.....	
Dresden,	Green do.	...	.....	Mr. E. Z. Dresden.
Star of the South,		125	Brazil.	Emperor of Russia.
Mr. E. Z. Dresden,	Drop shaped do.	76½	Brazil.	Crown of England.
Orloff,		194½	.....	Crown of France.
Koh-i-noor,	Brilliant,	102½	.....	
Regent or Pitt,	Diamond,	136¾	Madras.	

Diamonds are weighed by the carat, 4 grains = 1 carat, 151½ carats or 606 grains 1 oz. troy.

Emerald.

Zamarrud,	Ar. Pers. Hind.	Smeraldo,	It.
Emeraude,	Fr.	Smaragdus,	Lat.
Ismaragdon,	Gr.	Pachi Kalu,	Tam.
Prasinus,	,,	Esmeralda,	Sp.

Oriental emerald, the green variety of corundum is the rarest of all gems. Emerald is of a beautiful green colour, unsurpassed by any gem. The finest occur in a limestone rock, at Muzo, in New Granada near Santa Fé de Bogota 5° 28′; at Odontchelong, in Siberia and near Ava. It is associated with spinel.

When of a deep rich grass green colour clear and free from flaws, it sells at from £20 to £40 the carat. Those of lighter shade from 5*s.* to £15 the carat. The emerald pillars in the temple of Hercules at Tyre; the emerald sent from Babylon as a present to a king of Egypt, four cubits in length and three in breadth, and the emerald obelisk described by Herodotus, were all doubtless green jasper. The Ural and Altai mountains have latterly furnished the finest emeralds. (*Emmanuel.*)

Moonstone occurs in Ceylon. It is a variety of felspar, and of little value. (*Emmanuel.*)

Pearls in some instances, though full of lustre without, are dead like a fish eye within, and vice versa. They occur of all colours, those of Asia, from the sea pearl oyster Meleagrina margaritifera, are found on the West Coast of Ceylon, in the gulf of Manaar, in the Persian gulf, in the Sooloo islands, near Papua and in the Red Sea. Off the coast of Ceylon, the fishing season is inaugurated by numerous ceremonies, and the fleet, sometimes of 150 boats, then put to sea. Each boat has a stage at its side and is manned by ten rowers, ten divers, a steersman and a shark charmer (pillal karras). The men go down five at a time, each expediting his descent by means of a stone 20 to 25 lbs. in weight, and holding their nostrils, gather about 100 shells in the one to two minutes which they remain under water. Each man makes 40 to 50 descents daily. The pearl oysters are thrown on the beach and left to putrify. In the Persian gulf, so many as 30,000 persons are said to be employed in the pearl fishery. (Job xxviii. Prov. iii.) According to European taste, a perfect pearl should be round or drop-shaped; of a pure white, slightly transparent; free from specks, spots or blemish, and possess the peculiar lustre characteristic of the gem. In India and China, the bright yellow colour is preferred. Cleopatra is said to have dissolved in vinegar, a pearl of the value of 150,000 aureas or golden crowns in the presence of Anthony and to have drunk it off, but it would have required a larger quantity and stronger acid than any one could have taken with impunity, to have done so. Cæsar is said to have paid a sum equal to £50,000 sterling, for a single pearl. The fellow-drop to the pendant destroyed by Cleopatra, is said to have been sawn in two by command of the emperor Augustus, and used to adorn the statue of Venus. (*Emmanuel.*)

Sapphires, in colour vary from white to the deepest blue and black, but stones are often of varied hues. If held in water, with forceps, these coloured and uncoloured stones will be seen. A very good blue sapphire of one carat weight would bring £20. The white sapphire is sometimes sold as a diamond. *Emmanuel.*

Ruby or red sapphire is the most valuable of all gems, when of large size, good colour, and free from flaws. They are found in Ava, Siam, the Cupelam mountains, ten days

journey from Syrian, a city in Pegu, in Ceylon, India, Borneo, Sumatra, on the Elbe, on the Espailly in Auvergne and Iser in Bohemia. The ruby, in colour varies from the lightest rose tint to the deepest carmine, but the most valuable tint is that of "pigeons' blood" a pure deep rich red.

The *Spinel Ruby* and *Balas Ruby* belong to the spinel class of minerals, as also are several of the gems sold as Ceylon rubies. Tourmaline, when of a red colour is called Brazilian ruby, and this term is also applied to the artificially coloured topaz. The ruby brings a higher price than the diamond, ranging as per margin.

Carat.	£.	£.
1	14	20
1½	25	35
2	70	80
3	200	250
4	400	450

Star Rubies are asteriated corundums.

Tourmaline is sometimes mistaken for the ruby, and the pink topaz for the Balas ruby.

Spinel and *Balas Rubies* are found in Ceylon, Ava, Mysore, Beluchistan. The spinel ruby is of a deep hue. They are comparatively of little value, but are often sold for the true ruby, and the true ruby is occasionally parted with as a spinel ruby.

Topaz is so called from the island of Topazion in the Red Sea. There is a gold coloured and greenish yellow topaz. The oriental topaz according to its colour, receives the following names :—

Nova mina, colourless.	Brazilian chrysolite greenish yellow.
Brazilian sapphire, light blue.	Brazilian ruby, pink or rose colour, artificially obtained.
Aquamarine, greenish.	

Oriental Topaz is found all over the world, in granite and gneiss rocks, which contain fluor spar. The oriental topaz is of very little value in commerce. The gem is of a yellow tint, seldom deep, of a light straw colour. Oriental Topaz, ruby and sapphire consist of pure alumina, coloured with oxide of iron.

	Ruby.	Sapphire.
Alumina - - -	90·0	98·5
Lime, - - - -	0·0	0·5
Silica, - - -	7·0	0·0
Oxide of Iron, - -	1·2	1·0

Sp. Gr. 3·99. Hardness only inferior to the diamond : highly electric. Natural form six sided prisms, variously terminated, more frequently in rolled masses. (*King.*)

Turquoise is the *Firozah.* Turkis, Hind hence Firoza-Rang, turquoise blue. It is found at Khojend, in Mawar-al-nahr or Trans Oxiana, at Shebavek, in Kirman, and in a mountain of Azerbijan, where the mine was discovered about fifty years before Ahmed ben Abd ul Aziz, composed his Treatise on Jewels. He describes the mine at Nishapur as most celebrated from early ages for that particular kind of turquoise, entitled Abu Ishaki, which, says he, averts evil from those who wear it, conciliates the favour of princes, augments wealth, preserves the sight, ensures victory over an adversary and banishes all unpleasant dreams. The ancient sages, when first they beheld a new moon, immediately after fixed their eyes, says he, on the Firozah. (*Ouseley's Travels,* Vol. I., p. 211.)

The Turquoise, from whatever source, is apt to change colour, if brought into contact with acids, musk, camphor, or other scents. Small clear Persian stones (for it is chiefly found at Nishapur in Khorasan) sell at 6d. to 20s. each, whilst a fine ring stone will realize from £10 to £40, a perfect stone of the size of a shilling and of good depth was sold for £400. It varies from white to a fine azure blue, but it is only the fine blue stones that are of any value. Turquoise is still, in England, believed to protect the wearer from contagion, a belief, as regards that and other stones, very common amongst the ancients. Some specimens change their colour, possibly from the state of the weather. (*Emmanuel.*)

The precious gems commonly seen are

Emeralds.	Amethysts.	Beryl
Pearls.	Sapphire.	and
Rubies.	Topaz.	Precious Opal.
Diamonds.	Avanturine.	

(*Chambers' Journal, June* 1868.)

The course of trade has been so devious from time to time that obscurity long prevailed as to the native countries of the precious stones. The localities in Coimbatore, which supply the beryl, are also supposed to have yielded the emerald, though Tavernier was not able to ascertain that any part of India, in his day was yielding emeralds. Tavanier says "As for emeralds, it is a vulgar error to say they came originally from the east. And therefore when jewellers and goldsmiths do prefer a deep coloured emerald inclining to black, tell ye, it is an oriental emerald, they speak that which is not true. I confess, I could never discover in what part of our continent those stones are found. But sure I am, that the eastern part of the world never produced any of those stones neither in the continent, nor in the islands. True it is, that since the discovery of America, some of those stones have been often brought

rough from Peru to the Philippine Islands, whence they have been transported into Europe; but this is not enough to make them Oriental. Besides that, at this time they send them into Spain through the North Sea." (*Tavernier's Travels*, p. 144.)

That the lands in the East have generally been supposed to be the chief gem producing countries is also shown by the fact that Europe designates the most valuable of them oriental, oriental amethyst, oriental emerald, oriental topaz, oriental aquamarine.

Artificial Gems are largely made, and many of the precious stones are well imitated. The colour of the emerald is peculiar, and called emerald green. The glass of bottle bottoms is, however, largely sold in Ceylon and other places as emeralds. Emeralds are rarely without defects, called flaws, "Rag," *Hind.* and, with the hope of deceiving, the manufacturers, aware of this, make the false emeralds with flaws. Of all precious stones, the emerald is most liable to defects, and their absence should excite suspicion as they can be very easily imitated.

Strass is a technical term for the base of the artificial gems, of which the following is the composition :—

	Strass.	Sapphire.	Emerald.	Beryl.	Topaz.	Sapphire another.	Sapphire another.
Litharge,	5·0						
White sand,	5·75						
Potass,	0·5						
White strass,		250	250	0·82	50	0·11	5·9
Oxide of Cobalt,		3·74		187·5		31·25	0·825
Strass,			2·51				
Copper green oxide			0·11	1·32	50		
Chrome oxide,							
Antimony glass,							
Ceruse of Clichy,							
Quartz pebbles calcined,							
Copper acetate,							
Iron tetroxide,							

Inferior gems. Differing from the precious stones is a large class of quartzose minerals called inferior gems: those in common use are:—

Amethyst, common,	Jasper,	Lapis lazuli,
Carbuncle,	Bloodstone, or	Rock crystal,
Jade,	Heliotrope,	Common opal,
Turquoise	Fossil wood,	Sardonyx,
Cornelian,	Agate,	Chryso prase,
Onyx,	Garnet,	Coral,
Moon-stone,	Mother of pearl,	Jet.
Malachite,		

Agate, the αχατης GR. is one of these, found in great variety and abundance in many parts of India. Some of the agates and other silicious minerals in the amygdaloid rocks on the banks of the Seena river, between Sholapoor and Ahmednuggur, are of great size and in profusion, but the most beautiful are brought from Cambay.

Amethyst. ENG. GER.

Martis,	AR.	Amethystus,	LAT.
Amethyste,	FR.	Martas,	MALAY.
αμεθυστος,	GR.	Ametisto,	PORT. SP.
Sang-i-Sulimani,	HIND. PERS.	Skuandi,	SINGH.?
Amatista,	IT.	Sugandi kallu,	TAM.

The amethyst is mentioned in Ex. xxviii. 19, and xxix. 12, but under this term two different minerals are known, viz., the occidental or the common amethyst, one of the inferior gems, a quartzose mineral, found in amygdaloid trap rocks in all countries, but in some quantity amongst the volcanic rocks of the Dekkhan. Some beautiful specimens of amethyst crystals occur in dykes of quartz near Bowenpilly at Secunderabad. Its colour is of every shade of purple, violet: some of these are valued, for it is almost the only stone that can be worn with mournings. When the colour of a specimen has to be equalized, it is placed in a mixture of sand and iron filings and exposed to a moderate heat.

The oriental Amethyst is also of a purple colour but is an extremely rare gem and belongs to the corundums. Its colour can be destroyed by heat and its purity then resembles that of the diamond.

The agate, onyx, cornelian, and bloodstone, of the Rajpipla range, the Cambay stones as they are called from the place where they are mostly cut, and from which they are almost wholly brought to Bombay, are very abundant.

The cornelian of the Rajpipla range is found in a bed of blue clay—the detritus, probably, of the adjoining rocks. Shafts are pierced in this to the depth of from thirty to thirty-five feet, and horizontal galleries run in any direction that suits the fancy of the miner: the pebbles are distributed promiscuously, and do not appear to lie in

veins or lodes. The galleries seldom exceed a hundred yards in length,—they often run into those of other mines: they are generally five feet in height, and four across. To each mine there are thirteen men attached, who work by turns. Each man must send up so many basketsful of earth and stones before he is relieved. The stones are collected in baskets and drawn up by a rope run over a roller or pulley. A group of people await them at the mouth of the shaft, and examine them one after another by chipping each on a piece of stone: the compact and fine-grained are the best, and the blacker the hue is at first the redder it becomes after being burnt. There were, in 1832, about one thousand miners employed; and each man carried home with him a basket of stones every evening. They were spread out on the ground, and for a whole year turned over every four or five days to the sun: the longer they are so exposed the richer become their tints. In the month of May they are burnt. The operation is effected by placing the stones in black earthen pots or chatties. The pots are placed mouth under, a hole being pierced in the bottom of each; over this is put a piece of broken pot. The pots are arranged in single rows: sheeps dung is the only fuel found to answer: the fire is always lighted at sunset and allowed to burn till sunrise. If any white spots appear on the surface of the pot, the burning is reckoned incomplete, and the fire, continued some time longer. On being removed, the stones that have flaws are thrown aside as useless: those not sufficiently burnt are kept for next year's burning, and the remainder are sold for exportation. Nearly the whole of the stones are cut at Cambay—the greater part of them are made into beads. In the process: the stones are first broken up into pieces of suitable size for the end they are desired to serve. An iron spike is stuck into the ground, point upwards: the stone is placed on this and chipped with a hammer till nearly rounded: it is then passed on to the polisher, who seizes it in a pair of wooden clams and rubs it against a piece of sandstone placed in an inclined plane before him, turning it round from time to time till it assumes a globular form. It is then passed on to the borer and polisher; a hole is drilled. Cambay enjoys celebrity for its agates, mocha-stones, cornelians, and all the chalcedonic and onyx family, all of them brought from Rajpipla, but worked up at Cambay into every variety of ornament,—cups, boxes, necklaces, handles of daggers, of knives and forks, seals, &c. "Cambay stones," the akeek of the natives of Bombay and by Europeans called agates, include all kinds of quartz stones. They are from the amygdaloid trap rocks drained by the Nerbudda and Taptee. They pass in Europe and America for Scotch, Irish, Chamounix, Niagra, Isle of Wight "pebbles" according to the place in which they are sold. The principal varieties sold in Bombay are "crystal," "milk quartz" "prase" a green variety, of "moss stone" "mocha stone," "fortification agate," "calcedony; cornelian," "chrysophrase?" "heliotrope," "onyx," "obsidian," and very rarely "amethyst." These stones abound in all trap countries, the Brazils importing them as largely as India into Europe where the terms "Brazilian" and "Indian agates" are used indifferently by the trade.

The fragments of a Murrhine cup, the little Cambay stone cup still made in Cambay, were exhibited in the theatre of Nero, as if, adds Pliny, they had been the ashes of "no less than Alexander the Great himself!" Seventy thousand sesterces was the price of one of these little Cambay cups in Rome in the days of Pompey. The price in Bombay ranges from Rs. 18 to Rs. 35 and Rs. 75. Nero paid 1,000,000 sesterces for a cup "a fact slily remarks Pliny "well worthy of remembrance" that the father of his country should have drunk from a vessel of such a costly price."

Onyx is stained black by being boiled in honey, oil or sugared water and then in sulphuric acid. For red, protosulphate of iron is added: and for blue, yellow prussiate of potash is added to the protosulphate of iron. (*Emmanuel.*)

Jasper, onyx, common opal, bloodstone or heliotrope are found in abundance in many parts of the Dekkan in the valley of the Godavery, and amongst the Cambay stones.

Fossil wood is in large quantity in Burmah, in Sind, and at Verdachellum and Ootatoor west of Pondicherry.

Rock crystal is abundant in the south of the peninsula of India at Vellum.

Garnet from which the carbuncles are formed is in great abundance in the south of India in the river?

Jade which the Chinese so highly value is brought from Central Asia, one locality being at Gulbagashen in the valley of Karakash.

Turquoise also from Central Asia is rather a favourite stone with the mahomedans of India.

Lapis lazuli, also from Central Asia, is not in much request in India.

The *Moonstone*, chiefly from Ceylon is somewhat more valued.

The *Sardonyx* is rarely seen in use in India.

Jet is imported into India, from Europe and is only worn by Europeans, large quantities of lignite are found in the tertiary strata along the sea coast of India, but none of it takes a good polish.

Malachite also an imported mineral, is rarely worn as a gem and only by Europeans. It occurs abundantly in the copper mines in Australia.

Coral and *mother-of-pearl* are also seen in India; but, amongst the people of India, these and all the inferior gems are held in but little esteem, who value a gem for its intrinsic price, not for the workman's skill expended in shaping it, in which the chief value of all the inferior gems consists.

Ouseley's Travels I p. 211. *Chambers' Ed. Journ. June* 1868. *King, C. W. Precious Stones, Gems and Precious Metals, London,* 1865. *Emanuel on Gems. Dr, Mason's Tenasserim. Do. Do. Burmah. Sir J. E. Tennent's Ceylon. Dr, Buist in Bombay Times, Taverner's Travels p.* 144. *Niehbuhr, Beschreibung von des Arabien, pp.* 142, 362. *Davy's Travels in Ceylon, p.* 20. *Pliny,* xxxvii., xv., xxiii. *Forbes'* 11 *years in Ceylon, Vol.* ii. *p.* 97. *Lieut, Wellsted, Vol.* i., *pp.* 112, 113.

GEM SAND from the neighbourhood of Ava is sometimes one of the Shan articles of merchandize. It consists of small fragments of nearly all the precious stones found in the country, but garnet, beryl, and spinelle are its principal constituents, more especially the last, which seems to constitute more than three-fourths of the whole mass. A single handful will contain specimens of every shade, black, blue, violet, scarlet, rose, orange, amber, yellow, wine yellow, brown and white. Many retain their original crystalline forms, some have the fundamental form of the species, a perfect octahedron: but many others have some of the secondary forms, among which it is not uncommon to see twin crystals re-entering angles, formed by two segments of the tetrahedron truncated on the angles, and joined together by their bases.—*Mason.*

GEMEIN NIGELLE. Ger. Nigella seed.

GEMMÆ MORBIDÆ. Lat. Galls.

GENDA. Beng. Marygold. Tagetes patula, T. erecta.

GENDAGAM. Tam. Sulphur.

GENDA-MULA. Sans. Abelmoschus esculentus *W. and A.*

GENDARUSSA VULGARIS.

Justicia gendarussa, *Roxb.* Linn.

Jugut mudun,	Beng.	Nila nirganda,	Sans.
Ba-wa-net,	Burm.	Cari nuchis,	Tam.
Kali shumbli,		Nalla-vavali,	Tel.
kali thumbali,	Duk.	Gandharasamu,	,,
Vada kodi,	Maleal.	Nela vavili,	,,

Supposed to be a native of the Malay islands, but grows in the Konkans, in Travancore and Madura and is common in gardens in India, Flowers during the wet season, with dark purple or green smooth shoots. Leaves and stalks when rubbed have a strong, rather aromatic odour. After being roasted they are given in chronic rheumatism by the native practitioners. The plant is also said to be emetic. Wight gives Gendarussa Tranquebarensis.—*O'Shaughnessy,* p. 483. *Mason. W. Ic.*

GEND BEL. Hind. syn., of Andropogon nardus: properly, Gandh-bel.

GENDI. Hind. Chrysanthemum Indicum.

GENETTA MANILLENSIS. One of the Viverridæ. See Civet, Mammalia, Viverra.

GENGARU. Hind. Cratoegus crenulata: thorn.

GENEVER-BESSEN. Dut. Juniper berries.

GENGARENI KARRI. Tel. Hibiscus populneus.

GENGHIS KHAN. A mode of writing the name of Changez Khan. His name was Temugin, he lost his father when he was still very young. The father had reigned over thirteen Tartar hordes. *Gutzlaff's Chinese History,* Vol. I. p. 354. See Changez Khan.

GENGIVRE. Port. Ginger.

GENII, Spirits. The word is derived from the Arabic "Jin," through the Persian. Mahomedans believe that the "Jin" reside in the lower or first firmanent. See Jin, Saraswati.

GENIPA AMERICANA. See dyes.

GENISTA TOMENTOSA. Henna *Lawsonia inermis.* See Lawsonia, Dyes.

GENTIAN. Eng.

Gentiane,	Fr.	Genziana,	It.
Enzian	Germ.	Jenciana,	Sp.

The root of plants of Europe, of the genus Gentiana used in medicine and as a stomachic.

GENTIANACEÆ. A natural order of plants, about 100 species of which grow in most parts of the world. 2 in Japan, 1 in Arabia, and 68 in the East Indies, viz., 10 of the genus Gentiana, 2 Pneumonanthe, 5 Ericala, 3 Eurythalia, 2 Crawfurdia, 9 Swertia, 3 Agathotes, 6 Ophelia, 1 Halenia, 1 Erythræa, 8 Canscora, 9 Exacum, 1 Slevogtia, 1 Mitreola. 1 Metrasacme, 4 Villarsia,

The whole order is bitter as a characteristic, both in the stem and roots and they are used medicinally as a tonic.

GENTIANA. A genus of plants of the order Gentianaceæ. Dr. Wight names G. pedicellata and G. verticellata: G. umbellata grows in the Caucasus, G. decumbens, L. is common at considerable elevations in the various parts of the Punjab Himalaya; a tincture of it has been used as a stomachic by the Lahoul Missionaries. In Switzerland a bitter liqueur is prepared from G. lutea by fermenting and distilling the sliced root, the alcohol being generated by the sugar it contains. The distilled water is a strong narcotic, a table-spoonful being sufficient to occasion giddiness. Gentian root is a bitter tonic and is given in the form of infusion, tincture, and extract. Before the discovery of cinchona it held the first place among febrifuge remedies, and it is still deemed a very useful medicine in intermittent diseases. A perfect substitute for the infusion of gentian is made from the kurroo (Gentiana kurroo) common in the Himalaya and is much used in native practice. Several species of Agathotes, Exacum and Ophelia answer equally well. Several species, possessed of the same properties as Gentiana are used in various parts of the world. Lindley supplies us with notices regarding the following :—

G. catesbæi, North America.
G. amarella, Chalky pastures in Europe.
G. campestris, Do. do.
G. purpurea, Norway, Switzerland, &c.
G. pannonica, Alps of the Tyrol.
G. punctata, European Alps. *O'Shaughnessy*, p. 458, *Beng. Phar.* p. 302, *Beng. Disp. Voigt.* See Chiraita.

GENTIANA CHIRAYTA. Flem., syn. of Agathotes chirayta. Justicia paniculata.

GENTIANA TENELLA. Fries. The Tita of Ladak. Found in various parts of the Punjab Himalaya, up to 15,000 feet in Ladak. Aitchison states that in Lahoul a decoction of the leaves and stems of this and other species is given in fevers. In Ladak its root is put into spirits.—*Dr. J. L. Stewart, M. D.*

GENTIANA HYSSOPIFOLIA. Linn. syn. of Cicendia hyssopifolia.—*Adams.*

GENTIANA KURROO. Wall. Pneumonanthe kurroo. Don, Royle.

Kamal Phul,	„	Nilkanth,	Hind.
Himalayan Gentian,	Eng.	Kurroo,	„
Nilakil,	Hind.		

Grows at Mysooree, Simla, and other parts of the Himalaya. The roots are used like the gentian.—*O'Shaughnessy*, p. 459. *Cleghorn's P. Report*, p. 658. *Dr. J. L. Stewart.*

GENTIANA LUTEA. Linn.

Jantiana,	Ar.	Gentiane,	Gr.

The Gentian plant of Europe.

GENTIANA VERTICELLATA. Linn. syn. of Cicendia hyssopifolia.—*Adams.*

GENTIL, wrote voyages on the Indian Seas entitled "Voyages dans les Mers des Indes." (1660.)

GENTILE. A term used by the Jews to designate all races not Jews or not circumcised. It answered to the Barbaros of the Greeks and Romans. The term is employed by the Europeans in India, to designate the Tiling people, the races occupying the country from Madras to Ganjam. It is pronounced Gentoo, and the people themselves accept that designation. It is supposed to have been obtained from the Portugese. The Gentile of the Jews was the equivalent of the M'hlecha of the Aryan hindu, the "E" of the Chinese and the Kafir of the mahomedan. With the Arabs, they themselves are the Arab ul Arab, all the rest of the world are "ajami" or foreign. Gentoo is a corruption of the Portuguese "Gentio" a "Gentile." Dr. Fryer (Travels, 1672 to 1681), says "the Gentues, the Portugal idiom for Gentiles, are the aborigines." He appears to be the first English writer by whom the term is used, but before his time Pietro del la Valle speaks of the hindoos as gentile, following the example of the Portuguese; notwithstanding those unquestionable authorities, Halhed (Gentoo Code xxi, xxii.) supposes that the Portuguese borrowed the term Gentoo from the Sanscrit word Gunt, a sentient being. *Elliot*, quoting Ency. Metrop. Voc. Gentoo.

GENUGHUL. Duk.? Borassus flabelliformis.

GENUSU GADDA. Tel. also Batatas edulis.—*Choisy.* Sweet Potato.

GEODORUM CANDIDUM and Geodorum pallidum are two terrestrial species, members of the genus Geodorum.—*Mason.* Wight gives also G. dilatatum.

GEOFFROYUS. A bird of Timor.

GEOGRAPHY. Neither the Arabic nor the Persian letters are sufficiently numerous to compose the pronunciations of many foreign tongues, and they are ill-suited to record proper names in Geography. Much of the value of Abul Fazil's records is lost from this cause.—*Burton's Pilgrimage to Meccah*, iii.

GEOLOGY. Granite and syenite seem the chief up-lifting rocks of India; they burst through upraised sand-stones, clay-slate, mica-slate, chlorite-slate, and lime-stones. This feature of granite and syenite disturbing stratified rocks can be traced

from near Ceylon northwards at intervals through the table-lands of the interior; through Mysore, the Ceded Districts, Hyderabad, Berar and across the Nerbudda into Central India, where the granite for a time disappears. Volcanic trap is visible, however, in the bed of the Jumna, near Allahabad, in latitude 25° north, and in the ascent to Mussoorie by Kuerkoolee, the granite re-appears and makes a great eruption at the Chur Mountain on the southern slopes of the Himalaya. But near Gungotree, at the source of the Ganges, is described as the grand granitic axis of the Himalaya, one of the greatest and most magnificent outbursts of granite in the world. It traverses these mountains in numerous veins—westwards towards the Borenda pass, and eastwards towards Kamet, Nandadevi and Nandakot, upraising the metamorphic schists which form the highest peaks of the snowy range.

Lower down on the southern slopes of these mountains at an elevation of from 8,000 to 1,500 feet, uplifted stratified rocks, consisting of hornblende rock and slate, limestone, sandstone, great beds of quartz, clay, mica, chlorite, and talc slates, rest on the gneiss and granite; and lower still at altitudes of 3,000 to 2,000 feet above the level of the sea, gravel, boulders, marl with coal, recent clays and sand-stone form the Sewalik, or sub-Himalayan mountain. It is in these hills that extensive fossil remains were discovered, and the low alluvial tract, known as the Terai, is the valley formed by the junction of the Sewalik with the Himalayan inclined rocks.

To the south of this, the highest parts of Central India occur along the Aravalli mountains and the Vindhya range, and are from 2,000 to 3,000 feet in altitude. There are, here, three inclinations, one declivity from the Aravalli mountains towards the valley of the Indus, a second from the Vindhya range northwards to the Ganges, and the third running southwards to the Nerbudda. Granite is here, also, the upraising rock; it bursts out at Oudeypore, Kaunore, Banswarrah, and Rajpore, through the gneiss, and mica, and chlorite slates, limestone and sandstone. It was to the east of this central tract that the first great deposit of coal was found lining both banks of the Damoodah, though it has, since then, been discovered in many other provinces of British India. It is in Central India, also, that the volcanic rocks to any extent are first observed as they spread east and west from Neemuch in the form of basalt, basaltic greenstone, greenstone and greenstone amygdaloid, and southwards by Oujein and Saugor across the Vindhya, assuming a columnar structure in their steep descent to the Nerbudda. The trap crosses this river meeting with sandstone and fossils in the Satpura range, and spreads over all western Berar and the Aurungabad province; it assumes a columnar form at Gawilgurh and Chikaldah, occupies Candeish and the Concan to Bombay, and passes southwards to Malwan in latitude 16° north; its southern limits being observed south of Punderpoor, and the right bank of the Kistna towards Bejapore. In the valleys near Homnabad, south and west of Beder, it is seen between and beneath, but never penetrating the great plateau of laterite hills, and is noticed at Maharajahpettah, 30 miles west of Hyderabad. The eastern edge of this vast tract of volcanic rocks, after crossing the Nerbudda to the south, skirts the town of Nagpore in Berar, passes Nandeir, onwards to the west of Hyderabad and to its southern limit, just mentioned. South of this, as well as to the eastward, the trap only appears as great dykes, from fifty to a hundred yards broad, which run east and west parallel with each other. These dykes can at places be traced for a hundred and fifty miles, bursting through the granite and other rocks, tearing the highest of the hills asunder and filling the chasms and crevices with their dark and compact substance. In these provinces, the elements of the trap-rock assume in the dykes a variety of lithologic appearances, greenstone, and porphyritic greenstone; and, in the great volcanic district, basaltic greenstone, hornblende rock, basalt, and amygdaloid, with cornelian, heliotrope, prase, jasper, agates and onyx. The dykes are particularly numerous near Hyderabad, but they occur in the Balaghaut Ceded Districts, in the Carnatic and Mysore almost to the southern Cape of the Peninsula, and, with very rare exceptions, they run due east and west.

The central outburst of granite rocks in the Peninsula is traced from north of the Godavery, in latitude 90° north, through Hyderabad, the Ceded Districts and Mysore to Ceylon. This rock and the greenstone form the prominent parts of the Dekkan, clay-slate, mica, chlorite and hornblende schists, sandstones and limestones with fossils of a post oolite age being the stratified rocks through which they burst. The greenstone is supposed by some observers to decompose into a deep black earth, light when dry, and cracked and rent by the sun in the hot season, but forming a tough,

deep, tenacious soil in the rains, rendering marching almost, if not wholly impracticable. It is called "regur" in the Dekkan, and is the "cotton soil" of Europeans, by many of whom it is regarded as indicating an unhealthy locality. The granite rocks, on the other hand, decompose into a red sandy soil, which is generally hard, and as it allows a rapid percolation of water and quickly dries, it is less fertile, but is considered more favourable to health. It may be doubted, however, if there be any facts to prove that the one soil is more favourable to health than the other.

The investigations of Dr. Hugh Falconer have shown that, at a period geologically recent, the present peninsula of India, was a triangular island, bounded on each side by the Eastern and Western Ghats, converging to Cape Comorin while the base of the triangle was formed by the Vindhya mountain range, from which an irregular spur, forming the Aravalli mountains, extended northwards: while between the northern shore of this island and a hilly country which is now the Himalaya mountains ran a narrow ocean strait. The bed of this strait became covered with debris from the adjacent Himalaya on its northern shore, and with this debris became entombed and preserved many and various animal remains. The present condition of the country in northern India has been produced by a subsequent upheaval of the land so that what was the ocean strait, forms the northern plains of India, the long nearly level valleys in which flow the Ganges and the Indus. Besides this, a great upheavement along the line of the Himalaya, has elevated a narrow belt of the plains into the Sewalik Hills (determined to be of tertiary age) and added many thousand feet to the height of the Himalaya, and facts tend to the conclusion that India had one long term and one protracted fauna which lived through a period corresponding to several terms of the tertiary periods of Europe.

Central India, between Hazareebagh and Palemow on the east and Jubbulpore on the west and thence southwards to Nagpore and Chandah, has in the east five well marked sub-divisions of sedimentary rocks with coal bearing strata, the Talchir, Barakur, Ironstone shales, Ranigunj and the Panchet, but at a short distance to the west, there are only a three-fold series, the Talchir, Barakur, and the Panchet. All these successive beds (possibly with the exception of the Talchir) representing an enormous lapse of time, agree in one respect that they seem to be purely fresh-water (fluviatile or fluvio-lacustrine) deposits. The Damoodah, the Barakur

the Adjai and the More rivers seem at an early period to have formed one general estuary, the basins of the Sone and the Nerbudda. But the Mahanuddy and the Godavery, in all of which extensive deposits of coal have been found, as yet seem to have not been connected.

The Talchir field, near Cuttack, the detached areas of Talchir sandstones in the Sumbulpur country, and the Belaspur field, are limited to the Mahanuddy basin; the Palamow, the Singrowli, and South Rewah coals are all strictly confined to the Sone basin;—the Chanda field and the continuation of this field in detached areas down the Godavery valley, considerably below Dumagudiam, all are strictly confined to the basin of the Godavery and its affluents, while similarly the coal-fields of the Nerbudda valley are all limited to the drainage basin of that river. In other words, the great drainage basins of this country were on the large scale marked out, and existed (as drainage-basins) at the enormously distant period which marked the commencement of the deposition of the great plant bearing series.

The Talchir rocks below contain no coal, and the Panchet rocks above are equally without any coals, the whole of the workable beds of coal, of this group, being confined to the Damudah rocks which cover a wide spread of country round the bases of the Pachmari hills and extend thence to Umreth and Barhoi, about 16 miles from Chindwarah.

There is an admixture of extinct and existing forms, well preserved remains of hippopotamus, rhinoceros, mastodon, peculiar forms of elephants and very remakable bovines, dissimilar from those now in India, but seemingly identical with those of Europe. Of animals still existing in India, are found the fossil Emys (Pangshura) tecta the imbedded shells are all of a species still living in the valley, and indicate conclusively that the changes have been gradual from the time that the hippopotami wallowed in the mud, and the rhinoceros roamed in the swampy forests of the country, where mastodons abounded and where the strange forms of the sivatherium, dinotherium, and camelopardis existed.

The Central Provinces have nineteen revenue districts, which contain representatives of almost all the formations known to occur within Indian limits. The districts of Sagor and Dumoh, on the north, are altogether on the Vindhyan plateau and a large part of their surface is formed of the deposits to which the name "Vindhyan" has been given. These however are in

many places concealed by volcanic rocks of the great Dekkan trap area, which have flowed over them and all the drainage of these two districts is into the Ganges valley.

The four districts of Jabalpur, Narsinghpur, Hoshangabad and Nimar, immediately to the south of the Vindhyan escarpment along the marked depression of the Nerbudda valley, are in great part on alluvial and tertiary deposits; south of the Nerbudda valley rise the extensive highlands constituting the Satpura range, or its continuation, which are in great part formed of the Deccan trap resting on crystalline rocks or upon sandstone and other rocks of later date. Of this region, Mandla occupies the extreme eastern end, bounded by the steep escarpment of the trappean plateau, near to the edge of which the Nerbudda river has its source at Amerkantak. Along this same range to the west lie parts of Balaghat, Seoni, Chindwara, and Betul south and east of the Satpura ranges, the districts of Bilaspur, Raipur and Sumbulpur lie in the drainage of the Mahanadi river; Belaspur and Raepur occupy the low plain country of Chateesghur, formed principally on rocks believed to belong to the Vindhyan series, with a part of their area covered by coal bearing rocks. Sumbulpore is in a rugged jungly country composed of crystslline and metamorphic rocks.

The great drainage basin of the Godavery on the other hand includes Nagpur, Bhandara, Wardah, Chanda and Sironcha. These districts have no considerable elevation, Nagpur and Bhandara are principally on gneissose rocks, with much trap in Nagpur. Warda is almost entirely on trap rocks; Chanda and Sironcha have a very varied structure including more or less of all the formations that have been named.

The crystaline and metamorphic rocks consist of gneiss of different varieties, often highly granitoid and form the substratum of the whole area, and are seen all around the border of the trappean rocks. The area covered by Deccan trap, in the peninsula of India cannot be little less than 200,000 square miles.

Further south, the basins of the Kistnah river and its affluents, the Gutpurbah and Malpurbah and Beemah are occupied by quartzites, slates, limestones, &c. which cover the larger portion of the districts of Cuddapah and Kurnool, westwards through the Raichore Gulburgah, to Kulladghee and Belgaum and appear to represent the older portion of the great Vindhyan series. Rocks of the same mineral character appear under the great flows of the Dekhan trap, and resting quite unconformably on the gneiss rocks in parts of the Raichore Doab, and the vicinity of Belgaum, and under parts of the ghats on the western coast. That they belong to the same general series as the rocks in Cuddapah and Kurnool, there is no doubt.

Still further to the south, several series of sedimentary rocks have been discovered, but there has not been traced any connection between the several series.

Immediately west of Madras, at Rajahs' Choultry, are extensive beds of clay-slate in which the brothers Schlagentweit discovered tertiary fossils. Underlying the sands and clays of Madras and all along the sea coast, is a bed of dark blue tenacious clay, containing numerous fossils of existing species, and in the extreme south of the peninsula, in Tinnevelly and Madura, are valuable marbles. But, in the district between the sedimentary rocks of the Kistnah and Tumbudra and these Tinnevelly marbles, at Ootatoor and Verdachellum near Trichinopoly are limestone rocks containing numerous fossils, the limits of which are supposed to be near Trichinopoly on the South, and near Pondicherry on the North. From the examination of a very beautifully preserved, and numerous suite of fossils collected from these sites by Messrs. Kaye and Cunliffe, of the Madras civil service, Professor Forbes arrived at the conclusion, that all the beds from which the fossils had been obtained were parts or members of one and the same series, and that that series was equivalent to the cretaceous series of Europe; the deposits at Trichinopoly and Verdachellum, being probably equivalent to the upper greensand and gault divisions of that series; the deposit near Pondicherry, being equivalent to the Neocomien, or lower greensand.

But of the well marked section of the great genus Ammonites, among the large addition to the known catalogue of species, which Mr. Cunliffe's collection has given, there were none of the Fimbriati, an oolitic and cretaceous section; none of the Flexuosi, also a lower cretaceous section; none of the Dentati, also lower cretaceous; none of the Armati, an upper oolitic section; and none of the Lœvigati; while on the other hand, of the Cristati, a section essentially cretaceous, we find one; of the Clypeiformi also a cretaceous section, one: of the Heterophylli five, and all of the cretaceous subdivision of this section; of the Ligati, a group essentially cretaceous, not less than ten. Of nautilus, a genus having a larger development in the upper than in the lower beds of the cretaceous, we have three allied

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to other cretaceous forms; of belemnitella, confined to the upper portion of the cretaceous group, one. These will suffice to show, that vast additions to the cretaceous Fauna of India still remain to be worked out.

Fossils from Utatoor near Trichinopoly, furnished by Mr. Brooke Cunliffe.

	Species previously known,	unknown.
Zoophyta.		
Turbinolia,		
Echinodermata.		
Brissus- - -	3	2
Nucleolites - -	0	1
Holaster - - -	0	1
Crustacea.		
Cancer (?) -	0	1
Mollusca (Acephala.)		
Inoceramus - -	0	3
Pecten, - - -	2	0
Ostrea, - - -	0	4
Gryphœa, - -	2	1
Pinna, - - -	0	2
Arca, - - -	0	4
Pectunculus, -	0	1
Modiola - - -	1	1
Trigonia, - -	1	1
Solecurtus, - -	0	1
Cardium, - -	0	2
(*Gasteropoda*)		
Natica, - - -	1	0
Trochus, - - -	1	0
Pleurotomaria -	1	0
Voluta, - - -	2	0
Phasianella - -	0	1
Strombus, - -	1	0
Tornatella, - -	1	0
(*Cephalopoda.*)		
Baculites, - -	2	0
Ptycoceras. - -	0	1
Hamites, - -	5	4
Turrilites, - -	1	1
Ammonites. -		
Cristati, - -	0	1
Lævigati - -	1	0
Clypeiformi -	0	1
Heterophylli -	1	5
Ligati - -	3	10
Nautilus, - -	1	3
Belemnites - -	0	2
Belemnitella, -	0	1
Annelida.		
Serpula - - -	0	2
Pisces,		
Odontaspis - -	1	0
Otodus, - - -	2	0
Lamna, - - -	0	1

Cephalopoda. The fossil Cephalopoda of the cretaceous rocks of southern India are enumerated by Prof Oldham.

Belemnites fibula, *Forbes* at Ootatoor, Trichinopoly.

„ stilus, *Blanford.*

„ seclusus.

Nautilus Bouchardianus, Shutanure. Olapandy, Pondicherry, Arrialoor, Trichinopoly, Shillagoody.

„ Clementinus, Karapandy, Olapandy.

„ Huxleyanus, Moonglepandy, Serdamungalum, Andoor Shutanure, Moonglepandy, Coonum.

„ danicus, Sainthorary, Ninnyoor.

„ justus, Odium.

„ elegans, Thuwnanore Andoor Shutanure.

„ splendens, Odium, Appapandy.

„ formosus, Karapandy, Andoor.

„ Kayeanus, Ootatoor.

„ augustus, Odium, Trichinopoly, Purawoy.

„ clementinus, Coothoor, Trichinopoly. Otacoil.

„ pseudo-elegans, Odium.

„ serpentinus, Rayapootha pakkan.

„ Forbesianus, Moraviatoor Odium.

„ negama, Sirgumpore.

„ crebricostatus, Ootatoor.

„ Trichinopolitensis, Arrialoor.

„ rota, Mulloor.

Of the genera and species of shells discovered in the black clay underlying Madras, the chief are:—

Rotella, 2 *species*,	Tapes,
Ranella tuberculata,	Tellina,
Cerithium microptera,	Arca 2 *species.*
Cerithium palustre,	Arca disparilis,
Cerithium telescopium,	Arca granosa,
Turritella, *species.*	Anomia,
Natica, *species.*	Ostrea 1 *species*,
Natica mamilla,	Ostrea, do.
Natica helvacea,	Ostrea, do.
Natica maculosa,	Ostrea, do.
Purpura, *sp.*	Artemis 2 do.
Purpura carinifera,	Cardita, do.
Oliva utriculus,	Placuna,
Oliva irisans,	Venus,
Nassa crenulata,	Tapes ramosa,
Nassa clathrata,	Donax scortum,
Nassa, 2 *species.*	Mactra,
Nassa jacksonianum,	Meroe 2 *species.*
Nassa thirsites,	Cytherea, do.
Eburna spirata,	Sanguinolaria diphos,
Bullia vittata,	Tellina, *species.*
Ampullaria globosa,	Nucula, do.
Solarium,	Pullustra,
Venus,	Balanus,
Placuna,	

There appear amongst them many specimens of the ordinary Placuna placenta and other recent shells which would indicate their age to be that of Professor Lyell's post-phocene series in his post tertiary group. P. placenta does not now occur in any part of the eastern coast.

Vindhyan Group. The Nerbudda and its vicinity. The Geology of this district has been worked out by Mr. J. G. Medlicott. Few parts of India have excited more interest and attention than the districts adjoining the Nerbudda river, the great thickness of sandstones and associated beds, which form the mass of the Vindhya range, being the most striking and remarkable feature in that country. There is a great faulting, accompanied by much disturbance mechanically, and by much alteration chemically (more especially to the south of this fault), in the rocks which pass along the main line of the Nerbudda valley, along the continuation eastward of this line down the valley of the Soane, and thence across Behar, where the continuation of the same rocks form the Kurruckpoor hills. It is considered a high probability that this line of dislocation was continued to the east by north, up or towards the valley of Assam; its main direction being E. 15° to 18° N. corresponding with the main direction of the Vindhya range and the Khasia hill range.

South of this dislocation the great group of sandstones, shales, &c. forming the Vindhya hills, is almost entirely absent, unless the highly metamorphosed rocks there seen be the continuation downwards of the same series greatly altered.

This great group is altogether of a different character and of a more ancient epoch than the beds associated with the coals of Bengal and of Central India,—the latter resting quite unconformably on the former.

Mr. Oldham gave the name Vindhyan, to this great group; being best seen in the well exposed scarps of the Vindhyan range; and to the subdivisions in ascending order, the names Kymore, Rewah and Bundair: but he applied these names only provisionally, as he thought it possible, that the Rewah limestone and Bundair sandstone are only repetitions of the Soane valley limestone and sandstone produced by faulting.

Coal groups of Burdwan, Hazareebagh and Cuttack. Resting unconformably upon the Vindhya formation, there is a considerable thickness of sandstones, shales and coals, in Central India much disturbed, and traversed by trap dykes. The total thickness of this group in this district exceeds some thousand feet. In these beds occur numerous fossil plants, which thoroughly identify these rocks with the coal-groups of Burdwan, of Hazareebaugh and of Cuttack. Taking it as proved that the strata at Kotah, from which the fish and Saurian remains had been obtained, are the same with those of Kamptee near Nagpore, the strong Permian analogies of the Saurians (Brachyops) ought not to be overlooked.

Mahadewa Group. Resting again quite unconformably upon these rocks is found another series of sandstones, often ferruginous, generally speaking irregularly though strongly bedded, and of great thickness. These form the lofty and boldly scarped range of the Puchmurry or Mahadewa hills. And to this group Mr. Oldham gave the name of Madadewa. In one or two places they seem to pass upwards conformably into sandstones holding remains of large mammalia, and probably of Sewalik date.

This group is markedly separated from the coal-bearing group below, and as compared with it is also characterized by the comparative absence of trap dykes or other exhibitions of igneous rocks.

Upon these, in parts of the district, rest the great spreading sheets of trap rocks forming the continuation of the immense basaltic field of the Deccan. Four and five distinct flows could readily be traced in

paces. And adverting to the occurrence of the beds containing shells (Physa, Paludina, Unio, &c.) which are found between these flows (the intertrapean lacustrine formation, of Carter) the evidence derived from the Nerbudda district proves that this alteration was entirely due to the subsequent overflowing of the heated mass of the trap above, and to the disturbances consequent on the exhibition of such powerful force as must have accompanied the production of these immense flows of lava. These shelly beds seem to have been formed by tranquil deposition during the intervals between the successive flows of igneous rock, and to have been broken up indurated and baked by the succeeding outbreak.

The following gives a summary view of these groups in descending order, omitting for the present all the more recent divisions:—

Groups.	Mineral character.	Age, &c.
Mahadewa,	Sandstones, with a few shaly beds, for the most part pebbly, often striped with ferruginous bands.	Geological age unknown, a few vegetable fossil stems, &c.
Damoodah,	Shales, sandstones, coal, for the most part thinly bedded and regular, often greatly cut up by trap dykes. In Cuttack, however, there are no trap rocks.	Age not thoroughly decided, probably Jurassic, fossils chiefly vegetable, name taken from the locality where series is most fully developed.
Vindhya. Bundair,	Sandstones & shales.	Age unknown, probably very ancient, seen all along Vindhya range, into Behar and to the Ganges at Monghyr. Probably also in the Khasia Hills possibly only two subdivisions
Rewah,	Limestones, shales and sandstones.	
Kymore,	Sandstones & limestone.	
Sub-Kymore,	Crystaline limestone pseudo-gneiss (name proposed by H. B Medlicott, Esq.,) micaceous schists, and quartzites, red and green, and white.	Highly probable, though not yet thoroughly proved, that these are only the continuation downwards of the Vindhya groups subsequently altered.

Granite, gneiss hornblende-rock, greenstone, &c.

Mandoo. The ancient town of Mandoo has been built on coralline limestone. It had been

very ingeniously, and correctly inferred by Dr. Carter, in his carefully compiled "Summary of the Geology of India," that the limestone used at Mandoo had been derived from near Baug or Bagh, and at Surbaperee on the Maan. Captain Keatinge thought he traced the following succession, (ascending) a light green stone metamorphic or volcanic; a soft sandstone, very fine grained and white; compact limestone, bluish white: and then the coral limestone, the latter only containing corals. The compact fine limestone, is found at intervals all over the jungle, and has been very largely used for lime in the Mandoo days; the old kilns are without number. He found fossils, wherever an edge of stone lay over a convenient mud bed to retain them. The Echinida, a Brissus, were in great plenty, the Bheels call them Paunchia from their five marks and Pecten 5-costatus. Plagiostoma spinosum and Terebratula octoplicata were numerous, the latter the most numerous and in best preservation, pieces of a large finely marked Echinus Cidaris. There is also a rude impression on a stone of a very large Inoceramus?

To the west of Mhow and Indore, there exist extensive beds of the cretaceous series.

Dr. Carter in the Journal Bombay Asiatic Society, No. XX. July 1857, page 621, considers that these beds are truly Neocomien. The evidence, however, is that these rocks represent the cretaceous era, but is insufficient to enable one to refer them to any subdivision of that great series.

Fossils collected at Baug by Captain Keatinge.

		Species.
Corallines		4 or 5
Echinodermata.	Cidaris,	1
	Echinus, (species)	1
	Brissus,	2 or 3
	Cyphosoma,	2
Mollusca.	*Acephala* Pholadomya,	1
	Venus,	1
	Cardium,	4
	„ altum. *Sow*; hillanum, or very closely allied and two others.	
	Arca,	1
	Modiola,	1
	Mytilus, (typicus, *Forbes*)	1
	Pecten (Janina)	3
	P. (5 costatus, common.)	
	Plicatula,	1
	Inoceramus,	1
	Terebratula,	1
Gasteropoda.	Rhynconella,	1
	Natica,	1
	Turritella,	1
	Cerithium,	1
	Triton,	1
	Voluta,	2
Cephalopoda.	Ammonites of the Rhotomagensis, Section,	2

Cuttack and Talcher group. Messrs. Blanford and Theobald examined the Cuttack or Talcher coal-field, and the results arrived at strongly confirm the results given above. The following section is in descending order.

Alluvium, laterite, &c.

1.—Upper grit series,—unfossiliferous—quartzose grits and coarse sandstones, with occasional red shales; pebbly throughout, and near base conglomeric—above 2,000 feet.

2.—Carbonaceous shale series, fossiliferous, consisting of

(*a*)—Blue and lilac shales, micaceous; white speckled sandstones, ironstones, about 1,500 feet thick.

(*b*)—Carbonaceous shells containing thin seams of coal (3 inches) irregularly dispersed through them, about 200 feet.

(*c*)—Shales and coarse white sandstones, the latter predominate in lower portion, 100 to 200 feet.

3.—Lower shale and sandstone series, annelide tracks, consisting of

(*a*)—Blue nodular shales, generally arenaceous.

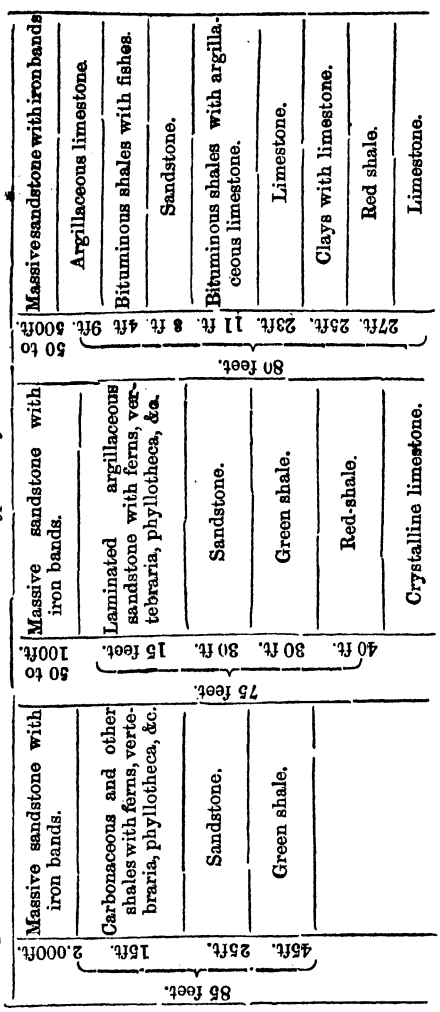
(*b*)—Fine sandstones, much jointed and "tesselated."

(*c*)—"Boulder bed," containing numerous boulders of gneiss and granite frequently 5 to 6 feet across—in a fine argillaceous or arenaceous rock, often rippled, sometimes replaced by a coarse sandstone.

Each of these series rests unconformably on that beneath it.

Western Bengal and Central India. The Rev. Stephen Hislop of Nagpore, writing on the age of the coal strata in Western Bengal and Central India, observes that perhaps the most interesting part, in a section of the rocks of Central India, is the junction of the thick bedded sandstone above, with the laminated strata below. The latter, however various they may be in different localities as regards their lithologic and sometimes even their palæontologic features, may readily enough be distinguished by their relation to the superior beds, whose identity again is sufficiently attested by the iron bands, which run through their mass. This ferruginous sandstone is well developed at the Mahadeva Hills, in the north of the province of Nagpore, in the vicinity of the city itself, and at Kota on the Pranhita, in the dominions of the Nizam. The subjoined sections represent the succession of the strata

at these places respectively, as far as they are known:



Immediately under the upper sandstone, laminated rocks are seen in all. In section 1st, the shales are bituminous and carbonaceous, while in section 2nd, they are of argillaceous sand. But they are of the same age, as many species of fossils being common to both. Section 3rd, instead of having the limestone all collected in the lower part of the section, as is the case at Nagpore and in many parts of the Nizam's country, has it interstratified with the shale; but the bituminous strata occupy the same position as in section 1st. Choosing section 2nd as being better known for comparison with it, instead of section 1st, gives us in descending order sandstone and clay, red shale and limestone. It has been a question whether the fern-bearing coal shales and laminated sandstones of Nagpore the same as the fish-producing bituminous

shales of Kota. The Kota fishes that rewarded the researches of Drs. Walker and Bell were pronounced by Sir P. Egerton to be true Oolitic forms, and probably of the age of the Lias; between Nagpore and Chanda, the upper sandstone has the usual iron bands, and the lower laminated beds the common vegetable remains, there is a district with Mangali as the centre (sixty miles S. of Nagpore) where the superior sandstone is less ferruginous, and the inferior or laminated beds are coloured by iron of a deep brick red. In the latter strata the remains of reptiles, fishes and entomostraca predominate, while the few vegetables that are found, are generally very different from those occurring in other parts of the Nagpur territory. The skull of a Labyrinthodont, named Brachyops laticeps by Owen, might suggest for it a Triassic or even Carboniferous age, but the plentifulness of scales of lepidotoid fishes forbids us to assign a more ancient epoch than the Jurassic; and the conclusion is unavoidable, not that our laminated sandstone is older than the age we have attributed to it, but that in India the Labyrinthodont family has come down to a more recent period than in Europe.

The vegetable remains are Tæniopteris, Equisetum laterale, Tæniopteris magnifolia, Phylothecas, Knorria, Lepidodendron, Aphyllum, Aspidiaria, Entomostraca belonging to the genus Estheria.

In the bituminous shales of the Mahadevas we have the following Bengal fossil plants: Tryzygia speciosa, Vertebraria indica, and a species of Phyllotheca, a fragment of which is figured by Dr. McClelland as Poacites minor. (Geol. Surv. Tab. XVI. f. 4.) In the carbonaceous shales of Umret, besides the Phyllotheca now alluded to, another stem, but unfurrowed, which seems to resemble McClelland's Poacites muricata, Tab. XIV. f. 6. In the laminated sandstone of Kamptee, in addition to Vertebraria and the two Poacites as above, Tæniopteris, perhaps of the same species as at Rajmahal, and McClelland's Pecopteris affinis, Tab. XII. f. 11. *b.*, which in Nagpur is a well marked species with a tripinnate frond.

In all these localities the genus Glossopteris abounds. Nagpore seems to have outstripped North Eastern India in Cyclopteris and several other vegetable remains, but is decidedly behind in regard to the Cycadaceæ. The only specimen, procured is a small fragment from the sandstone of Kamptee, the leaflets of which are narrower than a minute blade of grass.

Though amongst the Cutch oolitic strata some are evidently marine, yet from what

Mr. Hyslop had seen of those in the Deccan or those in Bengal, none of them in either of these districts exhibit the least evidence of having been deposited in the sea or ocean: all seem to be of fresh-water origin.

In Chanda and Berar, one of the great sources of doubt as to the extent of the coal deposits rose from the fact, that the beds in the group of rocks in which the coal here occurs (known to Indian Geologists as the Barakur group) had invariably a tendency to exhibit very great variations both in thickness and quality within short distances. They are often of great thickness locally, but thin out and nearly disappear within short distances: this variation also being not only in the thickness, but also in the quality of the beds, so that what shows as a bed of good coal in one place may, within a few yards or a few hundred yards, pass into a shale without coal or even into a sandstone. Coal was found about 15 miles north of Dumagudiam, near the junction of the Tal river near Lingala.

Mr. Medlicott is of opinion that the present limits of the coal measure fields in North India coincide approximately with the original limits of deposition and are not the result of faulting, or even mainly of denudation. All these successive beds (possibly with the exception of the Talchir) representing an enormous lapse of time, agree in one respect, that they seem to be purely fresh-water (fluviatile or fluvio-lacustrine) or estuarine deposits. The Ranigunj, the Jherria, the Bokaro, the Ramghur, and the Karunpura fields all belong to the drainage basin of the Damoodah river.

Mr. W. T. Blanford reports that the coal-bearing (Damoodah) beds of Korba extend for about forty miles to the eastward, as far as Rubkub in Udipur (Oodeypore). They also extend far to the south-east towards Gangpur, and to the northwards towards Sirguja, and in all probability are continuous, or nearly so, with the deposits of the same nature known to occur in these Districts. Main Pat and the neighbouring hills, and all the country on the road from Main Pat through Chandargarh and Jashpur to Ranchi, consist of metamorphic rocks with the exception of a cap of trap and laterite on Main Pat.

Indications of the existence of coal seams, were afforded by the occurrence of fragments of coal in the rivers, especially in the Mand, he found a few seams near Chitra, twelve miles west of Rabkub and nearly thirty east of Korba. Two or three are seen in the Mand about three to four miles east-north-east of Chitra, but they are only from a foot to 18 inches in thickness. In a small stream, the Koba Naddi, which runs south of Chitra, one, seam about three feet in thickness is seen near the village of Tendumuri, more than a mile south-west of Chitra. It is nearly horizontal, having a very low irregular dip to the west or south-west. Part consists of fair coal, the remainder is shaley.

The only seam examined from which it is possible that a useful supply of fuel might be obtained, is exposed in the same stream rather nearer to Chitra, being about a mile from that village, close to the boundary of the village of Tendumuri, appears to be of considerable thickness, perhaps 20 feet, and the lower portion appeared to be fair in places. The dip is about 15 ° to north-north-west. Lieutenant Sale, of the Chota Nagpur Topographical Survey found a seam of coal about four miles north-west of Rabkub in a small stream running into the Mand, and this may be the source of the blocks in the river bed.

Several coal localities have been lately found by the officers of the Topographical Survey and recorded in their maps. They are all north of Korba and Udipur. The Rajah of Jashpur told that coal occurred in his territory in the Khurea country, twenty-four miles north-west of Jashpur Nagar, about one hundred miles or rather more west by south of Ranchi.

The Talcheer field extends for about 70 miles from east to west with an average breadth of 15 to 20 miles and is bounded both on the north and south by great parallel faults, the former of which has an aggregate throw of upwards of 2,000 feet; these faults are not truly east and west, but to the south of east and north of west. The section in ascending order of the basin shows at the base, sandstone and blue shale, but slightly fossiliferous, in thickness from 500 to 600 feet; over these is a series of shales and sandstones often micaceous, occasional beds of ironstone, and thin layers of coal and coally shale, giving a total thickness about 1,800 feet; and over these again is a distinct series of quartzose grits, conglomerates, and sandstones, in thickness from 1,600 to 2,000 feet. These three groups are unconformable each to the other; the unconformity between the two lower being, however, much less marked than that between the two upper.

To the lower group, as having been first recognized and described in this district, the name of "Talcheer" series has been given.

The second group, which, from its imbedded vegetable remains, was proved to be identical with the rocks of the extensive Damoodah coal-field, when these were first

described, has been denoted the "Damoodah" series.

While the upper group, supposed to represent the great series of rocks, so magnificently seen in the Mahadeva hills of Central India, has been called the "Mahadeva" series. Thus three series can be recognised in each of the extensive fields referred to, although with varying developments and thickness. At the base of the Talcheer series there is a remarkable bed consisting of very large and only slightly rounded masses of granite and gneiss, imbedded in a fine silt, and occurring under such conditions as induce the opinion that the action of ground ice has been the cause of its formation. In the Rajmahal district there is a very limited development of the lower beds, above which unconformably comes the Damoodah series, here exhibiting a greater extension upward than in Cuttack; but unfortunately the sequence of the rocks is interrupted by the intercalation of several successive floes of basaltic trap, the intervals between which have been marked by the continued and tranquil deposition of the mechanical rocks going on. These floes have been repeated six or seven times, and the phenomena of contact are in all cases marked; the upper layers of the mechanical deposits in contact with the trap being in all cases greatly altered while the lower layers are in no cases changed, but rest unaltered on the degraded surface of the underlying trap. But while the actual physical sequence of the deposits cannot be here traced, the fact of their all belonging to the same great series is attested by the occurrence of some identical fossils throughout. A few species pass upwards through the series, but there is a very marked change in the general facies of the flora in the upper as compared with the lower portion of the group; the latter characterized by the abundance of vertebrata, pecopteris, trizygia, &c., the former by the abundance of zamia-like plants. The series, therefore, has been divided into Upper and Lower Damoodah rocks.

Nerbudda. In the Nerbudda district the series is less interrupted, and there also the same general results were obtained. The southern boundary of this great field was for a large part of its course produced by a great fault, having quam proxime, the same general direction as that of the faults bounding the Talcheer field. The age, geologically considered, of the Damoodah rocks is ascertained from their fossil plants, and the fact of the general oolitic facies of this group, especially of those from the upper beds, ascertained. The difficulty of this question was in connection with the discovery, on the one side, of several species identical with those found in these Indian rocks, in the Australian coal-fields, associated with numerous animal remains distinctly referable to the lower carboniferous era, and, on the other hand, to the discovery in Cutch of other species also identical with some of these Indian forms, in beds associated with animal remains, undoubtedly referable to the oolitic epoch. But the latter forms, or those which the evidence of associated animal remains would show to be oolitic, are only found in the upper beds of the Damoodah series, while those which are common to the Australian fields are those chiefly found in the lower beds, with these plants have been found in the districts examined, some annelide tracts useless as distinctive forms.

To Mr. Oldham there seemed, at one time, altogether from the several groups of rocks above referred to, the whole of the great thickness of sandstones which formed the great Vindhyan range, extending almost entirely across India, from the mouths of the Nerbudda to the Ganges at Monghyr. These appeared to be of prior date, and there seemed to him a probability that there was a great line, or a group of lines, of dislocation passing along the general line of the valley of the Nerbudda, and the effects of which might be traced over a very large area, extending towards the north-east, possibly even into the valley of Assam.

Rajmahal. Dr. Oldham shows, that the group of rocks of the Rajmahal hills constitute a formation quite distinct from that of the coal-bearing beds of Burdwan and some other localities; to which latter group he applies the name of the Damuda beds. He shows that the fossil vegetation of the two formations is entirely different, both specifically and in general aspect; that not one species is common to the two; that the Rajmahal beds are characterized by a remarkable abundance and variety of cycadeæ, by a comparative paucity of ferns, and by the absence, in particular, of the genus Glossopteris, as well as of Phyllatheca and Vertebraria; while the Burdwan or Damoodah beds are characterized especially by Glossopteris, Phyllotheca, and Vertebraria, with scarcely a trace of Cycads. It is evident that the Nagpur fossil flora agrees altogether in this respect with that of the Damudah, and not with that of the Rajmahal formation. Dr. Oldham is of opinion that the Rajmahal beds are mesozoic, and probably jurassic, the Damoodah beds palæozoic. But Mr. Bishop

thinks that the facies of this Nagpur and Burdwan flora is rather mesozoic, Botanical evidence is, however, far from unequivocal, and, such as it is, might be out-weighed by the discovery of a single well-marked and thoroughly characteristic fish, shell, or coral.

(*On the age of the Fossilferous thin-bedded sandstone and coal of the Provinces of Nagpur, India. By the Rev. Stephen Hislop.—Quarterly Journal of Geological Society*, Vol. XVII, August 1861, p. 346 to 349.)

According to Dr. Oldham's views the age of the Indian coal-fields, between the parallels of 20° and 25° N., is Upper Carboniferous of a rather later stage than that of the true coal measures of Britain, and more closely allied to the "fern-coal" series of Silesia. Some doubts have been expressed as to the correctness of this view, at least of the age of the Silesian coal-fields, which are known to rest on limestones containing large producti and other fossils of the carboniferous limestone.

Peninsula of India. The following is a brief summary of the formation of the Indian peninsula as described by Dr. Oldham, in ascending order:—

1. Laurentain Granitoid Gneiss—highly metamorphic and traversed by innumerable trap dykes. This is the floor of all the other formations.

2. Quartzose, micaceous, and hornblendic rocks—much contorted.

3. Lower Silurian, or Cambrian—Submetamorphic schists and massive conglomerates of local-rocks. These rocks occur in the Eastern Ghauts.

4. Devonian—The Vindhyan series, principally sandstones, distributed into four groups.

5. Carboniferous—(*a*) Mountain-limestone of the Salt Range, classified as such from the fossils collected by Dr. Fleming.

(*b*). The Talcheer series, sandstones of a peculiar character and colour, resting on a "boulder bed," or ancient shingle beach.

(*c*). The coal bearing rocks of India forming the coalfields of Damoodah, Nerbudda, &c.

6. Permian? or Intermediate.—Beds with reptilian remains, presenting, in Dr. Oldham's opinion the physical break between the Palæozoic and Mesozoic periods of Europe. It is indicated here as doubtfully Permian.

7. Triassic, Upper and Lower. In this latter there are beds of limestone with Ceratites (Muschelkalk?).

8. Rhaetic Beds—with characteristic fossils.

9. Liassic Group—divided into an Upper and Lower series.

10. Jurassic Group—with Cycadeæ, Divided into Upper, Middle, and Lower Stages.

11. Cretaceous Series—with fine forms of Ammonites and other shells.

12. Eocene.—

(*a*). Nummulitic limestones.

(*b*). Fresh water deposits of lakes; over and through which sheets of lava have been erupted.

13. Miocene.—Laterite, and other strata of several kinds.

14. Pliocene.—Ossiferous gravels, Clays, &c.

15. Recent.—Gravels, clays, and mud of rivers, &c.

It is, he thinks, impossible to look over the above great series of beds so truly representative as they are of the European system, and presenting often in minute detail a marked correspondence with the English subdivisions and formations without being struck with the wonderful uniformity of nature's operations in ancient times over vast portions of the globe. The stratigraphical resemblances are also not less remarkable than the palæontological, for the genera and some species of fossils of the Triassic, Liassic and Cretaceous formations are identical with those of Europe.

Himalaya.—The Geology of the Himalaya and its subsidiary mountain ranges might form the study of a lifetime, without being exhausted. Certain parts of this vast chain of mountains have indeed been studied, especially the lower formation of the Siwalik range, in connection with which the names of Falconer and Cautley are familiar to all. Other portions of the Himalaya, together with the hills beyond Peshawur, to the Safed Koh, Hindu Kush, and Sulaimani ranges, are almost unexplored, and the only published accounts of their structure are to be found in a few scattered and brief notices in the travels of Vigne, Jacquemont and others, and in several papers of the Asiatic Society.

The Salt Range runs transversely between the Jhilam and the Indus, as the Baloti range, and Shaikh Budin hills, considered as a portion or continuation of the range Trans Indus, lie in the vicinity of the Salt range; having those hills on the south, the Peshawur hills on the north, and the end of the Sulaiman range with the Waziri hills on the west. From this place onwards down the western frontier, the branches of the Sulaiman range was represented at the Lahore Exhibition by

several fossils from the Lagari, Mazari and Lower Hills belonging to the Sulaiman system.

The Delhi system of Hills include those of the Delhi, Gurgaon and Hissar districts also the Shekawati hills in Gurgaon which ultimately become fused in the Aravalli range. Some of these hills are fossiliferous, others yield metals; the copper ores of Hissar and of Singhana in Gurgaon district, belonging to this series. In other portions marbles and freestone are found; and the Kalyana hills of Dadri now included in the Jhind territory, furnish elastic sandstone.

Fossils from Spiti and the Peen valley, at elevations of from 15,000 to 17,000 feet.

Belemnites.
Ammonites Gerardi, oolitic ?
A. Nepalensis (Gray).
A. triplicatus.
A. Wallichii.
A. biplex (Sowerby).
A. torquatus (Sowerby).
A. acucinctus (Strachey).
Ammonites undescribed.
Spirifer striata, carboniferous.
Productus Sp. carboniferous.
Pholadomya, oolitic.
Nucula cuneiformis.
Rhynconella cynocephala, carboniferous.
Orthoceras ? carboniferous.
Astarte major, oolitic.

The Lagari hills, Imam Bákhsh Khan and Dera Ghazi Khan, yield Belemnites, a species of Natica, and several species of Echinus. The curious trilinear markings on the latter, are compared by the people to the impression of a bird's foot: to which, they attribute the origin of these fossils.

"Sangcha," are nummulites from the Mazari hills. Imam Bakhsh Khan, and Sheikh Budin Hills produce the Elephas primogenus, Hippopotamos sivalensis, and Dinotherium.

The Balut range furnishes

Productus costatus.	S. striata ?
P. cora.	Streptorhynchus cronistria.
Athyris Roissyi.	S. pectiniformis.
Athyris subtilita, var. grandis.	Lithostroton irregulare.
Orthis resupinata.	Ceripora, sp.
Rhynconella, sp. ?	Anomia Lawrenciana.
R. poleurodon.	Lima gigantea.
R. cynocephala.	Pecten.
Spirifera, sp.	Venus suba-glaurœ.

Also Natica flemingi from Sakesar in the Salt range.)

Cidaris verneiulii. The natives of India employ fossil encrinites, Sang-i-yahuda, also a minute fossil bivalve shell and Sang-i-Shadnaj as medicinal substances, which are less fit for use than ordinary chalk.

Sikkim Himalaya.—On the north and east, at the base of the Sikkim Himalaya,

under the hill station of Darjiling, the great mass of the lofty hills is composed of schistoze rocks of various characters considerably disturbed and contorted. These are decidedly different from, and more recent than, the gneissoze rocks of the greatest portion of India. Near the base of the hills, and faulted against these rocks at high angles, there is a small extent of sandstone and black shales, which contain vertebrata, pecopteris, &c., similar to those occurring in the great coal-fields of Bengal. These fossils are peculiarly interesting, from the fact of their being changed into graphite, and occurring in beds which themselves have a very strongly marked graphitic character. They are of very limited extent; the greater portion of the sandstones, which in this section exhibit a thickness of some thousand feet, belonging to a series of a much more recent date, and which has been subjected to a much smaller amount of disturbance and alteration. This upper group contains many large stems, in all observed cases prostrate, and in most cases giving evidenceof great wear and long exposure previously to being imbedded; and in some of the finer and more earthy deposits an abundance of leaves occur, of the same general character as those occurring in Burmah and Tenasserim. This group has therefore been provisionally referred to the pliocene age. No traces of the great nummulitic series have been observed in this district.

Khassya Hills.—Further south are the Khassya Hills, which form a comparatively isolated range, rising suddenly from the great plains of Bengal in the south, and divided, on the north, by the valley of Assam from the great Himalaya or Bhotan range. On the southern face this range rises almost perpendicularly from the plains which are continuous from the Bay of Bengal, with scarcely a perceptible change of level to the very foot of the hills, and, with the exception of a comparatively small thickness of metamorphic rocks at the base, are composed of nearly horizontal beds of sandstones, a few shaly layers and limestone, long known for the abundance and beauty of the nummulites it contains. These beds dip slightly to the south, and die out towards the north, when the metamorphic rocks come to the surface in the hills. The age of the sandstones and limestones is unquestionably fixed by their organic contents, and therefore, also, the epoch of the coal, which is associated with them, as belonging to the great eocene period of geologists. No newer group of rocks is definitively seen in

these hills. Along the southern face of the range there is evidence of a great dislocation extending for many miles, and possibly along the entire scarp, which has brought down to the level of the plains, the rocks which are seen at the top of the hills. This line of dislocation has in all probability tended to give the nearly rectilinear direction of the escarpment: its date is fixed as at least subsequent to the formation of all the eocene rocks here seen. An older group of sandstone, considerably altered is seen further to the north, within the hills and also a series of highly metamorphosed schists and grits resting upon the gneissoze and granitic rocks.

Burmah and Tenasserim.—Further south, on the east of the Bay of Bengal, the Tenasserim Provinces extend for about six degrees of latitude along the east shores of the Bay of Bengal. In breadth they seldom exceed more than one degree of longitude. From Siam, on the east, these provinces are separated by an interrupted range of mountains, occasionally rising to 7,000 or 8,000 feet high, but the general height of which to the north is about 4,000, diminishing in passing southwards to 3,000 feet or less. The main direction of this range is north and south: this being also the general direction of the coast line, of the minor and outlying ranges of hills, and, therefore, of the rivers. The geological structure is tolerably simple although at first sight apparently complicated, from the great disturbances to which the rocks have been subjected. The central range is of granite, occasionally, but not unfrequently of a syenitic character; itself traversed by thick veins of large crystaline felspathic granite, and often along its outer edges, or near its junction with overlying slates, characterized by the presence of tinstone as an ingredient of the mass disseminated among the other mineral constituents. This granite axis is succeeded by highly metamorphic rocks of a gneissose and micaceous character, themselves cut up by numerous veins of granite, which, however, do not extend far from the junction. Upon these is a great accumulation of bluish and bluish-black earthy beds, thinly laminated, of thin-bedded grits, and of pseudo-porphyritic rock, the normal character of which is a hard earthy rock with small irregularly disseminated subcrystaline felspar, passing, on the one hand, into slates, and, on the other, into grits, often coarse and conglomeretic. These harder rocks form all the higher grounds of the outer ranges of hills. This series being best seen in the southern province of Mergui, was provisionally called the "Mergui" series. The total thickness is about 9,000 feet. It is succeeded unconformably by hard sandstones in thick and massive beds, with their earthy partings, generally of reddish tints, occasionally deep red and yellowish. A few beds are slightly calcareous, and in the upper portion a few thin and irregular bands of earthy blue limestone occur. Above these rest about 200 feet of soft sandstone in thin beds, upon which apparently rests the massive limestone of the country so largely seen near to Moulmein. The thickness of the entire group is about 6,000 feet, and as some of its members are best seen in the northern province of Moulmein, it has provisionally been called the "Moulmein" series. To determine the age of the older of these two groups (the Mergui) we have no data. The aspect of much of the rocks is very similar to the trappean ashes and felstones so abundant in the silurian rocks of Great Britain, while others are lithologically like Devonian; but these resemblances are very deceptive. The age of the Moulmein series is, however, tolerably defined by its organic contents. These appear to fix the age of the group as distinctly carboniferous. The whole of these rocks were, subsequently to their induration and disturbance, widely and greatly denuded, and on their upturned edges at intervals is found a series of conglomerates and sandstone and imperfectly coherent shales, with thick beds of coal, generally of lignitic character. None of the conglomerates are coarse; the sandstones are fine, gritty, and pebbly, or clean white quartzose grits; the shales thinly laminated; the coal itself thinly disposed in thin flaky laminæ, with earthy streakings marking its structure. In addition to the total unconformity of these rocks, the imbedded organic remains are quite distinct. They consist of dicotyledonous plants (leaves) belonging to the group of the Lauraceæ, and probably to the genus Laurophyllum of Goppert. In the thin papery shales which overlie the coal are also remains of fish (scales, &c.) of a freshwater character; the whole referring the beds to a very recent epoch, probably corresponding in part to the pliocene of European geologists. It is curious to notice here the absence of any coal in the carboniferous rocks below, and its abundant presence in those newer beds. The total thickness of these beds does not exceed 900 to 1,000 feet. They are never continuously traceable; they occur heaped up against and separated by the projecting ridges of the higher grounds, and must

have been deposited when the physical conformation of the country was very similar to that now existing. They appear to be the result of a series of fresh-water deposits, formed in small lake-like expansions along the lines of the great drainage valleys of the country, and to mark a line of general and greater depression between the main ridge of hills dividing Siam from the British dominions, and the outer ridges which occur between this and the sea. The direction of the main drainage of the country is determined by the direction of these ranges, and is discharged into the sea through narrow rocky gorges, which have a direction nearly east and west, and which are due to lines of breakage and dislocation. To this is due the sudden alteration in the direction of the courses of the larger rivers, as may be seen on maps.

Burmah.—Rocks similar to those situated in the Tenasserim provinces extend northwards up the course of the Salween River, and into the adjoining districts of Burmah, to the north east of Pegu. And, also, close to the capital of Burmah, and stretching nearly north and south, as far as examined, high ridges of metamorphic rocks are again met with, consisting of gneiss, micaceous schists, and highly crystaline limestone, occasionally of a fine white colour, and largely used by the Burmese for sculpture. But the great valley of the Irawady is, throughout a very large extent of its course, bounded on either side by thick series of rocks, chiefly sandstones but with massive limestones also, which are locally rich in fossils, and which from their evidence, may be clearly referred to the Eocene period. These stretch on both sides of the river as far north as Pugahu, beyond which the higher grounds recede from the river banks; but they are in all probability continued thence into Munipoor, and so united with the nummulitic rocks of the Khasi and Cachar Hills. These rocks have been considerably disturbed and broken, but have a general and prevailing strike nearly north and south, which strike, throughout many miles, has determined the general course of the river Irawady. Their thickness is considerable, certainly exceeding 5,000 feet. Above these Eocene rocks, and resting upon them with slight unconformity, is a series of beds of no very great thickness, characterized by an abundance of gypsum disseminated in thin layers and veins, and in the lower beds of which occur the deposit of clays and of vegetable matter, from which are derived the large supplies of petroleum. These rocks are well seen at Senan kyoung ("stream of fœtid water"), and are traceable northwards to near Amarapura. In the beds which appear to form the uppermost part of this group, but which may possibly belong to another and distinct series, are found some of the fossil bones of the larger animals which occur abundantly in this district. About forty miles north of Amarapura we again meet with sandstones, shales, and coal, resting unconformably on the metamorphic rocks, and characterized by remains of dicotyledonous trees similar to, if not identical with, those found in the coal-yielding group of the Tenasserim provinces, and which are therefore referred to the same age (pliocene). This series, so far as examined, has proved of no great extent or thickness.

Of fossils found in Burmah by Mr. Oldham, during his companionship with Captain Yule's Embassy, he notes the following:—

	Specimens.
Jaws and Teeth.	
Elephant, tusk and lower jaw,	3
Mastodon, lower jaw, and molar tooth,	3
Rhinoceros tooth,	1
Tapir? lower jaw,	1
Deer,	1
Sus? or Merycopotamus, portion of cranium,	1
Gavial fragments.	
Pachydermata, *Bones.*	35
Ruminants, ,,	10
Crocodile, ,,	24
Tortoise, ,,	21
,, large, ,,	17
Undistinguished, ,,	16

China.—Baron Von Richthoven, who visited China some years ago, made a geological tour through parts of Tai-hu. He found certain outlying reefs of limestone, which hitherto had escaped observation from their similarity to the main limestone beds of the district, answering to the carboniferous limestone of Europe. Certain fossils, especially nummulites, found in these seem to prove these rocks to be of Tertiary age. This in connection with similar deposits in South Europe, in the Himalaya, in Japan and the Philippines and probably also in Formosa, is of considerable interest. It is known that the Tertiary deposits of China cover a considerable area, but hitherto limestone had not been noticed of that age. *Shanghai Consular Gazette. Annals of Indian Administration. Dr. Oldham in Yule's Embassy, p.* 343. *Report of the British Association.*

Powell's Hand Book, Econ. Prod. Punjab, p. 112 *to* 119.

On the age of the Fossilferous thin-bedden sandstone and coal of the Provinces of Nagpur, India. By the Rev. Stephen Hislop.—Quarterly Journal of Geological Society, Vol. XVII, August 1861, p. 346 to 349

See Coal: Colosso Chelus Atlas: Elephant: Felis: Fossils: Lignite: Madras: Simidæ.

GEOMYDA. A genus of reptiles of the Sec. A. Cataphracta or shielded reptiles, the Order Chelonia, and family Geœmydidæ: several species are known, viz.: G. Bealii grandis, mutica, nigricans, reevesii, spinosa, spengleri, and tricarinata. See Chelonia. Reptiles.

GEOPHILUS FULGENS. A luminous centipede.

GEOPHILUS NICOBARICUS the Nicobar pigeon. See Columbidæ.

GEOPHILIA. A genus of birds of the order Gemitores. Family Columbidæ and sub-family Columbinæ. There are several species G. striata, a small ground dove, occurs in Siam and Java. *Wallace.* See Birds. Columba.

GEOPHIS. A genus of reptiles of the order Ophidia and family Calamaridæ:—

Fam. Calamaridæ.
Calamaria catenata, *Blyth*, Assam.
Geophis microcephalus, *Gunth.*, Nilgherry.
„ Perotteti, *D. & B.*, Nilgherry.
Aspidura brayorrhos, *Boie*, Ceylon.
„ Copii, *Gunth.*
„ trachyprocta., *Cope.*
Haplocercus Ceylonensis, *Gunth.*
Falconeria Bengalensis, *Theob.*, Parisnath.
Blythia reticulata, *Blyth.*
Grotea bicolor, *Blyth.*
Trachuschium fuscum, *Blyth.*

GEORGIA. The ancient Iberia. Ptolemy describes it as bordered on the north by the Sarmatian mountains, to the south by a part of Armenia, to the east by Albania, and to the west by Colchis, the present Immeretia. The beauty of the Georgian women cannot be disputed; having fine dark large eyes, very regular features, and a pleasing mild expression of countenance. The dress of the higher ranks is splendid, and carefully adjusted; but the humbler women, notwithstanding they share the same taste for the ceremonies of the bath, and regularly go through them all, seldom wash their clothes and they appear often in rags, and always in dirt. The Georgian dance consists of feats of activity, and strange and unelegant contortions of the limbs; sitting down on their heels, and hopping about in that position.—*Porter's Travels*, Vol. I, pp. 123, 137. See Gargestan: Kartelania.

GERAI RANG. Hind. Dark red colour of Geri earth.

GERANIACEÆ. The Geranium tribe of plants of which the East Indian species are 12 Geranium and 1 Erodium. The Geraniums are largely cultivated as flowering plants but never very successfully. They are propagated by cuttings which ought to be kept somewhat dry till they root. The root of G. nodosum. L. (G. Napaulense. Sw.) is called rowil and bhand, the chief of the genus are G. rotundifolia, columbinum, dissectum, lucidum and robertianum G. parviflorum has a root eaten in Australia.

GERARD. Two brothers, one a medical, the other a military officer in the Bengal army, who both distinguished themselves by their researches into the physical geography of the Himalaya. Dr. Gerard wrote an account of Kanawar. He accompanied Lieut. (afterwards Sir Alexander) Burnes for a great part of the road, in his travels in Central Asia.

GERARDA BICOLOR. Grey. A genus of harmless snakes of the Order Ophidia, Sub-order Serpentes Colubrinæ non-venenati, and Family Homalopsidæ as under:—

Fam. Acrochordidæ.
Fam. Homalopsidæ.
Cerberus rhynchops, *Schn*, Bengal, Moulmain, Andamans.
Homalopsis buccata, *Linn.*, *Kuhl.*, Martaban.
Herpeton tentaculatum, *Lacep.*
Tytheria Hypsirhinoides, *Theob.*, Andamans.
Hypsirhina enhydris, *Schn.*, Calcutta.
„ plumbea, *Boie.*
„ Chinensis, *Gray.*
Fordonia unicolor, *Gray*, Pinang.
Cantoria elongata, *Girard.*
Ferania Sieboldii, *Schl.*, Pegu.
Hipistes hydrinus, *Cantor.*, Rangoon.
Gerarda bicolor, *Gray*, Bassein.
Acrochordus Javanicus, *Hornst.*, Pinang.
Chersydrus granulatus, *Schneid.*

GERARDINIA LESCHENAULTIANA. Dcne. A tree in the Central Province of Ceylon. Grows at an elevation of 5,000 to 6,000 feet. *Thw.*

GERARDINIA ZEYLANICA, Dcne.

Urtica heterophylla, Roxb.—Gass-kahambillya, Singh.

Not uncommon in the warmer parts of Ceylon.—*Thw. En., Plant. Zeyl.*, p. 259.

GERFTSIUS or LATTA ISLANDS. A group of small isles in lat. 0° 21' N. long. 127° 9' E.—*Horsburgh.*

GERICHO. Tel. ? Cynodon dactylon.—*Pers.* ?

GERMAN MILLET. Panicum Germanicum. See Graminaceæ.

GERMAN. This race occupy Central and Northern Europe and form, with the Irish, English, Scotch, Russians, Persians, and Arian hindus, Greeks and Romans,

part of the great Iranian family. Philologists admit a Germanic family of languages. Several of the philosophers of Germany have largely investigated the languages of the South and East of Asia. See Hindo, India, Sanscrit, 311, 312, 314.

GERMAN SARSAPARILLA. See Cyperaceæ.

GERSAPPA. A water fall on the river Gangawatty in N. Canara the fall is nearly 1,000 feet.

GERMSAIR, properly garm-sair. Pers. wintering pastures of nomade tribes. The entire southern region of Fars, bordering on the Persian Gulf, is called the Garmsair or "warm region." It extends from the sea to the latitude of Kazeroon, and runs parallel with the Persian Gulf, from the banks of the Tab to the confines of Laristan; from Bushire, eastward, as far as Kangoon, the tract is named the Dushtistan or "land of plains." The Tungistan, commonly pronounced Tungistoon, or "narrow land," is a small tract of land east of Bushire. The greater portion of the people of the whole garmsair, are an independent lawless set, many of the tribes being robbers by profession. A huge wall of mountains separates the garmsair, or low region, from the Sardsair, or high table land of Persia. One of the most conspicuous of these, is an abrupt lofty hill, named Hormooj; where, specimens of coal were found. Sardsair signifies "cold region." It is also termed the sarhada, a word literally signifying "boundary or frontier," but generally applied to any high land where the climate is cold. See Garmsair, Iliyat, Sarhad.

GERSHTASHP. A Persian hero of the time of Feredun, reputed to be ancestor of Neriman, Sam, Zal and Rustum, *Bunsen* (qu. Gashstasp).

GERSTEN-GRAUPEN. Ger. Barley.

GERU. Hind. Red earth. Earths and clays are met with in the Punjab bazaars known by the names of "geru," "geri," "gil-i-irmani," "gil-i-khardya," "gil-i-abrorshi" or "farsi," "gil-i-makhtum" and "harmuchi."

Geru is a hard, red, laminated, earth, sometimes used in dyeing: school teachers grind it up with water and teach to write with it on wooden slates. It is used medicinally in India.

Gil-i-khardya is a variety of Geru.

Gil-i-abrorshi is a pink clay, hard but less brittle, and paler than "gil-i-irmani."

"Gil-i-abrorshi," "gil-i-farsi," is probably the same or very nearly so.

"Gil-i-makhtum." A variegated earth, deep red, and pure white, soft and irregular; it contains clay, carbonate of lime, and sesqui-oxide of iron.

"Gil-i-irmani" differs little from geru and geri. It is a rough, red, brittle earth, occurring in laminated masses, used as a colour, and also medicinally. It is the representative of the "bolus Armeniacus," once so celebrated as a European medicine.

"Harmuzi," or "harmuchi," is much used for house painting, as an artist's colour, and as a medicine; it is a fine deep chocolate red colour like that yielded by artists "brown madder," only opaque.

"Badochi." A red dye, is used to adulterate the "kamela" red dye from the Rottlera tinctoria; it is also used as a glaze for pottery.—*Hand Book of the Punjab.* See Earth Gil.

GERUDA PATSA RAI. Tel. Bezoar.

GESNERACEÆ. An order of plants several genera of which, Achimenes, Gloxinia, Ramondia, Pyrenaica, and Gesneria, are grown as flowering plants in India.

GETÆ, are supposed by Professor Wilson to be the Sacæ. If we examine the political limits of the great Getic nation in the time of Cyrus, six centuries before Christ, we shall find them little circumscribed in power on the rise of Timoor, though twenty centuries had elapsed. At this period (A. D. 1330), under the last prince of Getic race, Toghluc Timoor Khan, the kingdom of Chaghtai was bounded on the west by the Dhasht-i-kipchak, and on the south by the Jaxartes or Jihoon, on which river the Getic khan, like Tomyris, had his capital. Kogend, Tashkand, Ootrar, Cyropolis, and the most northern of the Alexandria cities were within the bounds of Chaghtai. The Gete, Jut, Jit, and Takshac races, which occupy places amongst the thirty-six royal races of India, are all from the region of Sakatai or Chaghtai. Regarding their earliest migrations, the Pooranas furnish certain points of information and of their invasions in more modern times, the histories of Mahmood of Ghizni and of Timoor abundantly acquaint us. From the mountains of Joud to the shores of Mekran, and along the Ganges, the Jit is widely spread; while the Taskshac name is now confined to inscriptions or old writings. Inquiries in their original haunts, and among tribes now under different names, might doubtless bring to light their original designation, now best known within the Indus; while the Takshac or Takiuk may probably be discovered in the Tajik, still in his ancient haunts, the Transoxiana and Chorasmia of classic authors, the Mawar-ool-nahr of the Persians, the Turan, Turkisthan, or

Tocharisthan of native geography, the abode of the Tachari, Tacshac, or Toorshka invaders of India, described in the Pooranas and existing inscriptions. The Gete had long maintained their independence when Tomyris defended their liberty against Cyrus. Driven in successive wars across the Sutlej, they long preserved their ancient habits, as desultory cavaliers, under the Jit leader of Lahore, in pastoral communities, in Bikanir, the Indian desert and elsewhere, though they have lost sight of their early history. The transition from pastoral to agricultural pursuits is but short, and the descendant of the nomadic Gete of Transoxiana is now the best husbandman on the plains of Hindustan. Dr. Jamieson proves satisfactorily that the Getæ and Thracians were the same people, and that it is very probable, if not certain, that the Getæ and Goths were the same people. He also observes that the Getæ and Scythians were the same people. On the northern side of the Danube, opposite to the territory occupied by the Scythians, and in the angle forming a part of Thrace, there was a small nation in the time of Herodotus, who bore the name of Getæ. Ancient writers distinguish the Getæ from the Massagetæ, by placing them in countries remote from each other. Les peuples qui habitent ces vastes contrées de la haut Asie, bornées au midi par l' Inde, la Chine, et la Perse, à l' orient par la mer du Japon, à l' occident par les fleuves qui se jettent dans le mer Caspienne et la Pont Euxin, au nord enfin par la Mer glaciale, sont connus sous le nom vulgaire et collectif de Tartars ..... Quoi qu' il en soit de l' origine de ce nom des Tatars, les Européens, qui l'ont légèrement altéré, s'en servent indifféremment pour designer une foule de nations à demi civilisées, qui different beaucout entre elles, ainsi que la surite de cet ouvrage le fera vois. Dans ce sens, je crois qu'il est bon de conserver à ces nations le nom collectif de Tartares, quoique corrompu préférablement à celui de Tatârs, qui paroît plus correct mais qui appartient à un seul tribu ne doit pas servir à designer les autres tribus en général." The Massagetæ, Getæ or Goths, seem gradually to have advanced from their ancient limits into the more fertile districts of Asia. And all the lower and middle parts of the western boundary of the Indus, went by the name of Indo-Scythia. The Scythians, chiefly the Getæ, had expelled the Greeks, who continued long after the retreat of Alexander, and repeopled it with colonies of their own nation. The Getæ were the bravest and most just of all the Scythians, and continued to preserve this character in their new possessions. They must have pursued the hunter's occupation, living more by the chase, though these occupations are generally conjoined in the early stages of civilization. Asi was the term applied to the Gete, Yeut or Jut, when they invaded Scandinavia and founded Jutland. The Asi seem to have been a northern race with several divisions some of which appear to have been conquered by the Egyptian King Seti III.

Colonel Tod considers that Scandinavia was occupied by a tribe of the Asi. He says that the Sueni or Suiones erected the celebrated temple of Upsala in which they placed the statues of Thor, Woden and Freya, the triple divinities of the Scandinavian Asi. Herodotus says the Getes were theists, held the tenets of the souls immortality as with the budhists. Were we to contrast the literary acquirements of the Chaghtai princes with those of their contemporaries of Europe, the balance of lore would be found on the side of the Asiatics, even though Elizabeth and Henry IV of France were in the scale. Amongst the princes from the Jaxartes are historians, poets, astronomers, founders of systems of government and religion, warriors, and great captains, who claim our respect and admiration.—*Tod's Rajasthan*, Vol. I., pp. 6, 60, 322, 605 *Pennant's Hindostan*, p. 63. *Chatfield's Hindostan*, p. 63. *Recherches sur les Langues Tartares*, pp. 1, 3. *Kennedy on the Origin of Languages*, p. 57. See India. Jat, Scythia. Afghan, India, Yuti.

GETHSEMANE, A Hebrew word, signifying "wine-press."—*Robinson's Travels. Palestine and Syria*, Vol. I, p. 121.

GETONIA FLORIBUNDA. *R.* ii, 428.

Bandi murugudu, TEL. | Karra vadala, TEL.

GETSA CHETTU. TEL. Guilandina bonduc.—*Linn.*

GEUHVU, BENG. Excoecaria agallocha.

GEWA. HIND. Excœcaria agallocha.—*Linn.*

GEUM. An ornamental genus of plants, G. coccineum being extremely handsome, mostly the produce of N. America and Russia, they require a light loamy soil, and are increased by dividing the roots or by seed.

GEWLA. TAM. See Gowla.

GEYAR. HIND. Cedrus deodara.

GEYLA. A river in Kattywar, lat. 22°, long. 71° 20' E. flows into gulf of Cambay. Length 60 miles.

GHA, also ghas, HIND. grass, herbage. Malori gha, Hind. Rumex hastatus, Shiligha Hind. Chrysopogon glaucoptis. See Ghans, Ghas.

GHADIR AR. A practice followed by the shiah mahomedans of India. On the 18th of the month Zi-ul-haj, they form three images of dough, to represent the kalifs Abu-bakar Omar and Osman, fill them with honey and, pricking them with pins, they suck the honey as if it were the blood of these kalifs. *Wilson.*

GHADSI, MAHR. Vagrant musicians, said to be descendants of the race who formerly inhabited the great southern forest—the Dandakaranya.

GHAFIZ, HIND. Delphinium saniculæfolium.

GHAFRAN HIND. Saffron.

GHAGRA. HIND. a petticoat. Rajput ladies have only three articles of paruro; the ghagra or petticoat the kanchi, or corset; and dopati or scarf; the fashion varies in each province and tribe, though the texture and materials are every where the same: cotton in summer, and quilted chintz or broad cloth in winter.—*Tod's Rajasthan* Vol. I, p. 651.

GHAI KWAN, see Kwang-tung-chi.

GHAIR, AR. Without.

GHAIR MULAZIM, HIND. as opposed to mulazim, persons in the villages of the Panjab who help the farmers, but are not regularly hired cultivators.

GHAIR-MEHDI. A mahomedan sect who believe that the imam Mehdi has come to the world and gone. The words mean, without, or deprived of, Mehdi. See Elias; Mahomedan.

GHALICHA. HIND. PERS. Woollen rugs. Woollen carpets.

GHALLAH. ARAB. grain.

GHALME. HIND. Anabasis multiflora.

GHANDA-BELA. HIND. Andropogon schænanthus. LINN.

GHANDARVA (Jaksha) the voiceful spirits in the air who sing the praises of Brahma. See Gandarva.

GHANNA. DUKH. Sugar cane.

GHANS. GUZ. HIND. Grass. Hay: Herbage. See Ghansor-Kafur

GHAN SENG. CAN. Bignonia xylocarpa.—*Roxb.*

GHANTA. HIND. A clock: a gong: an hour: ghanta bajana, to strike the hour.

GHANTARAVAMU. SANSC. A species of Crotalaria. This, like the Telugu name Gilaka chettu is a generic term, signifying "rattle" from the sound of the seeds in the dry legume.

GHANTHA WOOD. ANGLO-TEL. Gantha karra. TEL. A wood of the Northern Circars.

GHAO. HIND. A wound, an ulcer wounded. Hence, Ghaeja (?) GUZ. The village barber, and barber surgeon.

GHAR. ARAB. PERS. HIND. White quartz. White cornelian. Ice, hail, also a cave.

GHAR, MONGOL. The hand: it is the same as the Sanscrit word Kar, the Hindi Gar, and in Greek Kheir.

GHAR. A river near Kilcheepoor.

GHAR, HIND. The best kind of ginger.

GHARA. HIND. A globular and short necked earthen vessel. See Gharra.

GHARAM. MAL. Salt.

GHARASKAI. HIND.—? ?

GHAREI KASHMALU. HIND. Lallemantia Royleana.

GHARGHASHTAI. HIND. Amygdalus Persica.

GHARI. A water clock; a clepsydra; a brass gong, a division of time, about 24 minutes, hence, Ghariali, a gong striker.

GHARI. MAR. Ghadi. A Sudra attendant on a temple, corresponding with a Gurare.

GAVIAL, properly Gharial, is the Gavialis Gangeticus, the Narrow-beaked Crocodile of the Ganges, (Edw., Phil. Trans. Natural Syst. Amph.) Gavialis Gangeticus, Gray, (Synops Rept.) the Gavial of the Ganges, Griff., 'Anim. Kingd.' The Gavial of the Ganges is supposed to be the largest of the living Saurians. The measurement of the largest mentioned by Messrs. Dumeril and Bibron is given at 5 metres, 40 centimetres (17 feet 8 inches.)—*Engl. Cyc.*, p. 205. See Gharial; Reptilia.

GHAR-I-JAMSID, See Kandahar.

GHARIKUN. AR. HIND. PERS. Agaric; Boletus igniarinus also Agaricus igneus, also Polyporus, sp. A fungus used in medicine.

GHARILPIT. A mine of precious garnet occurs at Gharilpit, about eight miles south of Palunshah, in the Hyderabad country, in the detritus of a granitic rock, penetrated by trap-dykes, and composed of mica, garnets, kyanite, quartz, and felspar. Dr. Voysey, states that the precious garnets are found at the depth of eight or ten feet in the alluvium at the foot of the rock. The surface of the rock and soil were strewed with garnets in great profusion, but these were generally of a very inferior quality.

GHARIPURA Also called Elephanta, an island in the Bombay harbour, may be called a complete pantheon: for among the hundreds of figures there sculptured, every

principal deity is found. Budha is, evidently, from his size and situation, a principal personage there; yet not he to whom the temple seems peculiarly dedicated, which is apprehended to be the One Supreme Being. But as no representations are ever made of that being, there are shown his three principal powers, or attributes, (viz., according as they be contemplated—mythologically, ethically, metaphysically, or philosophically,) are,

Brahma.	Creation.	Past.
Vishnu.	Preservation.	Present.
Siva.	Destruction.	Future.
Power.	Matter.	Earth.
Wisdom.	Spirit.	Water.
Justice.	Time.	Fire.

Moor's Hindu Pantheon.

GHARKA PULLI—? Garcinia cambogia.

GHAROT. HIND. Oxystelma esculenta.

GHARRA. HIND. An unglazed earthen water pot hence "Ghar-nai" a raft supported on pots. See Ghara.

GHARRA RIVER. The modern Punjabi name of the Hyphasis, the first of the five rivers of the Indus, reached by Alexander. The Gharra runs north of Bahawalpoor, distant two miles. See Punjab. *Ind. in 15th Cent.*

GHAS. HIND. Adiantum venustum. See Gha; Ghans.

GHASAL. AR. HIND. PERS. The mahomedan legal washings of the body. The mahomedans have two kinds of ablution or lustration, the "Ghasal" or legal washings for all classes, after any kind of bodily uncleanness such as the pollutio nocturna, menses, coitus, or child-birth, for until purified it is unlawful to eat, pray, touch the koran, or go to the mosque. If the legal Ghasal be not needed, nevertheless, before prayer, the wazu or washing in a prescribed manner of the face, hands and feet is indispensable. It occupies two or three minutes. The wazu is only needed, when any minor cause of impurity as in performing the natural functions has occurred. Where water is not to be had, the Teyammum, or rubbing the face, legs and hands with fine dust or dry sand suffices.

GHAS-KUCHOO. BENG. Typhonium flagelliforme.

GHASVEL. HIND. Cuscuta reflexa.

GHAT. HIND. A term employed in India to designate a ferry, or landing place on a river; a range of hills or the scarped wall of a table land; or the defile or pass leading through such. The Western ghats extend from the valley of the Tapti, to the gap of Palghaut, a distance of 800 miles. They are clothed with dense forests, with few inhabitants. The coast line from the sea to their base is generally flat and low with occasional spurs or solitary hills, but the ghats rise abruptly, almost scarped, to an average height of 3,000 feet, Purundar is 4,472, and Mahabaleshwar, 4,700, Matheran is a projecting spur. The eastern Ghats extend from Orissa to Coimbatore, along the eastern side of the peninsula of India, at distances of 50 to 150 miles from the Bay of Bengal. They are steep and well clothed with forests. The country lying between them and the sea is low, scarcely rising above 100 feet above the sea. See Ghatiya.

GHATICA. SANS. An Indian hour, 24 minutes European time. See Danda.

GHATIYA. H. A brahman who attends at ghats where hindu pilgrims bathe, to take care of their clothes, and supply sandal, flowers, &c., he exacts certain fees, as a right, denouncing imprecations on any who resist his exactions, these people sometimes repair to a distance to escort pilgrims to their places of ablution. *Wilson.*

GHAT-MANJHI. H. BENG. A ferryman, applied also to a man who regulates the hire of boats, supplies, &c. &c. *Wilson.*

GHATNA, HIND.? A tree of Chota Nagpore. Hard, yellow timber.—*Cal. Cat. Ex.* 1862.

GHATOT-KACHA, See Inscriptions, p. 373—8.

GHAT PALM. ENG. Caryota urens.

GHATTI GOND. GUZ. HIND. Gum-Arabic.

GHATYARI. HIND. Andropogon iwarancusa.

GHAZ. HIND. PERS. Tamarix orientalis; tamarisk.

GHAZA, AR. in mahomedanism, an expedition against infidels: the term Ghazi is applied to those who fight for their religion to the death. *M'cGregor's History of the Sikhs*, Vol. I, p. 193.

GHAZAL. AR. An ode, it should consist of not less than five, or more than eighteen, couplets; the last line of each couplet terminating in the same letter of the alphabet. The two first lines of the ode rhyme together, after which every alternate line; and the last verse always contains the "takhallus," the assumed literary name of the poet.

GHAZAN son of Kai-Khatu and nephew of Kablai Khan, succeeded to his father's throne in A. D., 1295. He was a brave soldier and statesman.

GHAZGI BRAHUI. See Kelat, p. 492.

GHAZI. PERS. HIND. A mahomedan soldier fighting for his faith. A religious

warrior. One who has slain an infidel.

GHAZI MIYAN. A mahomedan saint in high repute with the agricultural and lower classes of the N. W. provinces, except in Dehli, and included among the Panchpeeree. The Mirat-i-Musaoodee says he had a dream the night before his death, in which his mother came and placed a bridal chaplet on his brow as being indicative of the crown of martyrdom with which he was to be honored on the following day. He is partly on this account called Gajna Doolha and Salar Chhinula. Who this Ghazee Meean was is a question on which even mahomedan authorities are not agreed. Elliot quoting M. Garcin de Tassy, in his memoire of the Moosulman religion in India.

GHAZIPUR. L. 25° 33′ 6″. N. L. 83° 31″ 8. E. a town in Hindostan, on the left side of the Ganges, 71 miles N. E. of Benares in the Benares district of the N. W. Provinces. The Dak bungalow is 351 feet above the sea. Lord Cornwallis is buried there. He had been appointed Governor General a second time and was proceeding up the country when he fell sick and died here. *Tr. of Hin.* Vol. I. p. 121.

GHAZLEI. Hind. Tamarix dioica.

GHAZNAVI. Belonging to Ghazni.

GHAZNI. A town in Afghanistan 7,726 feet above the sea. On the north of the town, about half a mile from the gate, rises the first of sultan Mahmud's minars, or towers, the other is about four hundred yards beyond it, in the same direction. They both rise alone, based upon rough stone-work. The most northerly is the handsomest structure; but both are exquisite specimens of brick-work. They are about 140 feet in height, and much damaged. Ghazni commands a most extensive plain, which is but indifferently furnished with villages, and castles, although not absolutely without them, and the river of Nawar runs beneath the town walls on the northern side. The town is seated in the midst of a rich grain country, and in the adjacent plains of Nawar it has immense fields of pasture. Ghazni in its prosperity was frequently taken and sacked, memorably, by the great Hulaku and by Alla-ud-din, the Afghan prince of Ghor. Ghazni has the repute of being a very ancient site. Wilford, following Sanscrit authorities, tells us, that the kings of the Yavana and Deucalion resided at it. He further tells us, that its proper ancient name was Sabal, Zabal, or Saul, as written by Chrysococcas, whence he refers it to be the Ozola of Ptolemy. He also conjectures it to be the Oscanidati of the Pentingerian tables, noted as twenty-two fursangs from

Asbana, which he considers Kabal, and thirty-five fersangs from Rupha, which he would identify with Sheher Safar. The annals of the Yadu of Jeysulmir state that long anterior to Vicrama, they held dominion from Ghazni to Samarcand, they established themselves in those regions after the Mahabarat, but, on the rise of mahomedanism or the pressure of other races, they were again impelled towards the Indus river. They assert that Ghizni is properly Gujni founded by the race of Yadu: and in a curious specimen of hindu geography presented by Col. Tod to the Royal Asiatic Society, all the tract about the glaciers of the Ganges is termed Gujlibun, or Gujlibu, the 'Elephant Forest.' elephant wilds. There is a 'Gujingurh' mentioned by Abul Fazil in the region of Bijore, inhabited by the Sooltano, Jadoon, and Eusofyze tribes.

The empire of Ghizni was founded by Abistagi, governor of Korasan A. D. 960, who revolted from the king of Buchara: whose ancestor, in his turn, had risen to power, on the ruins of the kaliphat empire, about 87 years before. Ghizni consisted chiefly of the tract which composed the kingdom of Bactria, after the division of Alexander's empire: that is, the countries lying between Parthia and the Indus; and south of the Oxus. Emperors, who have reigned in Hindoostan since the Ghiznian conquest. *Tod's Rajasthan*, Vol. II, p. 455. *Rennell's Memoirs*, p. xlix.

Ghiznian Emperors Began to reign.

	A. D.		A. D.
Mahmood I.	1000	Ibrahim I.	1056
Mahomed I.	1028	Musaood III.	1098
Musaood I.	1028	Arsilla	1115
Modood	1041	Byram I.	1118
Musaood II.	1051	Chusro I.	1152
Ali	1051	Chusro II.	1159
Reshid	1052		
Feroch Zaad	1052		

Ghorian, or Gaurian Emperor.

Mahomed II. or Mahomed Ghori	1118

Patan, or Afghan Emperors.

Cuttub	1205	Keikobad	1286
Eldoze	1210	Feroze II.	1289
Aram	1210	Alla I.	1295
Altumsh or Iltumsh	1210	Omar	1316
Feroze I.	1235	Mubarik I.	1317
Sultana Rizia, empress	1236	Tuglik	1321
Byram II.	1239	Mahomed III.	1325
Musaood IV.	1242	Feroz III.	1351
Mahmood II	1245	Tuglik II.	1388
Balin	1265	Mahomed IV.	1389
		Aba-Buker	1389
		†Mahmood III.	1393

Seid Dynasty.

Chizer	1414	Mahomed V.	1433
Mubarick II.	1421	Alla II.	1447

Dynasty of Lodi.

Beloli ..	1450	Ibrahim II. ..	1516
Secunder I. ..	1488		

Mogul, or Mongol Emperors.

Baber ..	1525	Humaioon ..	1530

Second Patan Dynasty.

Shere ..	1542	Mahomed VI. ..	1552
Selim ..	1545	Ibrahim III. ..	

Mogul Dynasty restored.

Humaioon ...	1554	Ferkhser ..	1713
Acbar ...	1555	Ruff-eh-ul-Dirjat	1717
Jehangir ...	1605	Ruff-eh-ul-Dowlah	
Shah Jehan .	1628	‡ Mahomed Shah .	1718
Aurungzebe, or Alumgir I .	1659	Ahmed Shah ..	1748
		Alumgir II ...	1753
Bahadur Shah ...	1707	Shah Alum ..	1760
Jehunder Shah ..	1712		

* He began his reign in Ghizni, A. D. 977.

† Tamerlane's invasion happened in this reign.

‡ And Nadir Shah's in this.

Acbar was the first who made a great innovation in the standard of the coss. He directed it to be taken at 5,000 guz, equal to 4,757 yards; that is, about a British mile and 5 furlongs.—*Rennell's Memoirs*, p. 4.

It was captured by the British on the 23rd July 1839 re-captured 6th September 1842. *Vigne's personal Narrative*, p. 128-9. *Mason's Journeys*. Vol. II. p. 222. See Kabul p. 433 Kattiyawar. Khyber, Kufa, Mahmud, Somanath.

GHAZN RIVER. Rises in the Huzareh mountains, about Lat. 33° 50', Lon. 68° 20'. Its course generally southerly, as far as lat. 33°; afterwards south-westerly, into lake. Abistada, in lat. 32° 42' lon. 68° 3'.

GHEBBANELLI KURA. Tel. Greens of Premna integrifolia.—*Roxb.*

GHEBBUNELLI VERU. Tel. Root of Premna integrifolia.—*Roxb.*

GHEBR properly GABR. Pers. A term of reproach, applied to the Parsees in Persia, it seems to correspond to the Turkish Gaour. See Gabr.

GHECHO. Beng. Spathium chinense.

GHECHU. Hind. Aponogeton monostachyon.

GHEE. Hind. Clarified butter. See Ghi.

GHEENTI-NUTI. Beng. Amarantus tenuifolius.

GHEGURA. Hind. also Gheghura, is the unripe pod of gram. Also the unripe bole of cotton which is known also by the names of Goolur, Ghentee, and Bhitna. When it bursts it assumes another name, when this change in the plant occurs, it is usual eastward of the Jumna, to select the largest plant in the field and having sprinkled it with buttermilk and rice water it is bound all over with pieces of cotton, taken from the other plants of the field. This selected plant is called Sirdar or Bhogul-daee, i. e., Mother-cotton, from bhogla, a name sometimes given to a large cotton-pod and daee (for daiya) a mother; and after salutations are made to it, prayers are offered that the other plants may resemble it in the richness of their produce. To the west of the Jumna there is rarely a Bhogul-daee, but when the pods begin to burst, women go round the field, and as a kind of lustration, throw salt into it, with similar supplications that the produce may be abundant. *Tibullus Lib. II, El. i, says,*

Dii patrii purgamus agros, purgamus agrestes.
Vos mala de nostris pellite limitibus.
Neu seges eludate messem fallacibus herbis.

The practice appears to be observed with a similar object and in somewhat similar fashion to the Ambravalia of the Romans and the Field-Litanies of the English Church Rogation or Gang-days. *Elliot.*

GHEJASUDUMUSTRA. Sans. Pedalium murex. Gokeru.

GHELIJRU. Tel. Trianthema obcordata.—*Roxb.*

GENDAGA TRIVAGUM. Tam. Sulphuric acid.

GHENDAGAM. Tel. Sulphur.

GHENDAMULA. Sans. Hibiscus esculentus.

GHENGIRAVI CHETTU. Tel. Thespesia populnea tree:—*Lam.*

GHENNERU. Tel. Nerium odorum.—*Ait.*

GHENNERA VERU. Tel. Root, of Nerium odorum.

GHENTAL. Hind. Tulipa stellata.

GHERIA, a small river that rises in the Balaghat.

GHERIAH, was the chief town and strongest port of Angria: in 1756 it was attacked and taken by a British squadron under Admiral Watson, and on land by an army under Clive. A Mahrata army, was present, but held aloof.

GHERIAH. Twenty-one miles from Jungipore is Sooty, where the Bagiritti branches off from the Ganges. The neighbourhood of Sooty is remarkable for the battle of Gheriah, fought between Ali Verdi and Sarferaz Khan in 1740. There was another battle fought in 1763 between Meer Kasim and the British. *Tr. of a Hind.* I. p. 85.

GHERU. Can. Semecarpos anacardium.

GHERUTTI KAMA. Tel. Vernonia cinerea, *Less.*

GHET KUCHU. Beng. Arum orixense, syn. of Typhonium orixense.—*Schott.*

GHEZO HIND. Manna. See Kudrat Halvassi.

GHEZUNJGABEEN MANNA. See Kudrat. Halvassi.

GHI. GUZ. HIND. Clarified Butter.

Ghruttham, grita, SANS. | Neyi, TAM. TEL.

Ghi is largely manufactured in all the south of Asia and generally sells at 25 per cent. above the cost of butter. Ghi is made in very large quantities in the jungle tracts of the "Bar." The finest ghi used on the Bombay side of India, comes from Karachee near the mouth of the Indus—*Hindu Infanticide*, p. 177.

GHIANDE. IT. Acorns; the seed or fruit of the oak.

GHIAOUR, originally Gabar or fire-worshipper, is now synonymous with Kafir, and is applied to the people who preceded the mahomedans, as well as to Europeans. *Rich's residence in Koordistan*, Vol. I. p. 30. See Gaour, Gabr Ghabr.

GHAIAS-UD-DIN - bin - HUMAM- UD-DIN. His takhalus or literary name was Kondemir. His book is entitled Habib-us-sayar-fi afrad-ul-bashar, that is to say, the curious part of the lives of illustrious men. It is a history which he had extracted from that which his father Mircond had composed, and entitled, Rauzat-us-Safa, but to which he made augmentations. He dedicated this book to the secretary of state belonging to the king of Persia, shah Ismael Safavi, who gave him the name of Habib-ullah, and for that reason the book had the name of Habib given it in the year 1508, Heg. 927, in the Reign of Lewis XII. He was also author of another history, which is entitled Khalasat-ul-Akhbar; or The Cream of Histories.—*History of Genghiz Khan*, p. 422.

GHI-TURAI. HIND. Luffa pentandra.

GHILICHI, a branch of the Tochtamish, the first of the tribes of Kapchak *Malcolm's History of Persia*, Vol. II, p. 231.

GHIDAYU. CAN. Tree.

GHI-GOWAR. HIND. Aloe India. *Royle.* In Southern India, plants of the "Ghi-gowar" or "Kul-bunda," the Aloe perfoliata, are suspended with their roots upwards, with a longitudinal incision in each leaf, to permit the aroma of the juice to become apparent, and disperse musquitoes from the room.

GHI KA GADDA. DUK. Isoetes Coromandeliana.

GHI-KWAR. HIND. Aloe perfoliata.

GHIKAR, a Scythic race inhabiting the banks of the Indus; at an early period of history they were given to infanticide. It was a custom, says Ferishta, "as soon as a female child was born, to carry her to the market place and there proclaim aloud, holding the child in one hand, and a knife in the other, that any one wanting a wife might have her; otherwise she was immolated." By this means they had more men than women, which occasioned the custom of several husbands to one wife. When any one husband visited her, she set up a mark at the door, which being observed by the others, they withdrew till the signal was removed. The Ghikar are supposed to be the descendants of the mountaineers whose chief Ambisaces sent ambassadors with presents to Alexander. Baber writes the name Guker but it is also written Ghuka and Khaka.—*Tod's Rajasthan*, Vol. I, p. 636. See Afghan, Kabul, Khetri, Jelam.

GHI KOMAR. HIND. Aloe Indica.—*Royle.*

GHILAN. A district known to the ancient Arians as Varena. It was their thirteenth settlement and formed the nucleus of their ancient possessions in India. Haug has shown Varena with the four corners to be a Ghilan. The curse of Ahriman was irregular menstruation. See Arians. Kizzel Ozan.

GHILANI. Abd ul Kader Ghilani, styled Sultan ul Aulia.

GHIL GARANTA. TEL. Crotalaria verrucosa.—*Linn.*

GHILIAK, a nomade race dwelling on the coast of Tartary and Siberia as far as Ayan on the north-western extremity of Seghalin. They are low in stature, stout, and rather broad in proportion to their height. Shape of the head round, cheek bones prominent, eyes oblique, well defined eye brows, more arched than those of the Chinese, hair coarse black and bound into a tail, and occasionally wearing a coarse black beard, hands, small and delicate, with well shaped nails, complexion fair and ruddy. The women are small but prolific.

Hand	Gna-la.	Bear	Ma pa.
Teeth	Ik-ta.	Water	Mu.
Nose	Muk-sha.	Sea	Na mu.
Ear	Shia.	River	Widhi.
Foot	Bug-dal.	Grass	Uk-ta.
Lip	Hum.	Cause	Wilmak dha.
Whiskers	House.	Fire	Thoh.
Chin	Ge.	Rain	Tig dhu.
Child	Nooch-ka.	Sauce pan	Hat chua.
Man	Besagdh.	Stone	Jo lo.
Gun	Mut-cha.	Net	Ah Dhu pih.
Shoes	Unta.	Forest	Dhu we.
Button	To-ho.	One	O mo ko.
Bark	I-wak-tha.	Two	Dhu.
God	Nang ngha.	Three	Sla.
Sun	Sook.	Four	Dhi.
Moon	Beagh.	Five	Thungha.
Dog	I nok.	Six	Nung o.
Fish	Nung-ye.	Seven	Na dha.

Crow	- Ga ak.	Eight	- Ja pa.
Salmon	- Sukja sa.	Nine	- Huyu.
Deer	- Talki.	Ten	- Ja.

Dr. Latham's Discriptive Ethnology.

GHILJI, an Afghan tribe which, with the Abdali, form the bulk of the Afghanistan population, but chiefly dwelling in Kandahar and Kabul. The Ghilji tribe occupy the principal portion of the country between Kandahar and Ghazni, and are the most numerous of the Afghan tribes. These people are also found between Farrah and Herat, and again between Kabul and Jelalabad, but in either position, being under due control, they are little heard of. The Ghilji between Kandahar and Ghazni comprise the great families of the Ohtak, the Thoki, the Tereki and the Andari with their sub-divisions. Of these, the three first are independent, and the last, residing at Mokar, are subject to the government of Ghazni. The Ohtak are acknowledged the principal of the Ghilji families, and in the period of their supremacy furnished the chief, or padshah. The Ghilji are both an agricultural and a pastoral people, dwelling in villages and castles as well as in tents. They are a remarkably tall fine race of men, with marked features, the Ohtak and Thoki peasantry being probably unsurpassed, in the mass, by any other Afghan tribe for commanding stature and strength. They are brave and warlike, but the generality of them have a sternness of disposition amounting to ferocity, and their brutal manners are not discountenanced by their chiefs. Some of the inferior Ghilji are so violent in their intercourse with strangers that they can scarcely be considered in the light of human beings, while no language can describe the terrors of a transit through their country, or the indignities which are to be endured.

The Ghilji although considered, and calling themselves, Afghans, and, moreover, employing the Pushtu, or Afghan dialect, seem to be a mixed race. The name is evidently a modification or corruption of Khalji or Khilaji, that of a great Turki tribe, mentioned by Sherif-ud-din in his history of Timur. The testimony of Ferishta, while clearly distinguishing the Ghilji tribes from the Afghans, also establishes the fact of their early conversion to mahomedanism, still there is a tradition that they were, at some time, christians of the Armenian and Georgian churches. This tradition is known to the Armenians of Kabul; and they instance, as corroborating it, the practice observed by the Ghilji of embroidering the front parts of the gowns or robes, of their women and children, with figures of the cross, and the custom of their house-wives, who, previous to forming their dough into cakes, cross their arms over their breasts, and make the sign of the cross on their foreheads after their own manner.

East of Ghazni, in the province of Zurmat, are the Suliman Khel Ghilji, exceedingly numerous, and notorious for their habits of violence and rapine. These have no positive connexion with the Thoki or other tribes, neither have they one acknowledged head, but are governed by their respective malek, who are independent of each other. Dost Mahomed Khan reduced them to the condition of tributaries, after having destroyed a multitude of their castles.

The Ghilji women cannot boast of beauty, which they strive to supply by ornament. The girls, from the age of eight to twenty, are not much veiled, but they twist their hair, and tie it like a cake, which hangs over their forehead and a little below their eyebrows. The centre of the lock (or hairy cake) is adorned by a gold or silver coin, which, in black hair, shines prettily. This is the sign of virginity amongst the Ghilji. The women allow their twisted locks to hang upon their ears, and even as far as their arms.

Moorcroft met with a party of wandering Ghilji: their tents were nothing more than flimsy black blankets, stretched over forked sticks about four feet high; within, they had some more blankets, sacks, and pack-saddles, and without, a few loads of mats, ropes, and netting, for the formation of their packages: both men and women were robust, with strongly marked features.—*Moorcroft's Travels*, Vol. II. p. 360. *Masson's Journeys*, Vol. II. p. 198 to 212. *Pottinger's Travels*, *Beloochistan and Sind*, p. 200, *Mohun Lal's Travels*, p. 323. See Abdali, Kaffir, Kalmuk, Kandahar.

GHIMISAG. Beng. Hind. Pharnaceum mollugo. Syn. of Mollugo cerveana, *Ser.* Mollugo spergula.

GHIN. Hind. Elæagnus *sp.*

GHINALITA-PAT. Beng. Corchorus capsularis and C. olitorius. *Linn.* Jute.

GHIRIADAKI. Sans. Cajanus Indicus.

GHISSA, an atoll island in the Archipelago. See Keffing Island.

GHISSARI a wandering blacksmith.

GHI TREE. Bassia butyracea.

GHI TURAI. Hind. Also ghia tori, Luffa pentandra.

GHODA-SALA. Sans. Iguana.

GHODASALA. Sans. Mimosa abstergens.

GHOIAN. Beng. Hind. Arum colocasia.

GHOGRA, a confluent of the river Ganges. Fyzabad and Oudh are built on its banks. It rises N. of Kumaon, in lat., 30 28,N.,lon. 80° 40,E., probably at between 17,000 and 18,000 feet. It runs S. E., 33 m., S. W., 70 m.; S. E., 12 m.; S., 30 m.; S., 23 m. further; S. E, to Ganges, near Chupra,—Length, 606 m. It receives the rivers Raptee, 134; Kurnalli, 225; Bhyrvee, 70; Dhauli, 45; Goringunga, 60 m. About 49,000 sq. m. are drained by it. Butler describes it as navigable for the largest class of boats in all seasons.

GHOL. HIND. Coccinea Indica.

GHOLAK. AR. Euphorbium.

GHOLAM. AR. HIND.PERS, properly ghulam a youth, a page, a slave. Elliot considerthat in this word we have the origin of the English gallant, gallantry.gala, &c., Ghulam being derived from the Arabic gh'l'm libidinosus, and hence it signifies a comely youth, one chosen as an attendant, or page for his personal endowments. The Spaniards borrowed it from the Arabs, and called a handsome young man "galana" from which, are derived "galante," "galanteur," "galanteria" all subsequently adopted into the European tongues through the influence of the amatory poetry of the troubadours. In Persia Gholam, is now applied to an inferior civil officer or policeman, answering to a "cavass" in Turkey. Several of these are attached to each European embassy in Persia. The Shah has also a number attached to his person who are called Golam-i-Shah: these form a kind of body-guard. The Russians use their gholam only for posting purposes, to accompany members of the embassy, and have a body of Cossacks for escort. The British embassy gholams are used for escort and also for posting purposes, as the regular native Indian cavalry who used to form the escort of the British ambassador was discontinued during the mission of Sir Gore Ouseley, which lasted from 1812 to 1818.

Fraser tells us that in Persia, the Kooleragassee is the superior of the slaves. Each of the princes, as well as the king, has a certain number of confidential troops, who act as guards, or agents, on all important occasions, and who are called "gholam," or slaves. *Elliot. Fraser's Journey into Khorasan*, p. 105. *Ed. Ferrier's Journ.*, p. 21.

GHOL-MUHUNEE. BENG. Deeringia Indica.

GHOND. See Gond, India, Kelat, Kond; Ku p. 488.

GHONDWANA. See Gondwanah, Kol, Koli, p. 536.

GHONGU KURA. TEL. Hibiscus cannabinus.

GHONI, wheat and barley grain, without husk.

GHOONT, or Kund is a hill breed of horses, generally small, strongly made, hard-mouthed, and sometimes almost unmanageable. In ascending hill faces, or passing along the declivities of mountains, it is best to let them have their own way, for in an intricate passage they often show more sagacity than the rider; their common pace is a kind of amble, and they stop every now and then to breathe, when no application of the whip will move them; they are sure footed, and sometimes halt at the edge of a precipice, to the terror of the rider; they are not so quick in ascending hills as the low country horses, but they descend with double the speed, and endure great fatigue. The ghoont, though a useful animal, seldom carries any burden but a man, the total number in Spiti is 295; they are bred chiefly for sale. They have two breeds, one a small ghoont, never above 12 hands high, peculiar to the country; and the other a large breed, from 13 to 13½ hands high, is bought from the Chinese, and usually comes from Choomoortee, for a Chinese ghoont two years old, they give a Spiti ghoont four years old. All are equally hardy and are kept out the whole winter, except the yearlings, which are housed. During winter the ghoont live on the roots of the stunted bushes, and are very expert at scraping the snow from off them with their fore feet. The breed of ghoont might be improved with a little care. Many are killed during winter by wolves and leopards.—*Powell Handbook. Capt. Gerard, Account of Koonawur*, p. 112.

GHOOR, a lizard of Guzerat which the natives believe to be poisonous, there are two kinds of "Ghoor" according to native report, "Putlah Ghoor" and "Chundun Ghoor." So anomalous a creature as a venomous lizard will, however, be believed in by no naturalist, until he has ocular demonstration of the existence of the poison-apparatus. Hardly a snake is caught in India, that is not,according to the snake-catcher,the worst snake in the country.

GHOOROOGOO KURA. TEL. Celosia albida. LINN.

GHOOS, is literally a bribe; and no treaty or transaction was ever carried on in Rajputanah without this stipulation. So sacred was the ghoos held,from tyrant usage, that the Peshwa ministers, when they ruled the destinies of their nation, stipulated that

the ghoos should go to the privy purse.—*Tod's Rajastham*, Vol. II. p. 404.

GHOOSOOL. See Kunawer.

GHOR, also called Ghoristan, the mountainous country between Hirat and Ghazni. According to Istakhri and Ibn Haukal, it is a rugged mountainous country, bounded by the districts of Herat, Farrah, Dawar, Rabat, Kurwan, and Gharjistan, back to Herat, which are all mahomedan countries. Ghor itself was a country of infidels, containing only a few mahomedans and the inhabitants spoke a language different from that of Khorasan.—*Elliot. Elphinstone's Cabul Vol.* I., p. 244.

GHORA. HIND. A horse; hence Ghorawala, a horse-keeper, a groom.

GHORA or Bhutghora, subsequently known as Ahmedabad.

GHORA, is the name of an old and extinct sircar, which according to the register in the "Ayeen-i-Akberee," contained 39 mehals and yielded a revenue amounting to 72,62,780 Dam.

GHORAGHAT Lit. Horse-ferry. A town and zemindari in the Bogra district of Bengal, mentioned in the Ayin Akbari.—*Yule Cathay* II., p. 534.

GHORALANJEA. URIA? Tentara. URIA? A tree of Ganjam and Gumsur, extreme height 30 feet. Circumference 3 feet and height from the ground to the intersection of the first branch, 10 feet. Used for spinning wheels, sugar presses and ploughshares, and burnt for firewood, being tolerably common.—*Captain Macdonald.*

GHORA-MOOG. BENG. Phaseolus sublobatus.

GHORBASTA. The climate of Mekran, generally, but especially at the level tract south of the mountains, is very unhealthy. Ghorbusta or Ghorbund occur in Mehran, great structures, at times almost bearing resemblance to the Cyclopean remains of Europe. They are evidently remains of a people who occupied or passed through the country long prior to the advent of the present occupants, who know nothing of the builders, or of the uses of the buildings, and attribute them to kaffirs or infidels. They are found usually in out of the way places, narrow valleys at present stony and barren. They are placed always on declivities, or across the mouths of ravines. Their solidity and size are proportioned to the steepness of the declivity; but, where there is only a gentle slope the walls are narrow, low and slightly built, but where the descent is great and the flow of water after floods and rains would be violent, they are of great thickness and height, and, as seen in the valley beyond Baghwana, supported and strengthened by buttresses or walls built at right angles. They always present a scarped face to the opposite side, which, when well preserved, is levelled off with the surrounding and superior ground. Those built across the mouths of ravines are very solid, and high, and usually the builders have taken advantage of some mass of rock jutting out as a sort of foundation. Those in slopes are never seen singly, but always in numbers varying with the extent of the ground to be covered, and placed in succession one behind the other. The intervening ground being levelled is thus formed into a succession of terraces. They were connected with the irrigation of the country. Those built across ravines were intended to form tanks for the preservation of the waters that came down at irregular intervals in floods. Those on slopes, to economise the distribution of water; the surplus water of one terrace running over and flooding the lower one, depositing as it went a layer of surface soil. The ground thus levelled, of course, became more valuable, freed from the irregularity and roughness which characterise these narrow stony valleys. They are almost confined to the provinces of Jhalawan, and are largest and most important in the southern and south-eastern portions of the province. The ancient city at Gunjjuk seems of the same date, and constructed by the same people. From the numbers and position of these structures, the people who built them must have been extremely numerous; must have felt that the country as existing by nature was utterly incapable of supporting them; and they must have possessed an energy and ingenuity which the present races are totally without. It appears probable, nay almost certain, that they must have swarmed eastward over the mountains from Mekran, making their appearance on the south-west portion of the table land. Gradually pushing eastward and northward, as their numbers increased, either rapidly by additions from without or more slowly by increase of the population from within, they ascended to the various valleys as high as Kelat, when, discovering the great eastern outlet, the Moolla pass, they found an exit by it into the plains of India. How long they remained on the table land? from whence they originally came? and over what countries they eventually distributed, are alike mysteries.

Lieutenant Aytoun, in his Geological Report on a portion of the Belgaum collectorate given in Mr. Carter's "Geological Pa-

pers on Western India," page 392, mentions that certain gorges in the hills had been artificially bunded and there kadir is a terrace cultivating race on the Pulney hills in the extreme south of the peninsula. There are one or two points of slight resemblance between the "Pelasgi" the builders of the Cyclopean walls of Greece, Italy, &c., and the Ghorbasta builders, suggesting that they might have been a kindred people with kindred habits. The Pelasgi came from Asia, not from Asia Minor, not from Syria, not from Assyria, not from Persia, but probably from that birth place of emigration the tract north and north-east of Persia. The Ghorbusta builders probably came from the same tract and were not Mekranees, nor Persians, nor Assyrians. The Pelasgi, existed only a few generations in Greece (about 250 years) before they were turned out by the Hellenes; they must therefore have brought with them when they entered the country their propensity for building massive walls, and commenced their work almost immediately on arrival. It was probably the same with the wall builders of Beloochistan, they only remained in the country long enough to allow them to extend northward as far as Kelat, when meeting with the Moolla pass, they debouched into the plains. Their art was a fully developed one, before they arrived here to carry it out. The Pelasgi arrived in Greece about 1800 B. C. This date seems to accord roughly with the advent of the unknown people into Jhalawan.

The Ghorbasta buildings differ considerably, however; for when compared with the Cyclopean remains, they are slight, most roughly executed, and insignificant; yet they evince alike instinct and habit in two races which probably came originally from the same region.—*Dr. Cook in No.* VI, *Bombay Medical Transactions.*

GHORBACH. Hind. Acorus calamus.

GHOR-BAND. A valley separated from Koh-i-daman, by a hill range stretching from the Hindoo-Kush, it contains many ancient remains. The Shirwan tribe occupy it. See Ghorbasta, Kelat, p. 489, 490. Khyber, p. 520.

GHORCHURHA, also ghorcharha. A sub-division of the Coormee tribe. The literal meaning of the word, if rightly spelt, is a horse-man, but Elliot is not sure that there may not be some connexion between them and the Koorchurra whom Tod puts down in Chund Bardai's list of the royal races.—*Elliot.*

GHORESUNN, Beng. also Mæstapat. Beng. Corchorus olitorius, Sunn hemp.

GHORI. Hind. White cornelian.

GHORIBUND. See Kohistan.

GHORKA. A people in Nepal said to be of mixed origin, a brave and fierce race, by the Chinese called Ku-ru Ka-li. There can be no doubt of the warlike character of the Ghorka. Not only are they brave and skilful soldiers, but, for a barbarous nation, they are wonderfully advanced in the art of fabricating the implements of war: they cast their own ordnance, manufacture their own muskets, short, powder, and cartridge-boxes; in fact, every instrument or weapon used in civilized warfare is manufactured in Nepaul, often clumsily enough, but the mere fact of their being capable of being used, and used with effect, is highly creditable to the ingenuity of the Ghorka. The Ghorka are the conquerors of Nepaul, and now compose the army; they have grants of land called jaghires, on which they live when not actually on service. They are a handsome and independent race, priding themselves upon not beink able to do anything but fight; and have a free and sometimes noble carriage like the Tyrolese. The Ghurka, and Bhutani, on the East, and the Lahuli and Kanawari on the west, dwelling amongst the valleys of the Aimalaya, are, according to Cunningham, mixed races, between the Bhot family of Tibet and the hindu race of the south. *Cunningham, Oliphant.*

GHORLA. Hind. Gugaira, a wooden implement used in the process of making sajji or barilla.

GHORA-PACHAR. See Sat-dhara.

GHOR-PHAR. Duk. Iguana. See Guana.

GHORPHARA. A powerful Mahratta family, who hold lands at Gunjundurghur, Sondur, Madhol, and Akulkote The derive their name from the Ghorphar, or Iguana, from a tradition that the founder of the family scaled and took a fortress by its means.

GHORAPUCAR. A river of Bhopal.

GHORUMBA. Hind. Cucumis colocynthis.

GHOS. Beng. Luffa pentandra and L. actuangula.

G'HOSEE, also g'hosi, herdsmen. They are said to be descended from the Ahir race. Most of them have now been converted to mahomedanism; indeed, the name is generally considered, according to the dictionaries, to be exclusively applied to mahomedan milkmen. The name is derived from a sanscrit word signifying a cattle-pen. The eastern G'hosi who have been converted are called Bundee G'hosi. In many parts of the country, as in Delhi, the Ghosi are

those who trade in milk, without any reference to their caste or religion.

GHOSHA. Sans., from goosh, to sound.

GHOTA-MAR. Hind. A king-fisher.

GHOUL. Pers. Turk., according to superstitious belief in Persia, a fair woman of about 20 years of age that preys at night on dead bodies. The Ghoul or "Demons of the Desert;" are also described as a hideous race, that sometimes haunt cemeteries, and particularly infest a dreary tract in the North of Persia, not far from Tehran; bearing the portentous name of Malek-al-mout darrah, or "Valley of the Angel of Death."

GHRITA KAUSIKA. See Hindu.

GHRITO-KOMARI. Beng. Aloe Indica.—*Royle.* From which an efficient substitute for our Pharmacopœial aloes may be obtained.

GHUBBER. A large mountain mass between Tank and Bunnoo, protruding into the plains, infested by a predatory tribe, named Mithani, who are perpetually at feud with the Waziri.

GHUGLAT. Hind. Chloroxylon dupada.

GHUJBAI. Hind. Pushtu; also Gira, Alnus nepalensis, Himalayan alder.

GHULABI-JAM. Duk. Eugenia jambos.

GHULAB SING, a maharajah of Kashmir, a Dogra rajput, died on the 2nd Aug. 1857.

GHUMBRA. Hind. Phlomis indica.

GHUNCHI. Hind. Abrus precatorius.

GHUNDA-BELA. Hind. Andropogon citratum.

GHUNDASARU. Duk. Santalum album.

GHUNGOL also Ghangol. The name of the water lily which produces the celebrated Nelofar or lotus flower. It yields a greenish fruit about the size of an orange the seeds of which are eaten by the poorer classes.—*Elliot.*

GHUNGRU. Hind. Bells.

GHUNIA. Tel. Salvadora Persica.—*Linn.*

GHUNNY BAGS are made from the reticulated fibre of the Abelmoschus ficulneus also from the Sunn and Jute.

GHUNTA. Beng. Bignonia suaveolens.

GHUNTEOH PATOOLEE. Uria? A tree of Ganjam and Gumsur, extreme height 22 feet. Circumference 1½ feet, and height from ground to the intersection of the first branch, 10 feet Used occasionally for axletrees and rafters but chiefly for firewood, the tree being rather common.—*Capt. Macdonald.*

GHUNU. Beng Cyperus rotundus.

GHURASKE. Hind. Dodonæa Burmanniana.

GHURB. Hind. Populus ciliata.

GHUREE also Ghari. An hour; or the instrument for measuring time. As a revenue word, it is applied to the subdivision of a village; thus, Khundeegawn in Delhi is divided into 144 Langree, each Langree containing 8 Ghuree.—*Elliot.*

GHUR-GHINA. See Kelat, p. 492.

GHURGHUREA—? Corchorus olitorius.

GHURGHUSHTAI. Hind, or Mandala, Pushtu, Amygdalus persica, the peach.

GHURI GHENZA. Tel. Seeds of Abrus precatorius.

GHURJISTAN. The correct orthography of this name according to Yakut and others is Gharjistan or Gharshistan. Yakut says it is bounded on the west by Hirat, east by Ghor, north by Merv, and south by Ghazni. The ruler of the country was called Shar, and from this title the land was so called Gharju-o-Shar. The Merv-rud waters the country, and its chief towns are Bashin and Surmin, but the Shar generally dwells at a town in the hills called Bilkan. *Elliot.*

GHURKANI. See India, p. 336.

GHURKA. See Ghorka, Kazzilbash.

GHURRA, a water pot, for fetching water either of earthen ware, brass or copper.

GHURUGU KURA. Tel. Celosia albida.

GHURUMBA. Hind. Cucumis colocynthis.

GHURUSH. Hind. Phaseolus torosus.

GHURWAL. See Gurhwal; India, p. 322.

GHUSSUN, Arab. Branch of a tree.

GHUZ, Hind. Tamarix orientalis. See Ghaz.

GHUZHBE, Hind. Plantago major; Alnus, sp.

GHWA, Hind. Tamarix orientalis.

GHWANZA, Hind. Cratægus oxyacantha.

GHWARACHERAI Hind. Quercus ilex.

GHWARDZA Hind. Pashtu, Cratægus oxyacantha.

GHWAREJA, Hind. Edwardsia mollis.

GHWARESHTAI, Hind. Amygdalus Persica.

GHWARGA, Hind. Arundo donax.

GHWIYAN Hind. See Guyan.

GHYRUN, also Zahar-mora. Duk. Bezoar.

GIAH-SURKH-GUL. Hind. Anagallis coerulea.

GIAM. Hind. Cedrus deodara.

GIAN. Hind. Premna mucronata.

GIANHAN. Hind. Elæagnus conferta.

GIASHUK. HIND. Juniperus communis.

GIBBEL. AR. A mountain. See Gab'l; Jib'l.

GIBBON. See Simiadæ.

GIBRALTAR, in lat. 36° 7′ N., long. 5° 21′ W., was captured from the Spaniards in the year 711 and it remained in possession of the Arabs till the early part of the fourteenth century, when the Spaniards retook it, but lost it again in 1333; it was then held by the Arabs until its second recovery by the Spaniards in 1462. On the 24th July 1704, it was suddenly assailed and captured by the British under Sir George Rooke; the garrison being small and unprepared for defence. The Spaniards, occasionally assisted by the French, have since made various attempts to recapture the place, but without success. Burton says Gibraltar is Jebal-ul-Tarikh; and "Mt. Ethne that men clepen Mounte Gybelle" is "Monte Gibello," the mountain, par excellence.—*Burton's Pilgrimage to Meccah*, Vol. I., p. 325.

GIBSON, Alexander, M. D., born at Lawrencebirk, October 1800, was a Medical officer of the H. E. I. Co.'s Mercantile Navy, from 1821 to 1824, during which he visited Bombay, Calcutta, China, and many islands of the Archipelago. In 1825, through the influence of Joseph Hume, he was appointed to the Bombay Medical Establishment, and served throughout the Burmese war as flag Surgeon, to Sir John Hayes. He was from 1837 to 1860, Conservator of Forests. His contributions to science were

On Indigenous Products which may be applied to use in India in supersession of the more costly supplies obtained from Europe. Lithographed 1837.

On the Medical Topography of Guzerat in Vol. 1st of Bombay Medical Transactions.

Description of the Method of Breeding and Rearing Leeches in Western India, do.

Remarks on the Climate, Productions and Diseases of the Deckan, Vol. 2nd of do.

Sundry Papers in the Transactions of the Horticultural Society of Western India for 1838-39 and 40, among which is an account of a simple process for the manufacture of Raw or Muscovado Sugar.

Suggestions for extending the cultivation of useful and ornamental plants in India. Published by order of Earl Aukland, 1841.

Report of Trials on the powers of Bramas press as applied in the extraction of oils. Trans. of Calcutta Hort. Soc. June 1843.

Practical Remarks on the cultivation of Senna, Calcutta Hor. Soc. Trans. Aug. 1843.

Forest and Garden Reports, 1840 to 1850, Transactions of the Agri. and Hor. Society of Western India 1852. This work has numerous misprints.

Hand Book on Indian Forestry comprising descriptions and details of management of teak forests together with an account (drawn up for the guidance of Departments) of the forest trees of western India—their localities, qualities, &c., with remarks on the planting of road trees.

He traced the Kino extract exported from Malabar to be the produce of Pterocarpus marsupium of the Western Ghats.

He began the culture of Hyosciamus now extensively grown for the supply of the medical stores.

The introduction of the officinal senna as a growth in the Bombay Presidency was effected by him.

He established at the district gardens in the Deckan, a manufactory for the supply of numerous oils and extracts for the medical stores, the oils being extracted by means of the hydraulic press, the District Gardens nearly paid their expenses by means of the supplies made.

Memoir on the forest preserves or shikargahs in Sind, printed along with the Parliamentary Papers on Sind, dated 1848.

On the products of the Bassia and some other trees, printed in Sir W. J. Hooker's Journal for February and March 1852.

On the medical properties of the bark of Alstonia scholaris Pharmaceutical Journal of London, March and April 1852.

This officer had been much employed in forests where malaria is of a very deadly character and being asked what precautions he had generally taken, he replied—

To sleep as much as possible with the head entirely covered.

To be in motion either marching or moving about at work at those hours when malaria is deemed to be most active, viz., from 3 to 7 A. M.

When marching in such forests at early morn—to take care always to breathe through repeated folds of cloth extending over the mouth and above the nostrils.

To avoid afternoon marches as the system becomes thereby exhausted and open to the reception of malaria after nightfall.

He is of opinion that with care as to these several particulars, forests may be traversed with comparative safety even at the most deadly seasons.

GHI-CHANGI. TEL. Celastrus montana, *Roxb.* W. A. & W. Ic.

GIDAR. HIND. Jackal.

GIDAR-DAK. HIND. Cissus carnosa, Sageretia oppositifolia ; Prunus padus.

GIDAR-KI-TAMAKU, of Shahpur, literally jackal's tobacco, Philiphœa calotropidis, Heliotropium europæum, Verbascum thapsus. See Philipœa.

GIDARMAR, H. A vagrant and thief in upper India, (lit. a jackal killer.)—*Wilson.*

GIDI. HIND. Francœuria crispa.

GIDIA. H. a class of vagrants and thieves in Upper India.

GIDDA JONNA. TEL. var. of Sorghum vulgaris. Lit. short or low sorghum.—*Pers.*

GIDDARKUMB, HIND. a fibre.

GIDUGUDU. TEL. Casearia tomentosa. *Roxb.*

GIGANTIC COCK. See Phasianidæ.

GIGANTIC SWALLOW-WORT. ENG. Calotropis gigantea.—*R. Brown.*

GIGARTINA LICHENOIDES. The whole thallus of the Ceylon moss is sometimes imported from Ceylon, and used in Britain for dressing silk goods.—*O'Shaughnessy*, p. 668. See Ceylon moss. Edible Sea-weed. Gigartina etnax.

GIGARTINA TENAX.

Gracillaria spinosa. | Agar-Agar.

The Chinese people collect this sea-weed on the coast to a great extent using it in the arts and also for food. It affords an excellent material for glues and varnishes. It is simply boiled and the transparent glue obtained is brushed upon a porous kind of paper called "sha-chi" which it renders nearly transparent. It is also used as a size for stiffening silks and gauze, and is extensively employed in the manufacture of lanterns and in the preparation of paper for lattices and windows. This and other kinds of fuci are boiled down to a jelly by the islanders on the south and extensively used for food, it is known in commerce under the name of agar-agar. It is also made into a sweet glutinous jelly, called in Canton, Wong-leung-fan, which is used as a sweetmeat, and sold on stalls in the streets. It is brought from New Holland and New Guinea and other adjacent islands: between 400 and 500 peculs are imported annually by the Chinese at a prime cost of from one to two dollars per pecul. Its cheapness and admirable qualities as a paste render it worthy the attention of other countries; when cooked with sugar, it resembles calf's foot jelly. Of the three kinds of agar-agar sent to the Exhibition of 1862, from Malacca, the first quality was from a sort of Tripe de Roche, an edible sea-weed which grows on the rocks that are covered by the tide. It is much used for making a kind of jelly which is highly esteemed both by Europeans, and Natives for the delicacy of its flavour and is exported to China, at 19s per 133⅓ lbs. The agar-agar of the 2nd quality from Macassar and the Celebes is an edible sea-weed collected on the submerged banks in the neighbourhood of Macassar by the Baju Laut or Sea Gypsies, for exportation to China at 12s.6d. per 133⅓ lbs. The agar-agar of Singapore is collected on the reefs and rocky submerged ledges in the neighbourhood of Singapore, and constitutes the bulk of the cargoes of the Chinese Junks on their return voyages. It is much used as a size for stiffening silks, and for making jellies. The quantity shipped from Singapore is about 10,000 peculs annually.—Though deserving of being better known, it does not appear to be an article of Indian import, or, if so, it is brought in under some other name. —*Hon'ble A. Morrison. Exhib. Jur. Reports and Catalogue. Simmonds. Tomlinson. William's Middle Kingdom* p. 275. See Euchemia spinosa: Gracillaria tenax. Fucus tenax. Plocaria candida. Edible sea-weed.

GIHAIN, or gihen. HIND. Elæagnus conferta.

GIHON, or Oxus. The Arian race, according to Bunsen (IV. 487) emigrated out of the sources of the Oxus (Gihon) or Jaxartes, B. C. 11,000 to 10,000. and (IV. 491.), about B. C. 7,250 to 5,000, the Arians separated into Kelts, Armenians, Irenians, Greeks, Slaves, Germans.

GIHON. A ravine, commencing at the upper part of Gihon, a little to the westward of the city castle, and running at the foot of the western walls, is called the "Valley of Gihon or Rephain," though the word trench or ditch would convey a more correct idea of its appearance. As it winds round the southern foot of Zion it widens, and is called the valley of Hinnom.—*Robinson's Trav. Palest. and Syria*, Vol. I, p. 105.

GILA. HIND. Acacia scandens.

GILA GADDI. TEL. Coix barbata.—*Roxb.*

GILA-GACH. BENG. Entada pusœtha.—*D. C.*

GILA GORANTA. TEL. Crotalaria verrucosa.

GILAKA CHETTU. TEL. Crotalaria.

GILAKARA. TEL. Cumin seed.

GILAM and SIRAS are on the coast of Laristan. Gilam appears to be the Ila of Arrian. But we can scarcely suppose it the Ghilan, which Hamdallah Cazvini enumerates among the islands of the gulf, sub-

ject to the Persian government.—*Ouseley's Travels*, Vol. I, p. 174. Nearchus, p. 375. Sec. ed. 1807.

GILARPATR. Hind. Laminaria saccharina.

GILAS. Hind. Cerasus communis. C. vulgaris, a kind of cherry.

GILA TIGE. Tel. Entada pusœtha.—*D. C.* Mimosa scandens.—*Roxb.*

GIL-ARMINI. Duk. Hin. Pers. Bole armenian.

GILBOAN or DUIVEN ISLAND, two miles distant from and on the east coast of Java, is in lat. 8° 2′ S. and long. 114° 31′ 15″ E. It is small and steep.—*Horsburgh.*

GILEAD BALSAM, Royle, in his Himalayan Botany, mentions that the Balsamodendron (Amyris) Gileadense or Terebinthœ, or Balsam of Gilead-tree, known in the East by the name of Balessan, has long been accounted one of the riches of Arabia, whence or from Abyssinia, its native country, according to Bruce, it was at an early period taken into Syria. It has also been introduced into the Botanic Garden at Calcutta as well as into the Peninsula of India. See Balsam, Balsamodendron.

GILEAD FIR, Abies balsamea. See Balsam.

GILERU. Hind. Crysthrina arborescens.

GILGIT. A territory in Central Asia, in lat. 35° N., and long. 74° E., The Indus river runs through it from N. E. to S.W. It is on the southern declivity of the Hindu Kush, between Chitral on the west, and Baltistan (Little Tibet) on the east. In the Bunnu valley there are races intermixed, of whom may be noticed the Durdu of Gilgit and Chulas. According to Burnes, the mir of Badakhshan, the chief of Darwaz in the valley of the Oxus, and the chiefs eastward of Darwaz who occupy the provinces of Kulub, Shughnan and Wakkan, north of the Oxus, also the hill states of Chitral, Giljit and Iskardo are all held by chiefs who claim a Grecian descent. The whole of the princes who claim descent from Alexander are Tajik who inhabited the country before it was overrun by Turki or Tartar tribes. To the west beyond Balti the people of Astor, Gilgit and Hunza-Nager speak different dialects of Dardu, while the Kashmir people have their own peculiar language. The Balti people of Little Tibet, say that Ladak, Iskardo, Khopalu, Purik Nagyr, Gilgit and Astor are distinct Tibets, *Burnes*, *Bokhara*. See Kabul, Kush, Ladak, Sikh, Tibet.

GILGITI. Hind. A kind of wheat.

GIL 'HRI-MAR. Hind. Aquila pennata, *Gmel.* literally squirrel killer

GIL-I-ABRORSHI. A rough, hard, not brittle, pink earth, only used in native medicine. Properly speaking, a deposit from a mineral spring containing sulphur, the sediment is collected and made into little cakes, but the "Hassan dhup" ordinarily seen in the bazaar is a mere imitation, consisting of some earthy clay mixed with ground sulphur and formed into cakes, called probably Moses' Stone, from its lamellar structure, as if the tables of the laws, given on Sinai, had been on slate tablets.

GILIA ACHILLIÆFOLIA. Beautiful annuals of easy cultivation, may be grown either in the flower garden, or in pots during and after the rains, easily propagated by seed in any light soil.—*Riddell.*

GIL-I-FARSI. Hind. A pink earth.

GIL-I-IRMANI, Armenian bole, not now used in European medicine, but formerly so employed, and still used by natives. *Powell.*

GIL-I-KHARDYA. A red earth.

GIL-I-KIRIA. A soft laminated, nearly white clay, resembling chalk in appearance, hence probably the name.—*Powell.*

GIL-I-MAKHTUM. A soft, rough, irregular, variegated marl, containing clay, deeply colored by peroxide of iron, mixed with nearly white carbonate of lime.—*Powell.*

GIL-I-MULTANI. Fuller's earth. A soft laminated white or pale yellow earth; used by the natives for cleaning their hair, and in medicine.

GIL-I-SAFED. Pers. Chalk, Calcis carbonas.

GIL-I-ZARD. A pale yellow, tough, laminated earth, intermediate in color between geru and gil-i-multani, but resembling both in appearance.—*Powell.*

GILL, Major Robert, an officer of the Madras army, who devoted nearly twenty years of his life to copying and photographing the pictures in the caves of Ellora and Adjunta. His devotion, in dwelling in such lonely spots as in the ravine of Adjunta is unparalleled in modern times.

GILLAR. Hind. Goitre.

GILLAR PATR, Hind. a sea-weed laminaria, used as a drug, for goitre. It is obtained solely via Yarkand, from the shores of the Caspian Sea. Five or six maunds are imported. The word "patr," is a leaf. Dr. Martin Honigberger refers gillur-ka-Puttar to Laminaria saccharina, and alludes to a belief that it is found in a salt lake in Thibet; adding that some English physicians maintain it is brought from the Caspian Sea. He says it is

useful in scrofulous ulcers in horses. *Powell Handbook Econ. Prod. Punjab*, p. 8.

GILLESPIE, General, a British officer who by a rapid advance from Arcot relieved Vellore when siezed by rebel Madras troops in 1807. He afterwards commanded the force which captured Java. He was killed on the 30th October 1814 in the Gurkha war at the assault of Nalapani.

GILOLO, one of the Molucca Islands. Its north end is in about Lat. 2° 23′ N. It has high bold land, with three remarkable peaks, and it has a long mountainous coast. The indigenes live in the north of the island. They are radically distinct from all the Malay race. Their stature, their features, as well as their dispositions and habits are almost the same as those of the Papuan. Their hair is semi-Papuan, neither straight, smooth and glossy like all true Malays, nor so frizzly and woolly as the perfect Papuan type, but alway crisp, waved and rough, such as often occurs among the true Papuan but never among the Malay. Their colour alone is often exactly that of the Malay, or even lighter. Of course there has been intermixture, and individuals are occasionally seen whom it is difficult to classify, but in most cases, the large somewhat aquiline nose with elongated apex, the tall stature, the waved hair, bearded face, and hairy body, as well as the less reserved manner and louder voice unmistakingly proclaim the Papuan type. Here is the exact boundary between the Malay and Papuan race. It is only in the northern peninsula that these Papuan indigenes exist, the whole of the rest of the island with Batchian and the other islands westward being exclusively inhabited by Malay tribes like those of Ternate and Tidore. This would seem to indicate that the Alfuro are a comparatively recent immigration and that they have come from the north or east, perhaps from some of the islands of the Pacific, though it is difficult to understand why so many fertile islands should possess no indigenes. The Galela race are natives of a district in the extreme north of Gilolo, but they are great wanderers over the Archipelago. They are a very fine race, remarkably energetic and industrious, of light complexion, tall and with Papuan features, coming near to the drawings and descriptions of the true Polynesians of Tahiti and Owyhee. They build large and roomy prahu with outriggers, and settle on any coast or island they take a fancy for. They catch turtle and tripang, hunt deer and wild pigs, dry the meat, cut down the forest and plant rice or maize. The people of Gilolo are called Alfura, Professor Bikmore however, states they are strictly of the Malay type, and have not the dark skin and frizzly hair of the Alfura of Ceram and Buru, though representatives of that people may exist in Gilolo. The population of Gilolo are supposed to be 75,000, all but 5,000 of them are under the sultan of Ternate. *Bikmore* 313. *Horsburgh. Wallace*, ii, 13 405. See Pulo Gasses: Syang; Waygiou, Weeda Islands, Wutsan.

GILO, also Sat. gilo, Hind. Tinospora cordifolia.

GILUGUDU. Tel. Casearia tomentosa —*Roxb.*

GILYAK, a race on the lower Amur with Mongol features, but their language is different from the Tungusian dialects along the river. According to Rinso, polyandry prevails amongst the Smerenkur Gilyak, and the women are treated with the greatest indulgence. Only those skilled in the art of the needle, however, need expect to get married.—*Ravenstern's Russians*, p 391.

GIMA. Beng. Lady's bed straw, Erythræa centauroides.

GIMEER. See Kush or Cush.

GIN. Hind. Ehretia aspera.

GINDING. The name given to a land wind in East Java, occasioned by the S. E. monsoon blowing right over the land through the gap at Klakka, 1,000 feet above the sea, between the Jyang and Tengger mountains 8,000 and 9,000 feet high.

GINDSHI. Jav. Ganjah.

GINGARU. Hind. Cratægus crenulata.

GINGEE. A town and fort 35 miles N.W. of Pondicherry. In the contests between the rival French and British, and rival Mahratta and Mahomedan princes, Gingee and neighbourhood were frequently scenes of strife, but it long continued a French possession. In the 17th and 18th century it was taken by Sivaji, was attacked by Aurengzeb, stormedby the French, but finally occupied by the British. The French obtained the grant of Pondicherry in 1674, from a rajah of Gingee, who acknowledged the king of Narsinga as his superior; but this latter was, at the same time, dependent on Visiapor. Sevajee took possession of Gingee about the year 1677, and confirmed the above grant in 1680.—*Rennell's Memoir*, p. lxxxi.

GINGELLY OIL.

Jiritch,	Ar.	Kurit; Sehuk,	Pers.
Mita-tel, Til-ka-tel,	Guz.	Nall-ennai,	Tam.
Mitha Til-ka-tel,	Hind.	Manchi-nuna,	Tel.

Gingelly oil is expressed from the seed of the Sesamum orientale. It is largely exported from India to Europe where it is sold as olive oil.

GINGELLY SEED. Sesamum Seed.

Sumsum,	Ar.	Taila,	Sans.
Ellu,	Can.	Yellu,	Tam.
Til, Jingelly.	Guz. Hind.	Nuwulu,	Tel.
Kunjed,	Pers.		

The sesamum is extensively cultivated in Southern Asia, for the oil expressed from the seed, which are slightly oval, small, tasteless and inodorous. There are two varieties distinguished, black, and white or yellow, which possess the same properties, and in commerce are met with both in a mixed and separate state. Gingelly seed is largely exported to England and France. This oil is perhaps consumed to a greater extent than any other by the Natives of India, and is second only to cocoanut oil in its importance as an article of commerce. It is extensively cultivated throughout the whole of the Madras Presidency, and the seed and oil have been exported as follows :—

Gingelly Seed.

Year 1847-48.	Year 1848-49.
Qr. 17,518 ...Rs 1,60,134	Qr. 8,594... Rs. 1,02,726
Year 1849-50.	Year 1850-51
Cwt. 1,44,125 Rs. 299,412	Cwt. 2,27,779. Rs. 4,37,185
Year 1851-52.	Year 1852-53.
Cwt. 1,09,414 Rs. 3,02,559	Cwt. 2,51,613. Rs. 5,31,664

Gingelly Oil.

Year 1847-48.	Year 1848-49.
Gl. 19.520——Rs. 14,766	Gl. 14,686——Rs. 11,535
Year 1849-50	Year 1850-51.
Gl. 52,721——Rs. 36,294	Gl. 77,262——Rs. 48,605
Year 1851-52.	Year 1852-53.
Gl. 46,196——Rs 26,722	Gl. 72,607——Rs. 43,608

Of the gingelly seed exported in 1852-53 the United Kingdom received cwt. 12,713—Ceylon, cwt. 590—France, cwt. 2,87,225—Pegue, cwt. 741—Bombay, cwt. 113—Malacca, cwt. 33 and Travancore, cwt. 148. Of the quantity of oil (72,607 gals.) exported in the same year—gals. 42,043 were shipped to the United Kingdom—gals. 2,963 to Ceylon—gals. 4,232 to Mauritius and Bourbon—gals. 19,698 to Pegu—gals. 46 to Bengal—gals. 27 to the French (Indian) ports, and gals. 3,593 to Malacca. The great disparity of color observed in the specimens of this oil is attributed to the mode of preparation. The method sometimes adopted is that of throwing the fresh seeds, without any cleansing process, into the common mill, and expressing in the usual way. The oil thus becomes mixed with a large portion of the coloring matter of the epidermis of the seed, and is neither so pleasant to the eye, nor so agreeable to the taste, as that obtained by first repeatedly washing the seeds in cold water, or by boiling them, for a short time, until the whole of the reddish brown coloring matter is removed, and the seeds have become perfectly white. They are then dried in the sun, and the oil expressed as usual. This process yields 40 to 44 per cent. of a very pale straw-colored sweet-smelling oil, an excellent substitute for olive oil. In India, the oil is chiefly used in cookery, in anointing the person, for making soap, and for burning in lamps. In England, it is chiefly used for the manufacture of soap, and for burning in table-lamps, for which it is better suited than cocoanut oil, owing to the lower temperature at which it congeals. Its value in England (January 1855) £47-10 per ton. In different parts of the Madras Presidency the price of this oil varies from Rs. 1-5-0 to Rs. 6-0-0 per maund of 25 lbs. In S. Arcot it is procurable at Rs. 27-12-5 per candy. The prices per maund of this oil, at the undermentioned stations, for the quarter ending 31st October 1854, were as follows :—

	Rs.	A.	P.		Rs.	A.	P.
Arcot, - - -	3	0	0	Madura, - -	5	8	3
Bangalore, -	3	7	3	Mangalore, -	4	1	8
Bellary, - -	3	2	0	Nagpore, - -	1	12	0
Berhampore, -	2	8	0	Palamcottah, -	4	12	0
Cannanore, -	6	0	0	Paulghaut, -	3	7	0
Cuddapah, -	2	13	0	Samulcotta, -	2	10	8
Jaulnah, - -	2	6	0	Secunderabad,	2	3	11
Jubbulpore, -	1	5	0	Trichinopoly, -	4	1	8
Madras, - -	3	14	0	Vellore, - -	3	14	0
Masulipatam, -	3	0	0	Vizagapatam, -	3	2	0

Second sort Gingelly Oil is erroneously called "Rape," (Kharasance yelloo), is from the red seeded variety. In Tanjore, it is procurable at Rs. 3-0-0 per maund. In Rajahmundry the two varieties of sesamum are cultivated for the sake of the oil. The best gingelly seed plant, is sown in the month of March, after the rice crop, and is irrigated twice, once at sowing, and once afterwards. The seed which is *black*, and is called 1st sort gingelly, from the fact of its yielding the largest percentage of oil, ripens in May, and sells at the rate of Rs. 60 per candy of 500 lbs. The oil obtained from both varieties, sells at the same price, viz., Rs. 2-14-6 to 3 per maund of 25 lbs. according to quality. The 2nd sort of gingelly is sown in June, and produces a red seed. The plant although a little larger resembles in most respects the former, it has, however, a somewhat longer leaf, and the flower differs a shade or two in color. A candy of 500 lbs. of this seed sells at Rs. 57-8-0. The price of the oil is the same as that of gingelly. This seed has of late been exported to France, in consequence of which the present price is double what it was three years ago. It will have been seen that of this small annual plant there are two or three varieties.—*M. E. of* 1855.

GINGEMBRE. Fr. Ginger. GINGER.

Zingebil,	Ar.	(dry),	Hind.
Jahetub,	Bali.	Zenzero,	It.
Green Ada,	Beng.	Jasiaking also jait,	Jav.
Green Khyeng-khyuk also (dry) khyeng-dsein,	Burm.	Zingiber,	Lat.
		Sapadas also Alya,	Malay
Sunty,	Can.	Alia?	Maleal.
Sont,	Duk.	Zunjebil,	Pers.
Gember,	Dut.	Gengivre,	Port.
Gingembre,	Fr.	Iubir,	Rus.
Ingwer,	Ger.	Sunthi,	Sans.
Adruk (green), Sunt (dry),	Guz.	Inghuru,	Singh.
		Jengibre,	Sp.
Zinjabil, also, Ada,		Agenjibre,	,,
Adrak, (green), Sont,		Inji (green) Shukku,	Tam.
		Shonti,	Tel.

The ginger-plant, Zinziber officinale, belongs to the natural order, Zingiberaceæ, and is cultivated in the tropical regions of Asia, America, and Africa. It grows in all parts of India, and is generally cultivated in gardens, being sown about the commencement of the rains, and taken up in eight or nine months, though sometimes left in the ground for the following year. Ginger is sown at the commencement of the rains, in beds of about six feet square, and in a rich cultivated soil. The planting consists in dividing part of the green root, which the natives first soak in a mixture of cow-dung and water; it is then planted about two inches deep and about one foot apart; it requires a great deal of water and to be kept clear of weeds. When the stalks dry, the ginger may be taken up, although it is sometimes left in the ground for a couple of years. It is better for remaining twelve months, and must be watered during the dry season. The stem reaches generally three or four feet in height, and is renewed yearly, while the root, which is the part known as ginger, botanically termed a rhizome, is biennial. In Jamaica, the roots are dug up in January or February when about a year old and after the stems are withered. They are well washed, freed from dirt, and, in some cases, especially with the better kinds, the epidermis or outer coat is stripped off,—and hence the division of ginger into white, scraped or uncoated, and into black, unscraped or coated. In estimating the quality of ginger, a variety of particulars have to be taken into consideration, as whether the rhizomes are coated or uncoated, their form, colour, and consistence.

Ginger roots of good quality have no epidermis, are plump, of a whitish or faint straw-colour, soft and mealy in texture, with a short fracture, exhibiting a reddish, resinous zone round the circumference; the taste should be hot, biting, but aromatic.

Ginger roots of inferior quality are frequently coated with the epidermis, are less full and plump, often contracted and shrivelled, of darker colour, being of a brownish-yellow, of harder texture, termed flinty, and more fibrous, while the taste is inferior, and less aromatic.

According to Dr. Pereira, the principal uncoated sorts are:—

Jamaica ginger, imported in barrels holding one cwt. each. It is an uncoated, pale sort; and when of fine quality, occurs in large, bold, fleshy races, which cut soft, bright, and pale-coloured. Inferior samples are small in the race, darker-coloured, more or less flinty and shrivelled.

The cultivation of West India ginger in Ceylon has been successful.

Uncoated Malabar ginger, new sort of Malabar ginger, Tellicherry ginger, Calicut ginger, Cochin ginger, "a pale uncoated sort imported in chests, casks, or bags, sometimes from Tellicherry, but usually from Calicut or Cochin." It resembles Jamaica ginger, both in external appearance and flavour; but has, externally, more of a brownish or reddish tint, it first appeared in English commerce about the year 1841.

This seems to be the large sized ginger, raised in the first place from Jamaica cuttings, grown in Chernaad, some five and twenty miles inland, and is in considerable demand at most times. When brought down in a rough state, and cured, prepared, and packed by Europeans, this ginger realizes a high price in Britain, but on the long voyage, worms frequently spoil the most carefully prepared consignment. This, independent of all market fluctuations, prevents merchants operating largely in this most useful article. Were the worm difficulty overcome, Malabar would probably soon supply enough ginger for the whole of Europe, as its cultivation is easy and far less expensive there than in Jamaica.

Uncoated Bengal ginger, scraped Bengal ginger, new sort of Bengal ginger, Calicut sort of Bengal ginger, "imported in chests of about one and a half cwt. It is an uncoated sort, darker than Jamaica ginger; it is not so large as the uncoated Malabar sort, and is harder and darker."

The chief coated gingers are:—

Barbadoes ginger, "imported in bags of about sixty or seventy pounds. It is a coated sort, in short, flat races, which are darker coloured than Jamaica ginger, and are covered with a corrugated epidermis."

Malabar ginger, "Unscraped Malabar, Old sort of Malabar ginger, Common Malabar ginger; Bombay ginger imported from

Bombay in bags or packets. It is a coated, dark, and small sort."

Bengal ginger, Common Bengal ginger, Old sort of Bengal ginger "imported in bags. It is a coated or unscraped dark sort, which cuts flinty and brownish, but is plumper and less wormy than common Malabar ginger."

Sierra Leone ginger, Africa ginger, "imported in casks or bags. It is a coated sort, the races being generally larger, less flat and less plump, than those of the Barbadoes sort, which in other respects they resemble. The uncoated gingers, viz., the Jamaica, uncoated Malabar, and uncoated Bengal—are assorted for commercial purposes according to their qualities, thus :—

1. Bold, soft, and bright ginger.
2. Smaller, but soft and bright.
3. Flinty and dark.
4. Shrivelled, and only fit for grinding.

The Barbadoes, African, and coated Malabar and Bengal gingers are usually sold unassorted.

Besides the two kinds of ginger above noticed, other descriptions occur. Thus what is called green ginger, is sometimes imported from Jamaica, it consists of soft and juicy rhizomes with buds, and appears to have undergone but little preparation beyond picking and washing.

Ginger is cultvated to a small extent, in Tenasserim, and some of the Chinese make a ginger preserve of the green roots, in imitation of that which comes from China.

Ginger is extensively diffused throughout the Archipelago, it being of pretty general use among the natives, who neglect the finer spices. The great and smaller varieties are cultivated, and the sub-varieties are distinguished by their brown or white colors. There is no production which has a greater diversity of names. This diversity proves, as usual, the wide diffusion of the plant in its wild state. The ginger of the Indian Archipelago is however inferior in quality to that of Malabar or Bengal.

The young shoots put forth every spring by the perennial rhizome are used in the manufacture of preserved ginger (Conditum zingiberis). These shoots are carefully picked, washed, scalded, scraped, peeled, and then preserved in jars with syrup. (*Dr. P Browne*). "The finest preserved ginger is imported from Jamaica, usually in jars. Barbadoes preserved ginger is seldom brought over. The China preserved ginger is stringy. It is sometimes imported in the dried state. Dried ginger of good quality, soft and mealy, may, by the following process, be converted into excellent preserved ginger. The rhizomes, selected with care are to be immersed for three or four weeks in very weak syrup, scarcely stronger than sugar-and-water, to which a small portion of the carbonate of potash has been added; this addition being made to give them a fresher and greener tint, and also to assist in softening them. As soon as the ginger has become sufficiently soft, it is put up in very strong syrup of white sugar. From the analysis, by Dr. Hassell, of the gingers sold in London, it appears that out of twenty-one samples, fifteen were found to be adulterated with sago-meal, potato-flour, wheat-flour, ground rice, cayenne pepper, mustard-husks, and turmeric powder in various quantities, but in the majority of cases constituting the principal part of the article. (*Hassell. Mason. Food and its Adulteration*, p. 390.)

A great part of that found in the shops has been washed in whiting and water, under the pretence of preserving it from insects The dark colored kinds are frequently bleached with chloride of lime. Barbadoes ginger is in shorter, flatter, pieces called races, of a darker color, and covered with a corrugated epidermis. African ginger is in smallish races, which have been partially scraped, and are pale colored. East India ginger is unscraped; its races are dark ash colored externally, and are larger than those of the African ginger.

Cultivation in Malabar. Tellicherry ginger is in large plump races, with a remarkable reddish hue externally. The Malabar ginger exported from Calicut is the produce of the district of Shernaad, situated in the south of Calicut; a place chiefly inhabited by Moplas, who look upon the ginger cultivation as a most valuable and profitable trade, The soil of Shernaad is so very luxuriant, and so well suited for the cultivation of ginger, that it is reckoned the best, and in fact the only place in Malabar where ginger grows and thrives to perfection. Gravelly grounds are considered unfit; the same may be said of swampy ones, for, whilst the former check the growth of the ginger, the latter tend in a great measure to rot the root; thus the only suitable kind of soil is that which, being red earth, is yet free from gravel, and the soil good and heavy. The cultivation generally commences about the middle of May, after the ground has undergone a thorough process of ploughing, harrowing, &c. At the commencement of the monsoon, beds of ten or twelve feet long, by three or four feet wide are formed, and in these beds small holes are dug at three-fourths to one foot apart, which are filled with manure.

The roots, hitherto carefully buried under sheds, are dug out, the good ones picked from those which are affected by the moisture, or any other concomitant of a half-year's exclusion from the atmosphere, and the process of clipping them into suitable sizes for planting, performed by cutting the ginger into pieces of an inch and a half to two inches long. These are then buried in the holes, which have been previously manured, and the whole of the beds are then covered with a good thick layer of green leaves, which, whilst they serve as manure, also contribute to keep the beds from unnecessary dampness, which might otherwise be occasioned by the heavy falls of rain during the months of June and July. Rain is essentially requisite for the growth of the ginger; it is also however necessary, that the beds be constantly kept from inundation which, if not carefully attended to, entirely ruin the crop; great precaution is therefore taken in forming drains between the beds, and letting water out, thus preventing a superfluity. On account of the great tendency some kinds of leaves have to breed worms and insects, strict care is observed in the selection, and none but the particular kinds used in manuring ginger are taken in, lest the wrong ones might fetch in worms, which, if once in the beds, no remedy can be resorted to successfully to destroy them and thus in a very short time they ruin the crop. Worms bred from the leaves laid on the soil, though highly destructive, are not so pernicious to ginger cultivation as those which proceed from the effect of the soil. The former kind, whilst they destroy the beds in which they once appear, do not spread themselves to the other beds, be they ever so close, but the latter kind must of course be found in almost all the beds, as they do not proceed from accidental causes, but from the nature of the soil. In cases like these, the whole crop is oftentimes ruined, and the cultivators are thereby subjected to heavy losses. The present mode of preparing the land for this crop in the West Indies, is by first carefully hoeing off all bushes and weeds from the piece intended to plant; the workmen are then placed in a line and dig forward the land to the full depth of the hoe, cutting the furrow not more than from five to six inches thick. The land is then allowed to pulverise for a short time; it is then prepared for receiving the plants by opening drills with the hoe, from ten to twelve inches apart, and the same in depth, chopping or breaking up any clods that may be in the land. Two or three women follow and drop the plants in the drills, say from nine to ten inches apart. The plants or sets are the small knots or fingers broken off the original root, as not worth the scraping. The plants are then covered in with a portion of the earth-bank formed in drilling. Great care and attention is required to keep them clean from weeds until they attain sufficient age. They throw out a pedicle or foot stalk in the course of the second or third week, the leaves of which are of similar shape to that of the Guinea grass.

Ginger is a delicate plant, and very liable to rot, particularly if planted in too rich a soil, or where it may be subject to heavy rains. The general average of yield is from 1,500 to 2,000 lbs. per acre in plants, although as much as 3,000 lbs. of ginger have been cured from one acre. The ordinary selling prices of ginger range from 35*s* to 100 shillings the cwt: the duty in Britain is 10*s*. for foreign and 5*s*. for British possessions, the imports range from 12,000 to 35,000 cwt.—*Poole's Statistics of Commerce. Dr. Mason's Tennasserim. Dr. Hassell's Food and its Adulterations* p. 390. *Riddell's Gardening. McCulloch's Commercial Dictionary Faulkner's Dictionary of Commerce. Simmonds.*

GINGERBREAD TREE or Doom palm of Egypt is the Hyphæne Thebaica, and receives its name from its fruit having the look and taste of gingerbread. It is stated by Dr. Lindley to produce the Bdellium. Its wood is used for various domestic purposes, and its kernels turned into rosaries.—*Seeman.*

GINGER PRESERVE. Is imported into India solely from China, in cases containing half a dozen of jars each; the capacity of each jar being about five lbs.—*Faulkner.*

GINGI-LACKI-LACKI. Mal. Ganjah.

GINGILLI, See Gingelly; Oils.

GINGLYMOSTOMA. See Squalidæ, Fishes.

GINSAC. Port. Ginseng.

GINSENG. Dut. Eng. French, Germ. It.

Jan-sam,	Chin.	Ginsao,	Port.
Yan-sam,	,,	Jinseng,	Sp.
Ginsem,	Dut.	Orhota,	Tart.
Kraft-wurzel,	Ger.		

Ginseng is the dried root of the Panax quinquefolia, a herbaceous perennial. It is obtained in Tartary, and also in America, from which latter country some is exported to China. It is produced largely in the northern, middle, and western states, of the American union, particularly Virginia, Louisiana, and Pennsylvania, and it is also found growing in Canada. Mr. Williams tells us that Ginseng is found wild in the forests of Liantung and Manchuria, where it is collected by detachments of soldiers and camp followers, specially detailed for this pur-

pose: the regions where it grows are regarded as imperial preserves, and the medicine itself is held as a governmental monopoly. It is considered by the Chinese as a panacea, and no medicine or dose is regarded as complete without this forms an ingredient. All the ginseng growing in Tartary is the property of the emperor, and he sells a quantity yearly to his subjects, who have the privilege to purchase it at its weight in gold. The co-hong were formerly compelled to purchase upwards of $140,000 worth annually, for which sum a few catties were given them. The roots are about the size and length of a man's little finger, and when chewed have a mucilaginous sweetness; and if good, will snap when broken. They should be sound, firm, and free from worm holes. The Chinese consider that which comes from Tartary to be the best, even when they can see no difference. When first brought from America, the profits were 500 or 640 per cent.; but afterwards the price declined so much as at times to be hardly worth bringing. When the new tariff was first settled, the Chinese objected to a reduction of the imperial duties, but on a representation being made to H. E. Keying, the imperial commissioner, it was finally agreed by him, that without changing the tariff, the duty on every separate lot should be levied as if it was one fifth first quality, and four fifths second quality. This arrangement reduces the actual duty paid to 10t. 2m. or $14·17 per pecul. Ginseng is clarified by being boiled and skinned, which operation renders the root somewhat transparent. Clarified ginseng varies in price from $60 to $100 a pecul; the crude, from $35 to $70 a pecul; five per cent., is allowed for loss in weight on this article, which is taken from the price agreed upon per pecul. In 1837, there were 212,898 lbs. imported, at the value of $108,548. In some years there is much more than this amount; the average importation in 1842 and 1843 was 3,000 peculs, at the average price of $48 per pecul. The trade is fluctuating and uncertain, and entirely in the hands of the Americans upon the confines of Tartary and China, near the great wall. It is found wild, flourishing in moist situations, and attaining the height of from two to three feet. A variety of the plant was discovered, a few years ago, in the Himalaya mountains, and small quantities have been sent thence to Canton. The root is about three or four inches in length, and one inch in thickness. It resembles a small carrot, but not so taper at the end, and is sometimes single, sometimes divided into two branches. The stem is striated, without branches, and of a red color near the root. The officinal root differs in appearance, according to the country from which it is brought. In Korea and China it is white, corrugated when dry, and covered with a powder resembling starch. In Manchuria and Dauria it is yellow, smooth and transparent, and when cut resembles amber. The taste of the root is bitter. The stem of the plant which is renewed every year, leaves, as it falls off, an impression upon the neck of the root, so that the number of these rings or marks indicates the age of the plant, and the value of the root increases accordingly. The importation of the American root at Canton does not interfere to a very serious degree with the imperial sales at the north, as the Chinese are fully convinced that their own plant is far superior, and its high price prevents much of it coming south.—In Tenasserim the Chinese shops have the famous ginseng always on hand, but the plant is not cultivated.—*William's Middle Kingdom p.* 284 *Simmond's Commercial products p.* 436-7. *Honorable Mr. Morrison's Compendious Description.*

GIP'SHAN. Hind. Eurotia ceratoides.

GIPSIES. In a recent German work, by Dr. Pott, concerning the gipsies in Europe and Asia, the author seeks for an identity between that tribe and the Luri or Lur of Persia. His supposition rests on the authority of Pottinger, who establishes a similarity between the Luri of Beluchistan and the gipsies in Europe. But on this subject, Baron de Bode observes that the Karachi, Kauli, and Susmani, under which appellations the gipsies are known in Persia, are perfectly distinct from the Luri or Lur tribes. The gipsies in the northern parts of Persia lead a wandering life, but always aloof from the other erratic tribes, and they go by the name of Karachi, from the Turkish word kara, meaning black. They exercise the trade of tinkers, and are consulted at times as horse doctors; but they are in general looked down upon by the inhabitants settled in towns and villages, and even by the other nomadic tribes. In Kermanshah and Kurdistan, where their number is very considerable, they also lead a vagabond life, and are known by the denominations of Susmani, and Kauli. In Ardelan, which is the Persian Kurdistan, there is a large village, near Senneh, inhabited solely by the Susmani. Their morals are anything but strict; the women are like the Indian Bayadere and dance at the Persian majalis, or assemblies, to the music which their husbands perform on some stringed instruments. There are several Iliyat tribes in Persia, the

sound of whose names bears some resemblance with zigane, as the gipsies are called in Russia. These are the Zengheneh, once a very considerable, and, until now, reckoned a very noble, Kurdish tribe of Kermanshah. A branch of them was also transplanted by Nadir Shah into Luristan, where another tribe of the same name of Zengheneh, though of Lurish origin, is established.

In a woody part of Luristan Kuchuk, near Khorremabad, De Bode met some miserable Chinganeh tribes settled in villages, and was told they had nothing in common with the other inhabitants of the country of Lur origin. The Chinganeh perhaps may have some affinity with the gipsy race, but he can say nothing positive on this subject, as he saw but little of them. Popowich speaks of the gipsy apple as a small black fruit unfit to be eaten. A fruit was shown to Baron De Bode in the forests of the Zagros mountains, on the road from Kermanshah to Bagdad. The natives call it Angur-i-Kauli, or the grapes of the Kauli. It is a bunch which grows on the mazu or gall-tree, of a yellowish transparent colour; the fruit cannot be eaten, but, on account of its glutinous property, it is sometimes used as glue.

In a recent work on Bokkara, published in the Russian language, Mr. Khanikoff, the author, alludes to three tribes established there, which, he thinks, belong to the gipsy race, as well on account of the similarity in their outward appearance with that people as in respect to their mode of life. They are called Jughi, Mezeng, and Luli, and though outwardly professing mahomedanism, seem to have no religion at all. General Ferrier mentions that the gipsies in Persia are what you see them everywhere else; they lead a wandering life; each band is independent; they preserve their own ideas of caste as a peculiar people, and with them the dirtiest habits, live upon next to nothing, and detest a regular life and a fixed place of abode. There are more than 15,000 families of gipsies dispersed over various provinces of Persia, paying a heavy tax to the government. They are all under the orders and supervision of the Shater-bashee, who exercises the most absolute powers of administration over them. The tax they pay is a kind of kharaj, or price of blood, which is never levied either on Christians or Jews: it is to this fact that they owe the name of Kooli, slave, one of the epithets by which they are designated. They are likewise called Fal-sen, or, as we should render it, fortune-tellers; also by the name of Kal-bir-band, or sieve-makers, because this is their principal occupation; these, their wives, who do not hide their faces, sell from door to door. General Ferrier at Rubat Abdullah Khan came on a camp of Kalbirband gipsies, and the moment they perceived the travellers they called off their dogs, who were replaced by the women and children, vociferous for alms. It was impossible to proceed a step, for they hung on the legs, clothes, and bridles of the travellers and completely hampered them; they were absolutely forced to comply with their clamorous demands. The women had sunburnt complexions, they were tall, with finely developed forms, which they cared aslittle to conceal as they did their faces. The men were seated at a little distance, making sieves, and apparently quite unconcerned about the proceedings of their wives. These gipsies had the same wandering instincts, like all others he met with in Asia. —*Ferrier Journ.* p. 201. *Pottinger's Travels in Beloochistan and Sind*, chapter X, p. 153. *Baron C. A. De Bode's Travels in Luristan and Arabistan*, Vol. II. pp. 98—103.

GIR. Sans. also Giri. Sans. A mountain.

GIRA. Hind. Alnus, sp.

GIRAFFA CAMELOPARDALIS, Sundev.

Var. *a*. Cervus camelopardalis.---*Linn.*
„ C. capensis.---*Geoff. Ogilby.*
Giraffa camelopardalis.---*Bresson.*
Camelopardalis giraffa *Gmelin.*

Var. *b*. Pale colour.

Camelopardalis girafa var. *β*. Æthiopica.---*Sunde.*
„ senaarensis.---*Geoff.*
„ Æthiopicus.---*Ogilby.*

Kamel paard, Dut. | Cameleopard, Eng.
Giraffe, Eng.

This quadruped, one of the Ruminantiæ, is the largest known animal. It has persistent horns, in both sexes; the horns are covered with a hairy skin with a tuft of hair at the tip. Lip not grooved, entirely covered with hair, much produced before the nostril; tongue very extensive; neck very long; body short; hinder legs short; false hoof none, tail elongate, with a tuft of thick hair at the end.—*Eng. Cyc.* See Mammalia.

GIRANEE. The Valley of Giranee, is situated south of Mungochar and is distant about 8 miles from Kelat. See Baluchistan, p. 312. Kalat, p. 488.

GIRARDINIA LESCHENAULTIANA.

Urtica heterophilla, Roxb. | Decaschistia crotonifolia.
Neilgherry nettle, Eng. | Ana shorigenam, Malleal.

Grows in the Konkans, Coromandel, Nepaul, and is frequent all over the higher

range of the Neilgherries: the bark yields a fine, strong, white flax-like fibre, which the hill people obtain by plunging the plant into hot water; to deprive it of its virulently stinging properties, and then peeling the stalks. The textile material so prepared is of great strength, and the Todawar use it as thread. It is worth £200 a ton in England.—*M. E. J. R.*

GIRASA. Hind. Cerasus communis.

GIRBAR In Oman, the hides of the sheep or goats are made into leather vessels called Girbar. Those of kids or lambs serve for milk, while the larger are used for either wine or water. They are tanned with the bark of the acacia, and the hairy part, which is left without, is generally, though not invariably, cleansed. The apertures through which the legs protruded are closed up, and the fluid within is discharged through the opening of the neck, which is gathered together, and fastened by means of a leathern thong, its extremity being cut in the form of a tongue or spout. They are slung alongside their camels, and a Bedowin when thirsty may frequently be observed drinking from them whilst in that position. They answer better than jars, because if the camel run against trees or its fellow beasts in the caravan, they are not liable to be broken, and from the evaporation constantly going on, the water is also kept perfectly cool, but whilst new, sufficient attention is not paid to cleansing them, and their contents thus acquire a loathsome taste and smell.—*Wellsted's Travels*, Vol. I, p. 89.

GIRCH. Hind. A kind of hill bamboo.

GIR CHHATRA. Hind. Morchella semilibera.

GIRDAWUREE, also written Girdawari. Patroling, inspecting, going the rounds, from the Persian gird, circuit, circumference.—*Elliot.*

GIRDHANA. A sacred hill from which Krishna derives one of his principal epithets, Girdhun or Gordhun-nath, 'God of the Mount of Wealth.' Here he first gave proofs of miraculous power, and a cave in this hill was the first shrine, on his apotheosis, whence his miracles and oracles were made known to the Yadu race. From this cave (gopha) is derived another of his titles —Goph-nath, 'Lord of the cave,' distinct from his epithet Gopi-nath, 'Lord of the Gopi,' or pastoral nymphs. On the annual festival held at Girdhana, the sacred mount is purified with copious oblations of milk, for which all the cows of the district are in requisition. The worship of Krishna in ancient days, like that of Apollo amongst Greeks, was chiefly celebrated in caves, of which there were many scattered over India. The most remarkable were those of Girdhana in Vrij; Gaya in Bahar; Gophnath on the shores of Sourashtra; and Jalindra on the Indus.—*Tod*, I, 545.

GIRDLES are worn by mahomedans and hindus. They are alluded to in the Bible, Psalm cix, 19—'Let it be unto him as a girdle wherewith he is girded continually.' Dan. x, 5—'Whose loins were girded with the fine gold of Uphaz.' Many of the hindus both men and women wear a silver or gold chain round their loins, and all mahomedans wear a muslin girdle called a kamr-band or loin-girdle. Psalm xcii, 1—'Strength wherewith he hath girded himself.' When an Asiatic is about to set off on a journey, to lift a burden, or to do something which requires exertion, he binds firmly his loose upper garment round his loins.

GIRDNALLI. Hind. of Dera Ghazi Khan, Cassia fistula.

GIRI, Pabur, and Tonse rivers, are tributaries of the Jumna and up the valley of the Giri to Kotkai, there is a great consumption of wood and charcoal in connection with the iron smelting, for which that locality is famous..—*Clegh. Punj. Rep.*

GIRISHA. Sans. from Giri, a mountain, and Jishu, a lord.

GIRICHATRA. Hind. Morchella esculenta.

GIRI KAHLA RAKA. See Inscriptions, p 373.

GIRIKARNI. Hind. Desmodiuum, sp. leaves.

GIRI KARNIK. Giri Karnika. Sans. Alhagi maurorum.—*Towrn.*

GIRI MALLIKA. Tel. Wrightia antidysenterica.—*R. Brown.*

GIRNA, a tributary to Taptee. It rises on the E. slope of W. Ghauts, lat. 20° 37', long. 73° 25', E. 120 miles; flows N. 50 miles, into the Taptee. Length 160 miles.

GIRK. Hind. Fluggea virosa.

GIRNA. A river in Khandesh, a dam 1,550 feet long has been thrown across it.

GIRLS. Mrs. Sinnett was introduced to the wife of a Baboo, about twenty-five, and somewhat corpulent, also to one of his sisters-in-law only fifteen, and quite slender. The cause of this difference was explained to her. The girls, although married at an early age, are seldom mothers before fourteen or fifteen, and till then they retain the slenderness of their forms. But after the first lying in, they are shut up for seven or eight weeks in their rooms, fed with all the daintiest dishes that can be procured, and not allowed to take the

slightest exercise: the consequence of this feeding up is that they grow very corpulent, but the hindus as well as the mahomedans admire this style of figure. The two ladies had abundant draperies of blue and white muslin embroidered with gold, and trimmed with broad gold lace, which rather veiled than covered their figures—for through the ethereal fineness of its web every outline could be seen; and as it was merely twined about them, every time they moved, an arm or a part of the breast or of the body would become visible. They seemed, however, to be only disturbed when the muslin fell off their heads, which they always hastily replaced. In addition to the muslin, they are covered with gold, pearls, and jewels so richly that they were really almost like animals of burthen; immense pearls and precious stones covered neck and breast, and between them hung heavy gold chains, with gold coins attached to them. Their ears were pierced with so many holes, (twelve were counted upon one), every hole being filled with an ornament, that one could scarcely see a morsel of the ear itself, nothing was visible but gold, pearls, and gems: on each arm were eight or ten costly heavy bracelets amongst which the principal piece was four inches broad of massive gold, and with six rows of brilliants, a heavy gold chain was twined three times round the waist, and ankles and feet were loaded with chains, bands, and rings. *Sinnett, Lady's Voyage*, p. 98.

GIRDELAN. See Chaldea.

GIRNAR. A mountain in Guzerat, at Junaghar, held sacred by the jains. It contains inscriptions, on a rock, by Asoka. It makes mention of the progress of buddhism in the kingdom of Maka (Magas of Cyrene) of Antioko Yona (Antiochus Theos of Syria) of Gongakona, (Antigonus Gonatus of Macedonia) of Turamays (Ptolemy of Egypt) and Alika Sunai (Alexander the Second of Epirus.) *Cal. Rev.*, 1848. The same inscriptions occur at Dhauli, in Cuttack, on the opposite side of India, with the addition of three local edicts, one of which would seem to have been done by Asoka's father, as it enjoins the young prince at Oujein to issue similar ordinances to his own. The language of the Girnar inscription is Old Pali, or intermediate between Sanscrit and Pali; but supposed to represent the Pali of the West of India of the fourth century B. C. and the inflexions at Dhauli and Girnar are not quite the same; and there is a difference in the grammar of the two series of inscriptions. From Mr. Prinsep having referred a Sanscrit inscription at Girnar, to the third century before Christ, instead of the fourth or seventh A. D. (which he afterwards rectified) he was induced to derive the Pali from the Sanscrit.

The date as by the Buddhist, Chinese, and Burmese chronology; B. C. 330, but Greek notices make it B. C. 280, and the Mahawanso makes the accession of Asoko B. C. 325. The character used in the inscriptions is Old Lat. The religion mentioned is the buddhist, upholds Dhammo, or the law, mentions days and periods for humiliation, prayer, &c., the sending of missionaries; preachings. Expatiates on the sources of true happiness, virtue, benevolence, peace, charity, reverence, &c., rewarded with temporary blessings in this world, and endless moral merit in the next; and the victory of victories is that which overcometh the passions. It speaks of the wicked being punished in the nethermost regions of hell, and the good having final emancipation, and they are to hope ardently for heaven. The promotion of the king's salvation, and the salvation of all unbelievers, and another existence, are expressly spoken of; also the propitiation of heaven, and the king's immortality. Where is atheism here? King Asoka, or Peyadasi is mentioned. The Greek king Antiochus, and one of the Ptolemais of Egypt, and Antigonus. The inscriptions are on a rock at Girnar, a celebrated buddhist locality, and are edicts of Piyadasi, in the tenth and twelfth years of his reign, and are, therefore, older than those of the Delhi Lat, and Allahabad Lat, which are in the twenty-seventh year of his reign. Their chief object is to prohibit the slaughter of animals, both for food and in religious assemblies. The second edict provides medical aid for men and animals. The third orders the quinquennial assemblies (vide Fa-Hian) for prayer and preaching. The sixth appoints custodes morum (vide Arrian and Buddha's Sermon.) In all there are fourteen edicts inculcating buddhism. The remarkable fact of the mention of the name of Antiochus of Syria, in the medial edict, and Antigonus and Ptolemy of Egypt in the thirteenth occurs. In Asoko's zeal for proselytism he sent to those Greek princes. In the first edict Asoko distinctly says, formerly hundreds of thousands of animals were sacrificed for food in the refectory and temple but that not one should be killed for the future. The third edict enjoins kindness to brahmans and sramanas; because for many hundred years past there has been disrespect to brahmans and sramanas, and slaughter of animals. The

Rajah Tarangini mentions king Mahavahana, a buddhist sovereign of Kashmir of the third or fourth century, issuing an edict against the slaughter of animals, similar to these of Asoko, *Journ. Beng. As. Soc.* vol. VII. p. 217 to 262.

At some distance to the north of the Jaina temples of Girnar and above them on the verge of the hill, stands a huge insulated rock, the Bhairavajoop, or Leap of Death, otherwise styled the Raja-mela-vana-pathar—the 'desire realizing rock',—whence hindus have often been tempted to throw themselves in the hope of a happy future. Laying a cocoanut on the dizzy verge of this rock, the victim attempts to poise himself upon it and in another instant he is beyond humanity's reach, and his body a prey to the vultures that soar under the lofty cliff. Such suicide has long been forbidden, but only about A. D. 1850 three Kunbi, keeping secret their intentions, ascended and made the fatal leap; some Rabari had also determined to do the same, but were restrained.

Postans says the Girnar rock bears three inscriptions. The most ancient, which occupies the eastern side, are the edicts of king Asoka. The celebrated edicts are very perfect.—*Postan's Western India*, Vol. II. p. 41.—*Cal. Rev.* 1848, *J. B. As. Soc.* vol. VII. p. 217-262. See Asoka, Bactra, Inscriptions. Junaghur. Kabul. Lat.

GIRNAR. Hind. Dillenia speciosa.

GIRNAGARA. See Girnar.

GIRUI. Hind. Panicum antidotale.

GIROFLES. Fr. Cloves.

GIRTHAN. Hind. Fluggea leucopyrus, Sageretia oppositifolia.

GIRTHI. Between the Jwar passes and upper Pinkanada a map was compiled from information got of the Jwari Bhotia race. The Girthi valley was explored, by Manson and Irving in 18—? The accounts of the Hoti valley between Laptel and Niti are very obscure and contradictory.

GIRTIN. Hind. Sageretia oppositifolia.

GIRUKA TATI CHETTU. Tel. Phœnix paludosa.—*Roxb.*

GISEKIA PHARNACIOIDES. *L. R.*

Manall kire,	Tam.	Isaka dasari kura,	Tel
Esukadanti kura,	Tel.		

The leaves of this weed are used by the natives in the preparation of dholl. Wight in Icones gives also Gisekia molluginoides and G. rubella. See Vegetables of Southern India.—*Jaffrey.*

GIT. Dut. also Zwarte-Barnsteen, Dut. Jet.

GITA. Hind. Sans. A song.

GITCHKI. See Kelat, p. 491.

GITI NARAM. Tel. Desmodium gangeticum. *D. C. W. and A.* Hedysarum gangeticum.—*Roxb.*

GITTI GADDA. Isoetes coromandelina, L. Found in great abundance along the edges of tanks in the Carnatic. The tender white shoots immediately above the spore-bearing involucres, are a favorite article of diet and are sold commonly in the bazaars after the monsoon.

GIVOTTIA ROTTLERIFORMIS, *Griff.*, *W. Ic.*

Putalli maram,	Tam.	Tella ponuku,	Tel.
Butalli.	,,	,, Poonkee,	,,

A very common tree in Southern India one of the Euphorbiaceæ. Has a light soft wood, like mango wood; useful for temporary purposes. It is found in Ceylon, the Circar hills, and is, there, a very light soft wood Found also in a very few of the Bombay jungles, but in these only inland above the ghats. Not seen in Guzerat. The wood is light, and is used only for making the figures and models manufactured at Gokak, in the Southern Mahratta Country. *Drs. Wight and Gibson, Captain Beddome, Thw. En. pl. Zeyl. p.* 278.

GIUR. Hind. Salix Babylonica.

GIWAIN. Hind. Elæagnus conferta.

GJOOT. Diospyrus, sp.

GLACIER. A French word received into the English language, which must not be confounded with Glaciere, which has a different signification. Glaciers, as defined by Saussure, are those masses of eternal ice which are formed and remain in the open air in the valleys and on the slopes of lofty mountains. In every part of the Himalaya, and of Western Tibet, wherever the mountains attain a sufficient elevation to be covered with perpetual snow, glaciers are to be found, and all the phenomena presented in Europe have also been found there. In the lofty chain of the Cis-and Trans-Sutlej, Himalaya, and of the Kuenlun, whose peaks rise to a very great height, and collect in winter enormous depths of snow, they are of great length. In the central parts of Tibet which are often lower, and even in their loftiest parts are less snowy than the bounding chains, the glaciers are of inferior dimensions where the snow-bed is at once cut off abruptly in an ice cliff, which can hardly be said to be in motion or rather whose motion must be almost entirely from above downwards. Moraines, which, on the larger glaciers and among mountains of easily decaying rocks are of astonishing dimensions, form the margins of each glacier, and also occur longitudinally on different parts of their surface

increasing in number as the glacier advances, till at last the different series whose origin can long be traced to the different ramifications of the glacier, become blended into one. En route to Karakoram, after leaving the Nubra valley, when a sufficient elevation above his encampment had been gained, Dr. Thomson obtained a commanding view of the glacier which occupied the continuation of the main valley. It was nearly straight, and he believes, at least five or six miles long; distances, however, are so difficult to estimate on snow, that this must be regarded as a mere guess. The inclination of its surface was considerable; but, while the distance remained doubtful, no just estimate of the height of the ridge from which it descended could be made. On each side, two or three lateral glaciers, descending from the mountains by which it was enclosed, contributed to increase its size all loaded with heaps of stones, which had at the lower end of the central glacier so accumulated as completely to cover its whole surface. One day, there, he proceeded along the edge of the small plain close to which he had been encamped. On the right hand was an ancient moraine, which prevented him from seeing the road in advance. At the upper end of the plain he found a small streamlet running parallel to the moraine; and about a mile from camp reached the end of a small glacier, from which the streamlet had its origin. Crossing the latter, which was still partially frozen, he ascended in a deep hollow between the left side of the glacier and the moraine. The icy mass had not yet begun to thaw, the temperature being still below freezing. After half a mile he ascended on the surface of the ice, and as soon as he did so, was enabled to see that the glacier had its origin in a ravine on the south, and entered the main valley almost opposite to him. The great body of the ice took a westerly direction, forming the glacier along which he had been travelling; but a portion formed a cliff to the eastward, which dipped abruptly into a small, apparently deep lake. At the distance of perhaps five hundred yards there was another glacier, which descended from a valley in the northern range of mountains, and like the one on which he stood, presented a perpendicular wall to the little lake. Right and left of the lake were enormous piles of boulders, occupying the interval between its margin and the mountains, or rather filling up a portion of the space which it would otherwise have occupied. Into this very singular hollow he descended, on a steep icy slope, and passing along the northern margin of the lake, ascended on the glacier beyond, as before, between the ice, and on reaching the surface of the second glacier he found that a similar but smaller depression lay beyond it to the east, in which also there was a small lake, with another mass of ice beyond it. This third glacier also came from the north, and was a much more formidable mass than those which had already been crossed. It was very steep, and was covered with snow, which was beginning to thaw more than was convenient. When at the highest part, he found that though apparently nearly level, it sloped downwards sensibly though very slightly for nearly half a mile, in an easterly direction. It was evident to him that he had now reached the highest part of the ascent, which he assumed to be 17,600 feet, and that the crest of the pass was covered by this glacier.

Glaciers are chiefly met with in the range to the north of Karakorum and another group, apparently the largest accumulation of glaciers in the Kuenlun, was found at the environs of Sassar; but both much smaller than the groups near the Diamer to the North West, investigated by Mr. Adolphe Schlagentweit. (*H. and K. Schlagentweit No.* viii.) Glaciers in the northwest Himalaya descend to 11,000 feet; but Dr. Hooker could not discover any in the more eastern valleys even so low as 14,000 feet, though at the hot season extensive snow-beds remain unmelted at but little above 10,000 feet. The foot of the stupendous glacier filling the broad head of the Thloook is certainly not below 14,000 feet; though being continuous with the perpetual snow (or névé) of the summit of Kinchinjunga, it must have 14,000 feet of ice, in perpendicular height, to urge it forwards. Dr. Hooker made frequent excursions to the great glacier of Kinchinjhow. Its valley is about four miles long, broad and flat: Chango-khang rears its blue and white cliffs 4,500 feet above its west flank, and throws down avalanches of stones and snow into the valley. Hot springs burst from the ground near some granite rocks on its floor, about 16,000 feet above the sea, and only a mile below the glacier, and the water collects in pools: its temperature is 110°, and in places 116°, or 4° hotter than that of the Yeumtong hot springs, though 4,000 feet higher, and of precisely the same character. A Barbarea and some other plants make the neighbourhood of the hot-springs a little oasis, and the large marmot is common, uttering its sharp, chirping squeak.—*Dr. Thomson's Travels in Western Himalaya and Tibet.—Hooker Him. Jour. Vol.* II. *pages* 57. 133.

There is a glacier in the valley of Brabaldo, in Little Tibet, a short distance from the village of Arindo. Its width is about 450 yards and nearly a hundred feet high, and a large river flows with velocity from below it. In 1839, Major A. Cunningham traversed a magnificent glacier which spanned the valley of the Cheli river, below the Kali Debi pass (16,700 feet). It was fissured in all directions, and looking down the main fissure which was five feet wide, he saw the stream trickling at a depth of more than 300 feet. The surface was covered with hardened snow and imbedded stones; but, the mass, as seen in the fissures, was clear, transparent, ice filled with white specks. This glacier was about a mile long, and a quarter of a mile broad with an average depth of 200 or 300 feet. In the same range, Dr. Thomson saw a similar glacier, to the north of the Saj pass, about 30 miles, to the north-west of Kali Debi. In 1847, Major Cunningham, crossed a second and larger glacier, to the north of the Parang pass at 18,500 feet. It extended down the head of the Para river for $2\frac{3}{4}$ miles. At its termination, it was 50 feet high, but, a quarter of a mile upward, it was fully 150 feet thick. Dr. Thomson observed a larger glacier on the northern side of the Umasi La, on crossing into Zangskar. It extended from the top of the pass, 18,123 feet, down to a level of 14,500 feet, and was not less than three or four miles in length—Above and below Sassar are several gigantic glaciers that span the noble valley of the Khundan river, which at times has become dammed until the accumulated waters have burst their icy chains, and swept away all traces of man and his puny works, from a height of several hundred feet above the river. In two different parts, then, of the Shayok, above and below Sassar, seen by Dr. Thomson in 1848, the bed of the stream is completely spanned by enormous glaciers. The great glacier is about 30 miles below Sassar, and 20 miles above the junction of the Changchen-mo. Mr. Vigne, Dr. Thomson, Lieut. Colonel Abbot, and Lieut. Colonel Alexander Cunningham have each noticed the great glaciers in the western Himalayas, in Ladak. The last named author (*Ladak, p.* 94) describing the Shayok or Khundan river, a tributary of the Indus, which rises in the Karakorum mountains, to the northward of Le, in lat. 35° N. and long. 78° E., tells us that in these cold and lofty regions, almost every ravine is filled with a glacier, that since 1826, the channel of this river has never been clear and the accumulated waters have formed a lake of considerable size called

Nubra-tsho. This barrier has burst on three recent occasions, in 1826, 1833, and 1841. In that of 1841, when the rushing waters reached Torbela, on the Indus, the river came down furiously in an absolute wall of mud, a horrible mess of foul water, carcases of soldiers, peasants, war-steeds, camels, prostitutes, tents, mules, asses, trees, and household furniture, in one flood of ruin, for Raja Gulab Singh's army was encamped in the bed of the Indus at Kulaithree Coss above Torbela, in check of Painda Khan, and, but that part of the troops were then in hot pursuit, the destruction would have been greater. Only those escaped who took at once to the mountain side. Throughout the mountain course of the Indus, fields, houses, and trees were swept away, but man and the animals which he had domesticated, generally managed to escape. The waters of the Indus below the junctions of the Shayock, rose to a height of 60 feet, and to 30 feet at Skardo. It was the third cataclysm which occurred in 1841, when the gallant Syam Singh Atariwala, who fell at Sobraon was encamped in the bed of the river. Suddenly, down rushed the wave of the inundation thirty feet in height and the whole camp took to flight, most of the men were saved; but the baggage, camp equipage, and guns were swept away. (*Cunningham, Thomson.*)

Chorkonda, a glacier in Balti, in Tibet, is in L. 35° 36' N. and L. 75° 58' E., and 16,900 feet above the sea.

Ibi-Gamin, a glacier in Eastern Thibet, in height 22,260 feet English=20,886 French feet.

Captain Godwin-Austen, 24th Regiment, writing in 1863 on the glacier phenomena of the valley of the upper Indus notices the glaciers in that part of the great Himalayan chain which separates Thibet from Yarkund, in E. long 76°, and N. lat. 35-36°, and extending over an area about 100 miles from east to west, from Karakorum Peak, No. 2 (28,265 ft.) to the Mountain of Haramosh. Glaciers supply the Hushe River, which joins the Indus opposite Kapeloo. Those of the upper portion of the valley take their rise on the southern side of the Peak of Masherbrum, and are about 10 miles inlength.

The Great Baltoro glacier takes its rise on the west of Gusherbrum Peak, on the North it is joined by a great ice-feeder which comes down from Peak No. 2; opposite to it, from the south, is another; both of these extend 9 or 10 miles on either side of the main glacier. This from its rise to its further end, measures 30 miles, its course is from E. to W.; the breadth of the valley

along which it flows is 12 miles. It receives numerous tributaries along its course, some of which are 10 miles and more in length; two of them, on the N; lead up to the Mustakh Pass into Yarkund (18,000, ft.) whence a glacier descends to the N. E. about 20 miles in length. The Nobundi Sobundi glacier takes its rise from a broad ice-field which lies to the N. of lat. 36°, and has a S. E. course for 14 miles, with numerous laterals, it then turns S.; when it bears the name of the Punmah glacier, about 5 miles from the termination it is joined by a glacier from the N. W., 15 miles in length.

The Biafo glacier is perhaps the most remarkable of any of this part of the Himalayan range, it has a linear course of upwards of 40 miles; the opposite sides of the valley are very parallel along its whole length, and the breadth of ice seldom exceeds a mile, except where the great feeders join it from the N. E.

From the summit-level of the Biafo Gause, a glacier is continued westward to Hisper in Nagayr, 28 to 30 miles in length.

The Chogo, which terminates at Arundoo takes its rise between the Mountain of Haramosh and the Nushik Pass, it is about 24 miles in length, with numerous branches from Haramosh, 8 miles in length.

The waters from all the glaciers, from that of Baltoro in the E. to Chogo in the W., are collected into the Shigar River, which joins the Indus at Skardo.

All these glaciers carry great quantities of rock-detritus. The blocks on the Punmah glacier are of great size.

There are groovings and old moraines of a former extension of the glaciers in this region, showing that they have at times reached many miles beyond their present termination, and have risen upwards of 400 ft. above their present levels. There are thick alluvial accumulations of the valley of the Indus, particularly in the neighbourhood of Skardo.

Colonel Markham says, "we started early to reach the source of the mighty Ganges. The opposite bank being the best ground for burrell, we were in great hopes that we might find sufficient snow left to enable us to cross the river, but the snow that at times bridges over the stream was gone. At last, the great glacier of the Ganges was reached, and I beheld it before me in all its savage grandeur, thickly studded with enormous loose rocks and earth. Extensive as my travels since this day have been through these beautiful mountains, and amidst all the splendid scenery I have looked on, I can, he says, recall none so strikingly magnificent as the glacier of the Ganges"

The Glaciers and Peaks of the Sasser pass in Nubra, Tibet, are shown by the brothers Schlagentweit, to be in L. 35-6, N; L. 77° 27' 35" E. and 17,753 feet above the sea. *Gosse's Natural History*, pp. 54-55. *Markham's Shooting in the Himalayas, Hooker's Him Journ Thomson, Cunningham, Captain Godwin Austen in Report on Advancement of Science for the year* 1863.

GLAM.—? A tree of Singapore, furnishes this paper-like bark, used in caulking the seams of vessels. A similar substance occurs in Borneo, supposed to be the produce of a species of Artocarpus, and to furnish this paper like bark much used in caulking the seams of vessels.—*Royle Fib. Pl.* p. 341.

GLANDS. Fr. Acorns, the seed or fruit of the oak.

GLANDES. Lat. Acorns.

GLAPHYRIA, a genus of Indian plants belonging to the natural order Myrtaceæ. The species are small trees. G. nitida is called by the Malays 'the Tree of Long Life,' probably from its maintaining itself at elevations where the other denizens of the forest have ceased to exist. It affords, at Bencoolen, a substitute for tea, and is known by the name of the Tea Plant. Various species of Leptospermum and Melalena bear the same name in the Australian colonies. G. sericea has lanceolate acuminated leaves. It is a native of Penang and the west coast of Sumatra. *Eng. Cyc.*

GLAREOLIDÆ, a family of birds, including the genus Glareola, with its two species G. orientalis and G. atea.

GLASS.

Ab-gee-neh,	Arab.	Sheeshah,	Pers.
Glas,	Dut. Ger.	Steklo,	Rus.
Vitre, Verre,	Fr.	Vidrio,	Sp.
Kanch; Sheshah,	Guz. Hind	Kunnadi,	Tam.
Vetro,	It.	Addamoo,	Tel.
Vitrum,	Lat.		

Glass is formed by mixing together siliceous earth with an alkali, and fusing them by a strong heat. Several kinds of glass are made and are distinguished, the differences in them being produced by the proportion of the constituents, the nature of the alkali, the presence of foreign matter, or the process of manufacture. The discovery of the manufacture of glass is ascribed to the Phœnicians and glass flowers are represented on the tombs at Beni-Hassan. But glass is one of those discoveries which could hardly escape being made by any people who employed furnaces to reduce metallic oxides; for the necessary ingredients must often

have been present; and the heat was sufficient, Beckmann has observed, that the discovery of coloured glass must have followed very soon that of making glass itself. It is probable, however, that coloured glass was made previous to colourless glass. For it is difficult to find materials pure enough to make good glass, and it would be some time before the original makers would find out the causes of discoloration. The natives of India seem to have been long acquainted with making different ornaments of glass: for instance, armlets and anklets, and rings of glass form a part of their warping reels. Small glass bottles are also made; but mostly of a more or less greenish colour. The green is called kanch, and the purer glass, sisi. It is probable that the extensive diffusion of oxide of iron in the Indian soil, which may have led to the discovery of iron, has prevented the making both of good glass and of good pottery. That this is not incompatible with a knowledge of the method of making imitation gems, seems proved by the same having been the case in the time of Pliny; who states that great value was set upon glass quite free from colour, which was called crystal. He also mentions artificial hyacinths, sapphires, and all kinds of black glass; and we know that the glass-houses of Alexandria were celebrated among the ancients. One of the simplest processes for making glass is that practised in the district of Behar. The efflorescence of the soil, which is an impure carbonate of soda, is collected and thrown into a cistern lined with clay. This is then filled with water, which is afterwards allowed to evaporate. When dry the bottom of the cistern is found covered with a thick saline crust, the earth which was intermixed having subsided before the salt began to crystalize. This soda makes glass without any addition, as it still contains a sufficient portion of siliceous matter. They make blackish and greenish glass: a bright grass-green is obtained by the addition of oxide of copper; and a blue glass by the addition of rung. In Mysore the process is more elaborate. Powdered white quartz, one part, being mixed with prepared soda, six parts, is filled into a crucible capable of containing $5\frac{1}{2}$ Winchester gallons. About fifty of these crucibles are placed in a furnace, and the fire kept up for five days, when a frit is produced, with which they make a black, green, red, blue, and yellow glass, by means of additions of oxide of copper, of an ore called kemudu, and of a blue substance called runga. What these are, continues unascertained.

Though the making of glass has made but little advance in India, the natives work up broken English glass even into barometer and thermometer tubes, &c. Glass globes, silvered in the inside, are made and though the mode of effecting this silvering is not mentioned, an amalgam of quicksilver is probably employed, as, on the application of moderate heat, the silvering becomes dissipated. An art similar to this has of late years been discovered in Britain.—*Royle Arts, &c., of India*, p. 474. Ainslie tells us that glass of an inferior quality was made in several parts of the Peninsula of India, particularly in the Mysore country, at Chinapatam and Muteodu, also at Vallatooroo in Toudiman's dominions, which are contiguous to the Tanjore territory. The manufacture however seems to be confined entirely to small phials and women's bracelets. Above the Ghauts, Dr. Buchanan tells us the frit employed for making glass is composed of one part of fat quartz, and six parts of a kind of ill prepared soda (suja cara) To give glass a green tinge, to the frit just mentioned are added a further quantity of prepared soda, an iron ore called Carin kulloo, another ore called Kemudu, and a proportion of calcined copper; all which materials being fixed and put into the crucible, and properly disposed in the furnace, the fire is kept up for nine days and nine nights. To give glass a red tinge, to the frit already mentioned are added an additional proportion of prepared soda and a quantity of the ore called kemudu, after which the whole are fused together for fifteen days and fifteen nights. To make blue glass, to the same frit are added a further proportion of soda, calcined copper, a quantity of powdered Carin kulloo and a blue substance called runga, which Dr. Buchanan supposes (but is not sure) may be smalis. To give glass a yellow colour, Dr. Buchanan tells us that it is enamelled with the melted calces of the metals—lead, tin and zinc.

Buchanan in his travels in Mysore gives an account of the manufacture of glass for the bangles or armlets worn by the natives. The glass is very coarse and opaque and much more of it is made than is there wrought into ornaments. Great quantities of it were brought by the bangle makers from the Westward. It was of five colours, black, green, red, blue, and yellow, the first was most in demand. All the materials for making the glass are found in the neighbourhood. In the hot season, the Soulic munnoo or soda in the form of a white earthy powder is found in several places near this on the surface of sandy fields. For the exclusive privilege of collecting it the glass

makers paid 48 Co.'s Pagodas; they make it into cakes, the intention of making it into these cakes is probably to free it from earthy matter; but, for making glass, this is perhaps no advantage, as the earth with which it is mixed is chiefly a quartzose sand, these cakes contain at least one half of their bulk of cowdung and from that cause are inflammable, they are prepared for making glass by being burned and of course afford an exceedingly impure alkali. The glass maker's furnace there, is rather better than that of Chinnapatan, but still it is exceedingly rude. The manufacturers say that when the army of Lord Cornwallis left Seringapatam they gathered with much pains a great number of broken bottles which they found where he had encamped, but after the expense of bringing the bottles to Mutsoda they found that their furnace was not sufficiently strong to liquify European glass. The bottles were then reduced to powder and mixed with alkali, but these materials produced only a useless white glass. The furnaces are constructed on a high terrace which is built against the inside of the town wall and are in form of a dome or like an oven eight feet in diameter and about ten feet high. The oven is not arched but contracted above into a circular opening about 18 inches in diameter, by making the upper row of stones project beyond those below them. At the bottom of the furnace in the side opposite to the town wall is a small opening through which fuel is supplied, the crucibles are oblong and would contain about $5\frac{1}{2}$ Winchester gallons: having been filled with the materials they are lowered down into the furnace by the aperture in the top by which also the workmen descend. They first place a row of the crucibles all round the furnace with their bottoms to the wall and their mouths sloping inwards, in this position they are secured by a bed of clay which covers the crucibles entirely, having only their open mouths exposed; above this row another is placed in a very similar manner and then a third and a fourth. The furnaces vary in size from such as can contain twice that number. The fuel consists of small sticks which, having been gathered a year, are quite dry, a quantity having been put in the bottom of the furnace the workmen ascend and some burning coals are thrown upon the fuel by the opening below; then fresh fuel is added night and day until the time allowed for vitrifying the materials has expired, the fire is then allowed to burn out and the furnace to cool, afterwards the workmen descend and take out the crucibles, which must be broken to get at their contents.

In Tondiman's country, where glass rings appear to be made of a superior quality to those of Mysore, the frit is prepared by adding to fine river sand (Kolindoo manil) (Tam.), a very strong solution of an alkaline earth called Over munnoo, which contains much soda. This mixture is formed into lumps which are dried and then fused for many hours together to form the frit. In order to make glass, a certain quantity of Poongkarum (an impure carbonate of soda) is added to the powdered frit, and the whole fused together for many hours. To give glass a blue tinge, the glass makers add the runga in the manner mentioned. In speaking of the blue glass made in Mysore, they also sometimes, though rarely, add a calx of copper for the same purpose. To give glass a black tinge, the glass makers add Warroogoo husks, and the iron ore called Carine kulloo which is also called Carpoo kulloo. Glass bottles were formerly manufactured at Madras. under the scientific direction of Mr. Ryder, the Assay Master.—(*Ain's Mat. Med.* p. 17?.) India seems to possess no slight advantages for the manufacture of the best qualities of glass. As is well known the basis of all glass is silica and alkali, of which the former in the shape of common sand is to be met with almost everywhere, the latter is to be had cheaply and in abundance in most parts of Southern India. In the neighbourhood of Madras as well as in many other localities, the secondary materials also, indirectly essential to the manufacture of the best quality of glass, namely the fire clays used in the construction of the furnaces, are abundant and of very superior descriptions. Yet with all these advantages the natives do not appear to have advanced in the manufacture beyond the first and very rudest stages, and although it is one which, if successfully prosecuted, would probably meet with very extended encouragement, the manufacture of the commonest bottles is not yet practised. The chief defects of the native manufacture are the use of too large a quantity of alkali. In fact, in some cases, it is so much in excess that it might be tasted by applying the tongue to the article. The fault now remarked upon is probably connected with, and caused by another, that of the material being melted at too low a temperature and in too small bulk, and these again probably arise from the use of an improper furnace and an unsuitable kind of fuel. The native furnace is usually a rude hole dug in the ground coated with ferruginous clay, which tends to discolour the glass, and the heat is raised by the use of bellows blast. Hence the temperature is confined

to one point of the mass and is insufficiently diffused, while the body of metal under fusion being small, and the dome and sides above ground being thin, the heat is dissipated from them, and never attains body and elevation sufficient to admit of the mass setting and purifying itself, or of its being freed from air bubbles by the addition of the proper proportion of silica. What is required, is the preparation of the glass in larger quantities at a time, and with this view larger and more carefully constructed furnaces, on the reverberating principle, to be heated by coal; after this, that the process should be attended to more scrupulously, and the materials mixed by weight, instead of being thrown together by measure, as is too commonly the case at present. Country glass is usually made of Dhoby's earth, a crude carbonate of soda with a mixture of a little potash and lime 60 to 70 parts, and yellowish white sand 30 to 40 parts, composed of small fragments of quartz, felspar, iron and a trace of lime. In one hundred parts, for good bottle glass of Europe, are needed

	per cent.		per cent.
Sand, ...	58	Lime, ...	11½
Sulphate of Soda	29	Charcoal,... ...	1½

Sulphate of soda only contains 45 per cent. of alkali, so that 29 parts contain 13, while the carbonate of soda obtained from dhoby's earth, contains between 30 and 40 per cent. of alkali, according to which the alkali used by the Natives would be to that employed in Europe in the proportion of 23 to 13.

The substances generally used by the Natives in colouring glass are as follows :—
Iron, which gives green, brown and black shades
Manganese.....pink, purple, and black.
Copper.....blue, green, and deep red.
Arsenic,.....white.
Chromate of Iron..... ..a dull green.
All these materials are used in a very crude state, and the proportions measured in a most imperfect manner.—*Madras Exhibition Jury's Report.*

The Chinese manufactures of porcelain, glass and glazes, their carving and engraving of gems, Chinese agates, rock crystals and ivory, excite the admiration of Europe, as also does their lacquer and varnish work.

The colour of the emerald is peculiar, and called emerald green. The glass of bottle bottoms is largely sold in Ceylon and other places as emeralds. Emeralds are rarely without flaws, "Rag," Hind, and, with the hope of deceiving, the manufacturers, aware of this, make false emeralds with flaws. Of all precious stones, the emerald is most liable to defects, called flaws, and their absence should excite suspicion as it can be very easily imitated.

Dr. Hooker in his travels mentions that he dismounted where some very micaceous stratified rock cropped out, powdered with a saline efflorescence. This was an impure carbonate of soda. This earth is thrown into clay vessels with water which, after dissolving the soda, is allowed to evaporate, when the remainder is collected and found to contain so much silica, as to be capable of being fused into glass. Dr. Royle mentions this curious fact (Essay on the Arts and Manufactures of India, read before the Society of Arts, 18 February 1852), in illustration of the probably early epoch at which the natives of British India were acquainted with the art of making glass. More complicated processes are employed, and have been from a very early period in other parts of the continent.

The art of glass making is yet in its extreme infancy in the Punjab. The glass sand occurs in the form of a whitish sand mixed with an alkali, which effloresces naturally. It is called reh : that only of a good white color makes glass. This substance is identical with the alkaline efflorescence which appears in many parts, and whose presence is destructive to cultivation. Wherever such an efflorescence occurs over clean sandy soil, there is naturally formed a mixture of sand and alkali which fuses into coarse lumps of bottle green glass.—*Powell's Punjab Products. Hooker Him. Journ.* Vol. I, p. 13. *Emmanuel on Precious Stones; Buchanan's Mysore*, p. 371, Vol. III. *Madras Exhib. Jur. Report. Ainslies' Materia Medica, McCulloch Dictionary of Commerce*, p. 602. *Royle on the Arts and Manufactures of India.* 1852, p. 474.

G'LING-GANG. MALAYA.

Cassia alata, ? | Pako-g'ling-gang, MALAY.

GLOGOS. GR. Milk, also Gala, Duah Sans. to milk, Duhitar Sans. a maiden daughter who milks (duh) the go (cow), hence Dochter, Tochter, Daughter, and Dug, the teat.

GLOCHIDION. *Thwaites.* A genus of small trees, in Ceylon, of which Thwaites mentions G. coriceum; G. Gardneri; G. jussieuianum; G. montanum; F. nemorale; and G. Zeylanicum.

GMELINA. A genus of plants named after Gmelin, author of 'Flora Sibirica.' All the species of Gmelina form shrubs or trees, of which the latter are valued for their timber. They are found in the islands of the Indian Ocean, extending thence into the Malayan and Indian peninsulas. G. Asia-

tica and G. parvifolia are common in various parts of India, and G. arborea extends from Ceylon,—from Prome and Martaban north to the Deyra Valley, in 30° N. lat.

GMELINA, Species. Gombharee, Uria. A tree of Ganjam and Gumsur, extreme height 50 feet: circumference 4½ feet: height from the ground to the intersection of the first branch, 18 feet. A white, light wood. Boxes, chairs, bed-posts, lamp stands, bullock yokes, bazaar measures, toys and other articles are made of it. It is said to be rather scarce and expensive. The bark is said to be used medicinally.—*Captain Macdonald.*

GMELINA, Species.

Cumba wood,	AngloTel.	Cumba karra,	Tel.

A tree of the Northern Circars.

GMELINA ARBOREA. *Roxb. Cor. Pl.*

Gmelina Rheedii.—*Hooker, Bot. Mag.*

Gumar,	Beng.	Kumbula,	Maleal.
Gumber,	,,	Kumhar,	Panj.
Gumbari,	,,	Gumhar,	,,
Yemanch,	Burm.	At-demmata,	Singh.
Ky-won-po,	,,	Cummi maram ?	Tam.
Kyunboe ?	,,	Gumudi maram,	,,
Yamana,	,,	Teg-gumuda,	Tel.
Sewun,	Duk. Mahr.	Gumudi chettu,	,,
Jugani-chukar,	Hind.	Gumudu-teku,	,,
Seevum,	,,	Pedda gumudu,	,,
Seevun,	,,	Goomer tek,	,,
Shewun,	Mahr.	Gombhari ?	,,
Seevun,	,,	Ghooteky,	,,

This large tree grows in Ceylon, where it is common up to an elevation of 5,000 feet. It grows in Coimbatore, is rather frequent on the Malabar Coast, grows in the Godavery forests: is not very common on the Bombay side, where it is found more in the forests below the ghats than inland. It grows in Burmah and is plentiful in the Pegu and Tounghoo forests. In British Burmah it is a large tree with white, light wood, used for house posts, planks and for carving images, and recommended for planking and furniture. A cubic foot weighs 35 lbs. In a full grown tree, there, on good soil, the average length of the trunk to the first branch is 50 feet, and average girth measured at 6 feet from the ground is 12 feet. Dr. McClelland calls "Kyoonboe," Burm., a yellow wood, says it is plentiful in the Pegu and Tounghoo forests, is a large and remarkably strong tough timber, and fit for fancy wood. In Moulmein, it is used in ordinary building material. Fruit used as medicine. On the Bombay side, the wood is in much esteem for carriage panels, and other purposes. According to Dr. Roxburgh, it also stands exposure to weather and water well. From its great size, straightness, and general spaciousness in appearance, being a beautiful flowering tree, this is one of the most desirable for propagation throughout the country. Dr. Cleghorn in the Jury reports says it is a large timber tree, growing in mountainous districts: that the wood is light, of a pale yellow colour, easily worked, and does not shrink or warp; used for picture frames, decking small boats, for making venetian blinds, sounding boards, palankeen panels, gram measures, &c. It is very commonly used in the Vizagapatam district for the foundation of wells and other purposes, which require to be submerged in water, where it is remarkably durable. On the Godavery the large trees of this yield a very hard durable wood and the yokes for bullocks are made from it. In Nagpore, the "Seevum" is of a very light colour, has a sort of netted grain, is free from faults, and altogether may be considered a very excellent timber, although unfortunately not procurable in large quantities. Its length, there, is from 13 to 18 feet and from 4½ to 8½ feet in girth. The Commissariat there, supply it to the Ordnance Department for making packing cases, &c., and the natives employ it in the construction of palanquins. It takes varnish well, and works up nicely into furniture, but is attacked readily by white ants. From the small scantling of which it is there obtained, it must be classed merely as a rafter wood.—*Drs. Wight, Gibson, Brandis, Cleghorn, and Stewart, Captains Sankey and Beddome, Cal. Cat. Ex. of* 1862, *Thwaites.*

GMELINA ASIATICA Linn R.

G. parviflora *Rox.*.

Kanta Shew	Can.	Nelakumul ?	Tam.
Biddarie,	Sans.	Gumudu also Nela	
Gatta demata,	Singh.	Gumudi Chettu	Tel.
		Nelacumul,	Root.

GMELINA PARVIFLORA. *Roxb. Spreng.*

Kumatha	Can.	Challa gummudu	
Shiri gumudu,	Hind.	Kavva gummudu	Tel

A shrub having dark orange coloured flowers. Its leaves slightly bruised under water render it mucilaginous, which property the water retains till the mucilage is decomposed by fermentation.—*Jaffrey. O'Shaughnessy.*

GMELINA RHEEDEI, Hook. B. Mag.

G. arborea, W. Ic. not *G. arborea,* Roxb., var. ?—c, p. 128.

"Atdemmata.' Singh.

Common in Ceylon up to an elevation of 5,000 feet. A tree 45 to 50 ft. high, spreading. The bark and roots are used medicinally by the Singhalese. *Thw. En. pl. Zeyl,* p. 244.

GNANA. Sans. from gna to know.

GNANA-RUTNAVALI. Sans. From gnana, wisdom, rutna, a precious stone, and avalee, a train.

GNANI. Sans. From gna, wisdom.

GNA-PI. Burm. The Gna-pi of Burmah is the Balachang of the Eastern Seas, consisting of small fish with prawns and shrimps, first fermented and then dried. It gives rise to a considerable traffic, as no food is deemed palatable without it, and its use extends to every country from China to Bengal. That prepared at Mergui is excellent, only inferior to anchovy paste, by being over powerful.

GNAPHALIUM EXIMIUM. These flowers possess the quality of retaining their colour long after being gathered, the stalk is covered with a whitish down, they are very hardy both the annual and biennial, the colours are yellow, purple, crimson, yellow and white and grow in North America, Africa and Egypt, from two to three feet in height.—*Riddell.* Wight gives G. hypoleucum, marcescens, Neilgherryanum.

GNARI or Nari, a Chinese Tibetan province connected with British India, by the five Bhot passes in Garhwal and Kamaon. The Chinese viceroys are Tibetans with 200 Mongol or Turk troops or perhaps Mantshu Tartars, as they are said to use horseflesh, which no Tibetan and no Chinese would do.

GNAT, Culex, Lat.

GNA YAN PATOO. Burm. Clerodendron nutans. *Wall.*

GNA YOKE, Burm. Capsicum minimum.

GNEMIUM GNETUM. *Linn.*

Wagu, Jav. | Bagu, Malay.

This tree abounds on the southern coast of the island of Sumatra where its bark is beaten, like hemp, and the twine manufactured from it is employed in the construction of large fishing nets. The coarse cordage from the bark is in extensive use throughout the Archipelago. The seeds are eaten in Amboyna, and are roasted, boiled, or fried. The green leaves are dressed as curries, cooked and eaten like spinach.—*Crawfurd's Dictionary*, p. 26, *Marsden's Hist. of Sumatra*, p. 91.

GNEVA. See Lightning conductors.

GNIU. Hind. Chenopodium, sp.

GNETUM. See Himalaya.

GNIANA. See Gnyana, Vaishnava, Vidya.

GNIDIA ERIOCEPHALA, called also Daphne eriocephala, is very common on the ghauts of the West of India, and in the hilly parts of the Southern Mahratta country and of the Dekhan. It probably might be turned to the same use as the Nepal plant. See Daphne cannabina. Thymelæa.

GNOMON, Ch'haya, Hind. Ch'haya is spelt in a variety of ways in European books which treat of hindu astronomy; and though there are a variety of elements these are multiplied by mistakes in consequence of Europeans varying their manner of writing oriental words. The word Ch'haya means a shadow: in hindu astronomy, Vishuva ch'haya, the shadow of a Gnomon, when the sun is in the equinoctial points. Madhyama ch'haya, the midday shadow of the same at any other time of the year. Sama-mandala ch'haya, the midday shadow of the same when the sun is east or west of the Gnomon; Ch'haya suta is one of the names of Saturn, meaning Born from Darkness.

GNOO-SHWOAY-NGU-BIN. Burm. Cathartocarpus fistula. Pers.

GNU THEING. Burm. Cathartocarpus nodosus.—*Voigt.*

GNOSTIC. See Adam.

GNU GYEE, Burm. Cathartocarpus fistula.

GNU-THEI-NI. Burm. Cathartocarpus nodosus.

GNYANA. Sansk, Karma is the name of one of the Kanda or general heading of the Vedas. This chapter relates to "Works," the other two, "Gnyana" and Upashana. relate to "Faith" and Worship. See Gnana Vidya, Vaishnava.

GN YOKE MO H'MYAU. Burm. Capsicum minimum.

GO. Hind. A Cow: hence,

Gaola, Gopa. Gopala, Gorakh, Gopini, Gopi, cowherd, shepherd, shepherdess.

Gobar, Cowdung.

Gopi Chanduna, Cowherd's sandal.

Gopi Matti, Cowherd's earth.

Gao-Mukhi, cow's mouth, the ravine in the Himalayas where the Ganges issues.

Gopura, also Gopurum, a gate, a gateway of a town, the ornamental gateway of a hindu temple.

Galatians, from gala, milk, Goala, Herdsman in Sanscrit. Γαλατικοί, Galatians, or Gauls, and κελτι Celts allowed to be the same, would be the shepherd races, the pastoral invaders of Europe.

GOA, on an island, about 23 miles in circumference was captured by Albuquerque on the 25th Novr. 1510. This admiral succeeded Almeyda, in the command of the Portuguese in India. He was bold and enterprising. He captured Goa, and the Port of Malacca, also the island of Ormuz, in the Persian Gulf, all of which he strongly fortified, and Ormuz speedily filled with 40,000 inhabitants. His command lasted from 1507 to 1516 and he was superseded and died.

Goa, has 1,066 square miles and 363,788 population, nearly all of the Romish religion.

GOA or Gwa Island, a small island on the Ava coast, in Lat. 17° 33' N. and Long. 94° 34' E. Goa town is built on the south bank of the river, 7 miles from its entrance. Alguada point, in Lat. 15° 29' N. and Long. 73° 50' E. Horsburgh, forms the northern extremity of Goa bay.

Goa, in Lat. 33° 12' N. and Long. 71° 48' E. in the Punjab, near the left shore of the Indus. The Tower station is 1,797 feet above the sea.—*Walker.*

GOABARI-KAIA. Tel. Copra. Cocoanut.

GOA CEDAR. Cupressus pendula.

GOALA, or GWALA. Beng. A cowherd, one whose business or caste it is to attend cattle and sell milk. The caste of cowherds in Orissa furnishes also palanquin bearers, and domestic servants to Europeans and natives in Bengal.

GOALPARA. A district and town of the Bengal presidency, the town 425 miles distant from Calcutta west of Assam. It is under a permanent settlement, but the other five districts Kamroop, Durrung, Nowgong, Seebsagur and Luchimpore are under Ryotwary tenure.

GOA POTATO. Eng. Dioscorea aculeata. *Linn.*

GOAT.

Hedjaz,	Arab.	Izza,	Chald.
Iiada,	,,	Aza	Phœnic.
Bakra, He-Goat.	Hind.	Bebek,	Malay.
Kapros,	Greek.	Kambing,	,,
Caper,	Lat.		

The goat belongs to the order Ungulata; Tribe Ruminantia, Sub-Family Caprinæ, goats and sheep. Their position may be under :

Sub-Fam. Caprinæ, Goats, sheep.
1st Capricorns, or Antelope goats, or mountain Antelopes.
Gen. Nemorhœdus, 3 sp.
2. True Goats.
Gen. Hemitragus, 2 sp.
,, Capra, 3 sp.
,, Ovis, 8 sp.
Sub-Fam. Bovinæ.
Gen. Gavæus, 2 sp.
,, Bubalus, 1 sp.

The Lena shawl wool is the produce of the goats of the Tibetan Himalaya. It used to be a prevalent opinion that these goats were found in Kashmir; but that celebrated valley is far too warm and damp for them. The best shawl wool is produced in the vicinity of Garoo, Mansurowur, and the elevated lands to the eastward. The shawl wool is the fleece of the goat, next the skin only; the outer coat is coarse hair, and the two colours are white and light brown. The dogs of Tartary have also a soft down below the hair, very little inferior to that of the goats. *Capt. Gerard's Account of Koonawur*, p. 115..

GOAT'S HAIR is very commonly produced in almost every district of the Punjab, and called "jat." It is used for making ropes, also for matting, and for the strong bags wherein grain, &c., is carried on the backs of oxen. Grain dealers use rugs made of it in the shops in which the grain is poured out when being winnowed,or weighed out.

GOATS FOOT IPOMÆA CREEPER. Ipomœa pes capræ.—*Sweet.*

GOAT ISLAND, a name of Cabras island.

GOAT PEPPER. Capsicum frutescens.

GOATS, See Goat, Ladak. Wool.

GOAT-SKINS. See Leather.

GOAY-PIN-GYEE, Burm. A tree of Moulmein. Used in common purposes of building: its seed is used for weights in weighing gold.—*Cal. Cat. Ex.* 1862.

GOAY THA, Burm. A tree of Moulmein. Used in common purposes of building.—*Cal. Cat. Ex.* 1862.

GOBA GOBA. The stem of the leaf of the sago palm, much used throughout the Moluccas for building and fencing. Atap is thatch made of the fringe or petioles of palm leaves, doubled down and sewed on sticks or lathes of bambu.—*Journal of the Ind. Arch. June* 1852 p. 306.

GOBAR. Hind. Cowdung.

GOBRAUTA, Hind. a cowdung beetle.

GOBB, in Ceylon, a kind of marine lagoon or back water, caused by the rivers' mouths being blocked up and their waters, seeking an exit, traversing the sands adjoining the sea.

GOBBI. Tel. Asteracantha longifolia. —*Nees.*

GOBI. Hind. Brassica oleracea.

GOBI, a great sandy desert in Central Asia. It is in a rainless tract, which lies between L. 30° and 50° N, and L. 75 and 118° E. and includes Thibet, Gobi or Shama and Mongolia. Showers of sand fall in China which the people believe come from the desert of Gobi. In one which occurred on the 26th March 1850, and lasted several days, ten grains to the square foot collected in one day or about 18 tons per square mile. See Kalkas. Rain Sand.

GOBIIDÆ, a family of fishes of the Subclass Teleostei, Order I. Acanthopterygii. The Gobiidæ are arranged into four groups. Gobiina, Amblyopena, Trypauchenina, and Callionymina, in which are 24 genera. The Gobiidæ, include the Blennies, the Gobies or Sea Gudgeons, and the Dragonet.

GOBIUS, a genus of Acanthopterygious osseus fishes belonging to the family Gobiidæ. All the species have two dorsal fins, scaly bodies, and a disc beneath the throat formed by the united ventral fins. By means of this disc they have the power of attaching themselves to rocks. There are 152 species of Gobius known, many of which occur in India, *Gunther. Eng. Cyc.*

GOBREA. HIND.? Abies webbiana. *Hook.*

GOBRI. HIND. A tribe in Rohilkund living just under the hills. *Wilson.*

GOBURA. BENG. HIND. Anisomeles obovata.

GOBURA-NUTI. BENG. Amarantus lividus.

GOBUR-CHAMPA. DUK. Plumieria acuminata.

GOCALAST'HA, a sect of Vaishnava hindus who worship Krishna alone. See Avataram, Hindoo; Sects, Rama.

GOHICHAMUL. HIND. Balanophora.

GOD, the Semitic name of the Deity was pronounced as I A O indicative of a god of the sun and of fire. Clement of Alexandria calls it IAU the Samaritans pronounced IABE, i. e., IAHVEH. Lydus mentions IAO as a god of the Chaldeans. God is from Goadem corrupted into Goden and Woden. The mahomedans use the word Allah to indicate the Supreme Being. *Bunsen.*

GODAMA, like God, a name of Sakya-Muni, which seems, to have been a name applied to Sakya after his death. See Buddha.

GODANTI, HIND. Sulphate of lime.

GODARA. H. A large sub-division of the Jat tribe, on the borders of Hariana.—*Wilson.*

GODAMAPANDI. TEL. Flour.

GODARI. TEL. Grislea tomentosa. The red flowers and leaves are used for dying purposes. In the Northern Circars, the leaves are employed in dyeing leather; sheep-skins, steeped in an infusion of the dried leaves become a fine red, of which native slippers are made. The dried flowers are employed in Northern India, under the name of Dhauri, in dyeing with Morinda bark; but perhaps more for their astringent than for their tintorial properties. Dr. Gibson states that in Kandesh the flowers form a considerable article of commerce inland as a dye. It grows abundantly in the hilly tracts of the Northern Circars.

GODAVERY. This river rises in the Ahmednugur district within fifty miles of the Arabian Sea in the basaltic region described by Colonel Sykes (Geol. Trans., Vol. IV., part 2, 1836). And, greatly increased in size, it enters the granitic table-land of the Deccan, and flows at the southern foot of the Sichel mountains into a sandstone and argillaceous limestone country. This district is similar to that of Bundlecund and Malwa; it also contains diamonds, and has been much broken up by erupted rocks. From the north, the Godavery derives large supplies of water from the great rivers rising south of the Nerbudda and the Taptee, in basaltic tracts, the soil of which being retentive of moisture, the water is everywhere near the surface. From the south it receives only the Manjerah river, which, flowing through arid granitic plains, furnishes but a scanty addition of water, except during the rainy season. Through a pass in the gneiss mountain of Papcondah it enters the plains of the Eastern Coast. In this district the sandstone reappears, at an elevation little above that of the sea, but basaltic hills, several hundred feet in height, in which marine fossils have recently been discovered, exist almost within the delta formed by its sediment. The Godavery rises on the E. declivity of the W. Ghauts, near Nassik at 3,000 feet above the sea; runs S. E. 200 miles; E. 100; S. E. 85 miles; E. 170 miles; S. E. 200 miles; and disembogues into the Bay of Bengal, by three mouths, length 898 miles. It receives the Wein-Gunga 439 miles; Manjera 330 miles; Poorna 160 miles; Paira 105 miles; Inderaotee 140 miles—130,000 square miles are drained. It has the town of Ganga-khair on its right bank and the towns of Rajahmundry and Coringa at its embouchure. In 1846, the sanction of the Court of Directors of the British East India Company was given to the construction, at an expense of £47,500, of a dam of sufficient height to command the delta, and to supply the rich alluvial soil of which that tract is composed, with the means of constant irrigation. It has been completed and is seven miles long. The experiment of navigating the Godavery by steam has been entertained by the Madras Government. Three great barriers, have been drawn across the river. The rivers embraced under the Godavery navigation project are the Godavery, Wurdah, Pranhita, Wyne Gunga, Indrawatty, Sebbery, and Pyne Gunga. The three first, however, are the principal streams.

The Wurdah takes its rise in the Baitool District west of Nagpore, and after flowing for some distance in a south-east direction is joined by the Wunna, which, passing under Hingunghat, falls to the south, and forms its junction with the Wurdah, at a place called Sweet, eighteen miles south of

the latter place. At this confluence are the falls of Zoourate, and under them is the village of Chuhmunder, which is supposed to be the limit of the engineering operations at present contemplated. The Wurdah flows on to the south-east until a little before reaching Chandah it is joined by the Pyne Gunga, when, losing the names of Wurdah and Pyne Gunga, the united stream continues under the name of Pranhita to its junction with the Godavery, a few miles below the station of Sironcha. Midway between these confluences is situated the third or Dewalamurry Barrier, extending round in a curve for about fifty miles, and midway down this Barrier the Wyne Gunga discharges itself into the Pranhita.

From the confluence of the Godavery and Pranhita below Sironcha to the sea, the river carries the former name, although joined at intervals by the Indrawatty and other tributaries above specified. Thirty miles below Sironcha lies the second or Enchampally Barrier, and eighty miles below this again is placed the first or Sinteral Barrier, whence to the sea there are no material obstructions to a partial, though not perennial, navigation.

Thus the great line of water communication proposed is obstructed by three Barriers, and runs as follows :—

	Miles.
1. From Chuhmunder to Kirmiree and Saligoun (at the head of the Dewalamurry Barrier) ...	90
2. The length of the Barrier ...	30
3. From Mogelee (at the foot of the third Barrier) to Pilmellah (at the head of second or Enchampally Barrier) ..	85
4. The length of the Enchampally or second Barrier to Daodula ..	18
5. From Daodula (at the foot of second Barrier) to Dumoogoodium (at the head of first or Sinteral Barrier) ...	70
6. Length of Barrier to Badrachellum ...	15
7. From Badrachellum to Dowlaishwaram ...	105
From Dowlaishwaram to the Sea there is at present Canal navigation in length ..	32

GODDA, Can. ? A Mysore wood, one of the Cedrelaceæ, polishes well and is good for turning.—*Captain Puckle in Mad. Cat. Ex.* 1862.

GODGUDALA, Hind. Sterculia villosa.

GODU MAHANEL. Singh. Aucklandia costus. *Falconer.*

GODDESS, of these, there are in the hindu religion, one to each of their chief deities, Brahma, Vishnu and Siva. They are the Sakta or energies to their respective lords, their names are Saraswati, Lakshmi and Parvati.

GODDU PAVILI. Tel. also Portulaca quadrifida.—*Linn.*

GODDU TUNGA KODU. Cyperus semi-nudus, *R.*

GODEPORE. A rather hard, fine, close-grained, heavy Ceylon wood.

GODETIA ŒNOTHERA, the Evening primrose, a very pretty single petalled white flower, blossoming only in the evening; and towards morning turns to a pink, when it closes and withers. A fresh succession of flowers continues many weeks, even during the hot season. Is propagated by seed, either in pots or beds. The seed may be sown in the rains—soil should be rich.—*Riddell.*

GODGADALA, Hind. Sterculia Roxburghii.

GODII-BEGOON, Beng. Love-apple, Tomato; Lycopersicum esculentum.

GODHI. Hind. The edible bulb of the Marsilea quadrifolia of Simla.

GODHUMA PISHTA. Sans. Wheat Flour.

GODHUMULU. Tel. Triticum sativum. *Linn.* Triticum æstivum.

GODI, Hind. The process of hand hoeing or weeding crops.

GODIAI, See. Kurdistan.

GODRA, in Guzerat, its chief is of the Bagela race. See Komarpal.

GOD STONE, see Sami stone.

GODUGU GADDI. Sans. syn. Ch'hatri ch'hatra, Umbrella grass; fragrant grass growing in marshy ground."

GODU MAHANEL. Singh. Putchuck.

GODUMBE ARISI. Tam. Triticum æstivum.

GODUMBE-MAVU. Tam. Wheat Flour.

GOEWANS'E, or, as named in the low country, Vellale, constitute by far the larger numbers of the Singalese. Agriculture, their original employ, is not now their sole occupation. They are a privileged people, and monopolize all the honours of church and state, and possess all the hereditary rank in the country. *Davy's travels in Ceylon* p. 113.

GÆRTNERA. KŒNIGII, *Wight, Ic.*

G. acuminata, Benth. | Sykesia Kœnigii, Arn.
Var. β. G. thyrsiflora Blume. | G. Oxyphylla, Benth. | Sykesia thyrsiflora, Arn.

Var. α is very abundant in Ceylon up to an elevation of 3000 feet. var. *β.* grows in the south of the island, at no great elevation. *Thw. Enum. pl. Zeyl. p.* 202.

GÆRTNERA ROSEA, *Thw.* Grows in Ceylon in the Ambagamowa and Saffragam districts, up to an elevation of 2000 feet.—*Thw. En. pl. Zeyl*, p. 202.

GÆRTNERA TERNIFOLIA, *Thw.* Grows in Ceylon in the Ambagamowa district near Adam's Peak, at an elevation of 4000 to 5000 feet.—*Thw. Enum. pl. Zeyl.* p. 202.

GŒRTNERA-WALKERI. Wight, Illust.
Sykesia Walkeri, Aru.

Grows in Ceylon, in the Central Province, at an elevation of 3000 to 6000 feet.—*Thw. Enum. pl. Zeyl.* p. 202.

GOENONG GEDEH, or the Blue Mountains, a high range in Java, about 30 miles inland from Batavia. Pangeango rises 9,954 feet: Salak 7,322 feet, and Karang 6,014 feet above the sea—*Horsburgh.*

GOERA. HIND. of Punjab, manured land near villages, same as "nyain."

GOEZ, Benedict Goez, a Portuguese monk, went from Lahore by Kabool, to Kashghur, and across the sandy desert, into China, where he died in A. D. 1607; but his route also was far north of Tibet. Another Jesuit, Anthony Andrada, passed through Kumaon to the Manasarawara lake, and thence went on Rudak, on the western confines of Tibet. His journey was made in 1624, and is discredited by commentators and geographers because of his mentioning this lake as the source of the Ganges and Indus, instead of the Sutlej. There is no doubt, however, that the voyage is genuine, though we have no details of it. *Prinsep's Tibet, Tartary and Mongolia*, p. 12.

GOGA, a river in the Bhagalpoor district.

GOGA, a district of Thibet. See India.

GOGA, the name of a tree, Encœrnada Philippensis ? found in most of the Philippines, the woody filaments of which yield a soapy matter much used in washing linen, and in the process of gold washing for the purpose of precipitating the metal from the sand. It is a shore or littoral plant, formerly ranked by botanists as an Acacia.—*Crawfurd's Dis. of the In. Islands*, p. 144.

GOGAPUR. A saint held in much veneration by the agricultural population of Delhi and the Upper Doab, who, in the month of Badhar present offerings at his shrine, which is at Dudiera, 200 miles southwest of Hissar.—*Wilson.*

GOGLET. ENG. in Hindi, Koza, a water vessel, with a bowl shaped bottom and a long stalk like neck. They are made of earthen-ware or metals or alloys, and are the usual vessels in which Europeans and Natives hold their drinking water. Their name is from the gurgling sound produced when the water issues.

GOGAR-PASS. See Kohistan.

GOGAM. TEL. Choloroxylon dupada.

GOGI-SAG. HIND. Malva parviflora.

GOGIRD. HIND. PERS. sulphur.

GOGO. A town on the coast of Kattiawar, on the west side of the Gulf of Cambay. *Orlebar in B. As. Trans.* 1842, Vol. I, 194. *Dr. Buist.*

GO-GO of Manilla. Acacia abstergens.

GOGOT. A river of Rungpoor, runs near Momunpoor.

GOGRA. HIND. The cotton pod burst open.

GOGRA. The principal rivers which traverse the territory are the Kalee and Surgoo, which, meeting at a place called Pramadee, form the Gogra and Gunduck. The Gunduck is supposed to rise in the Himalaya, and flows into the Ganges near Patna. The upper part of the river is called Saligramee, from the fossil ammonites called saligrams which are found in it, and which the hindoos hold in veneration. The Gogra runs through the Ghorukpoor district near Dhooree Burhul in Goruckpoor passing Nawabgunge. See Kamaon.

GOH. PERS. also Parwar. PERS. also Marwarid. PERS. Pearl.

GOHAFSIN, or JOHAFSIN. See Joasmi.

GOHATTY, in lat. 26° 5′ 8″; N. long. 91° 43′ 8″. A large station in Assam on the Brahamputra, 69 miles E. of Goalpara. The level of the Brahamputra is 70 feet above the sea. Kamaikia temple is 825 feet and the highest point near Gohatty 1,002 feet.—*Herm. Schl.*

GOHELWAR. One of the five southern districts of Kattywar.

GOHILA or GEHLOT. A race descended from Bappa, who in A.D. 727, seized Chitor from the Mori tribe, and founded the Newar dynasty.

They were driven into Kattywar from Marwar by the Rathor rajputs, in A. D. 1200. See Jhaieja, Saurashtra.

GOHINLA. HIND Hamiltonia suaveolens.

GOHUR. In the Binjara tongue, any man, a Binjara man.

GOIA PUNDU. TEL. Psidium pyriferum.

GOIL. See Rajpoot.

GOITRE. The disease known in Europe by this name occurs also, in Asia, attacking the people in Kamaon, the Abor of the mountains bordering the valley of the Brahmaputra, and other mountain tribes. The natives of India employ for its cure, a leaf-looking substance called Galloor ka Puttar Hind: supposed to be dried sea-weed. Goitre, is rare in the valley of Kashmir. Mr. Vigne purchased at Ladak, a piece of common sea weed, which had been no doubt brought there by the merchants trading between China and Turkistan. He saw few cretins. Goitre occurs East of the Indus at elevations of 4,000 feet, but Mr. Bramley states that it is more common on the crest of a high mountain than in the valley of Nepal.

GOJAR. HIND. Edwardsia mollis.

GOJI. HIND. See Guji.

GOJJANGI. TEL. Pandanus odoratissimus.—*Linn.*

GOKAK. The principal cataracts or waterfalls in India, are near Simorree, in Rohilcund; at Gokak, on the Gutpurba are the Gairsappa, where from top of fall to surface of basin is 888 feet, and the depth of basin is 300 feet—1,188 feet, and from 300 to 600 feet across during the rains. Yena inMahabuleshwar,is 600 feet; Cauvery, 300 feet. Cataracts of Suboonreka, Chota Nagpore, and Hurrorce Ghaut—the falls, 15, 20, and 400 respectively; about 500 feet across crest.—*Curiosities of Science, Dr. Buist's Catalogue.*

GOKAL. A small town on the banks of the Jumna, below Mathura, Radha, mistress of Krishna was wife of a cowherd of Gokal. Hence one of Krishna's titles is Gokul Nath, Lord of Gokul. Gokul is almost an island and is one of the prettiest spots in the holy land of the hindoos. The scene there is still as pastoral as it had been three thousand and five hundred years ago Large herds of heavy-uddered kine remind us of the days of Nanda, though their number is far short of nine lacs, possessed by that shepherd-chief of old.—*Tr. of Hind*, Vol. ii. p. 117. See Radha, Krishna.

GOKAL-ASHTAMI or Janma ashtami, a hindoo festival in commemoration of the birth of Krishna, an event which is said to have taken place at Mathura, at mid-night, about the 22nd August on the 8th of Shravan. One vaishnava sect keeps the holiday on the 8th and another on the 9th of Shravan, Krishna is stated to have been born of Devaki, niece of Kans, king of Mathura. Kans having had it predicted that one of his race would destroy him, he endeavoured to compass the death of Devaki's offspring in which he failed, and on the 9th Krishna was removed to the house of a cowherd named Nanda. The worshippers abstain during the day from certain articles of diet, at night they bathe and ornament the image and offer the tulsi, or Ocymum sanctum. On the following day, a brahman serves as pujari, and afterwards he himself is worshipped. The 8th day is held by the Gaoli or cowherd race as a great jubilee day, from the circumstance of Krishna having been reared by one of their people, they join hands and dance, and shout Govinda, Govinda. The shrines of Kanoba are much visited at night, the Bhagat of the shrine by self flagellation, becomes hysterical, which is deemed by the people to be a possession by the deity, on which they prostrate themselves, burn incense and present sick people to the Bhagat. On the following day, the Bhagat's disciples work themselves into hysterics.—*Bombay Gazeteer.*

GOKULAST'HA. Gosain ascetics, teachers of the doctrines of Valabha Acharya. See Rudra Sampradayi.

GOKULNATHA. Son of Vittala and grandson of Valabha Acharya. See Rudra Sampradayi, Vallabhachari.

GOKAN. HIND. Albagi maurorum.

GOKANTICA. SANS. Syn. of Astracantha longifolia. Barleria longifolia.—*Nees.*

GOKATU. SING. Hebradendron gambogioides.

GOKHRU. DUK. GUZ. HIND. BENG.

Tribulus, lanuginosus.	T. terrestris, LINN.
Khusuke-kabir, AR.	Ghejasudu mustra, SANS.
Gokhoor BENG.	Aeknerenchi, SINGH.
Prickly fruited pedalium ENG.	Ana-nerinji, TAM.
Caltrops, ,,	Yenuga-palleru, TEL.

The seed, which is highly mucilaginous, as is also the whole plant, is cooling and demulcent, taken in water as a diluent. Very abundant and troublesome to the naked foot.—*Gen. Med. Top. p.* 135.

GOKHRU DESI, HIND. Tribulus alatus.

GOKHRU KALAN, HIND. Xanthium strumarium.

GOKHUR, BENG. Tribulus lanuginosus.

GOKIURA. HIND. Astracantha longifolia.—*Nees.*

GOKKATU. SING. Gamboge.

GOKPA, HIND. Allium *sp.*

GOKRU. HIND. Xanthium strumarium.

GOKSHARA. HIND. Asteracantha longifolia, Barleria longifolia.

GOKSHURA. SANS. Milk.

GOKTHURA. HIND. Asteracantha longifolia.—*Nees.*

GLASPATI. HIND. A kind of European iron imported in flat bars.

GLASS BEADS.

Kanch ke 'manke, HIND. DUK.	Munnie, TAM
Butirsacha, MALAY.	Pussalu, TEL.

Coloured glass beads are largely worn in India by several non Arian races.

GLASS NAUTILUS. See Carinaria.

GLASS EEL. A species of Leptocephalus of Shaw, found on the Australian coast. It is from 4 to 8 in. in length. There are eighteen species of this genus.—*Bennett.*

GLAT-CHANDUL. HIND. Gloriosa superba.—*Linn.*

GLAUCIUM PERSICUM. A very handsome plant and showy, either in borders or patches, they require a moderate good soil, the plants not too near each other, and the seed sown at the end of the rains, they are

natives of the South of Europe and Persia. The colours are red, orange, yellow and purple.—*Riddell*

GLAUCOUS LEAVED PHYSIC NUT. Jatropha glauca.

GLAUCUS. A genus of sea lizard, an oceanic nudibranch, soft and fragile, occurs in the E. Seas near Formosa. *Collingwood.*

GLAUCUS HEXAPTERYGIUS. Cuv. or Sea Lizard. This mollusk occurs in the Indian and S. Pacific oceans. It is a fragile delicately coloured animal and is about an inch long. Its upper surface is a vivid purple, and its lower is pearly white. —*Ben.*, p. 46.

GLAUX FLAMMEA and G. javanica, birds of the sub family Striginæ, the position of which may be thus shown:—

Tribe II.—Nocturnæ. Fam. Strigidæ.

Sub-Fam. Atheninæ, 2 gen. 9 sp. viz., 1 Ninox scutatus: 8 Athene.

Sub-Fam. Syrniinæ, 1 gen. 3 sp. viz., 3 Syrnium Indrani, Sinense and nivicolum.

Sub-Fam. Striginæ, 3 gen. 3 sp. viz., 1 Phodilus badius; 2 Glaux flammea, and G. Javanica.

GLET. Rus. Litharge.

G 'LING-GANG. Malay. Cassia alata. —*Linn.*

GLINIAUÆ NACZYNIA. Pol. Earthenware.

GLINUS LOTOIDES. Linn.

Gandibuti of Beas.

Porprang,	Hind.	Zakhm-i-haiyat,	Pers.
Kotuk of	Sind.		

This plant is given in the Punjab as a purgative in diseases of the abdomen, under the name of Zakhm-i-haiyat, which name, however, is also generally ascribed to Sphæranthus hirtus and to Cissampelos parcira. *Dr. J. L. Stewart*, M. D.

GLINUS TRIANTHEMOIDES.

Sharunnay-keeray, Tam.

A procumbent herb with fleshy leaves, of a brownish colour; used as spinach; a very abundant and troublesome weed.—*Jaffrey.*

GLOBBA CAREYANA. Carey's Globba. On shady banks in the Tenasserim Provinces where violets are seen in England, the pretty orange-flowered globba is not uncommon. Of this genus, Wight, in Icones, gives Globba bulbifera, careyana, marantinoides, ophioglossa, and orixensis.

GLOBBA EXPANSA. Wall. Pa-deinguo.—*Burm.*

GLOBBA NUTANS.—*Linn.* Syn., of Alpinia nutans.—*Roscoe.*

GLOBBA SYLVESTRIS. *Rumph.* Syn., of Alpinia nutans.—*Roscoe.*

GLOBE. Eng. The globe or earth, which Europeans believe to be round, is supposed by mahomedans to be of a tabular form Hindus believe it to be round and supported on a tortoise.

GLOBE AMARANTH. Gomphrena globosa.

GLOBIOCEPHALUS INDICUS. *Blyth*, the Ca'ing whale, is closely affined to the European Gl. deductor, but differs externally in being wholly of a black colour. Its intermaxilliaries are shorter; the teeth fewer and larger, numbering 6 or 7 above, 7 or 8 below on each side; the upper view of the maxillaries differs considerably in contour, being broader and less elongated in the Indian species; and there are other discrepancies which are less marked.—*Beng. As. Socy. Journ.* No. 4, 1852.

GLOBIOCEPHALUS RISSII. The Yellow Sea affords this species of Cowfish or round headed cachalot, which the Japanese capture, and other species of whales resort to the waters east of Manchuria. Seals have been observed on the coasts of Liantung, but nothing is known of their species or habits.—*William's Middle Kingdom*, page 258.

GLOCHIDION, a genus of plants belonging to the natural order euphorbiaceæ. The species consist of shrubs or small trees,

arboreum,	jessieuianum,	nitidum,
coriaceum,	lanceolarium,	pinnatum,
ellipticum,	montanum,	sinicum,
gardneri,	multiloculare,	velutinum,
hirsutum,	nemorale,	zeylanicum.

G. coriaceum, G. gardneri, G. jussieuianum, G. montanum, G. nemorale, and G. zeylanicum, are small trees of Ceylon. G. jussieuanum is Wight's Gynoon triandrum and jussieuanum.—*Voigt W. Ic. Thw.* p. 285.

GLOCHIDON LANCEOLARIUM. *L.* Bradleia lanceolaria, a useful timber tree of Assam.—*Roxb.* III, 697, *Voigt.*

GLOCHIDION VELUTINUM. *W. Ic.*

Golkamila sama,	Jhelum.	Phyllanthus velutinus.	Mull.
Bera,	Chenab.	Koamil; kalam of	Beas.
Sama; ambu of	Ravi.	Pandna of	Sutlej.

A small tree not uncommon in the Punjab Siwalic tract up to near the Indus. The wood is only used as fuel, the bark is employed for tanning.—*Wight Ic.* Dr. *J. L. Stewart*, M. D.

GLOCHENGUT. Ger. Bell metal.

GLOMEROUS FIG TREE. Eng. See Ficus glomerata.

GLORIOSA SUPERBA. Lin. *Rox. W. Ic.*

Ulat-chandal,	Beng.	Katijan also Kartichey pu,	Tam.
Superb-lily,	Eng.	Adavi nabhi, Agni sikha,	
Kariari,	Hind.	Potti dumpa,	Tel.
Mendoni,	Maleal.		

This beautiful lily is a creeper, which grows wild in Ajmer, the peninsulas of

India and Malacca and in Ceylon and blossoms at the commencement of the rains. The large, flame-coloured, drooping flowers proceed from the upper part of the stalks. The flowers are of a white, yellow and orange colour, the petals long and fringed. It lasts about eight days, undergoing various changes during that time. The root is a strong poison the "Gloriosa," says Loudon, "on account of the glorious colours of its flowers, and the elegance of their form, is a splendid and curious genus." The flower, large as a lily, hangs down, and the petals, stamens and style all turn and grow up like a flower turned inside out. Then to complete the oddity, the leaves prolong their extremities into tendrils, and the plant walks on its toes.—*Mason. Ainslie's Mat. Med.* p. 164. *Gen. Med. Top.* p. 189. *Riddell.*

GLOSSINA MORSITANS, is the Tse Tse fly; it is harmless to man and wild animals and even to calves while sucking the cow. The Tsalt salya or Zimb of Abyssinia seems identical with the Tse Tse fly. It abounds on the banks of the Zambesi river of Africa. Its bite is fatal to the horse, the bullock and cow.

GLOTTE also GLATTEE. Ger. Litharge.

GLOA. Sans, from gloi, to be sad, or to fade.

GLOVES.

Gants,	Fr.	Guanti.	It.
Handschuh,	Ger.	Rukawizii,	Rus.
Dastane, Daste,	Hind.	Pertschatki-Golizii,	„

McCulloch's Commercial Dictionary, p. 606.

GLOW-WORMS, are common in all parts of India. The glow-worm of Ceylon is the female of the Lampyris and attains a size of nearly three inches. Mr. Morren reports that he has found phosphorous in glow-worms, as well as a system of prisms in transparent lenses, above the luminous matter.

GLOXINIA. The species are handsome plants, bell-shaped, purple, blue and white flowers, they require a good light rich soil, and plenty of water, but good drainage and are propagated by seed, and stripping off the lower branches from the stem. G. maculata and G. caulescens succeed very well, if the roots are started into growth at the commencement of the rains. G. caulescens is propagated by leaves under glass; G. maculata by division of the roots: require treatment similar to dahlias for the preservation of the roots: they should not be grown in too large pots.—*Jaffrey. Riddell.*

GLUE. Fr. Bird lime.

GLUE. Eng.

Colli,	Fr.	Prakat; Rakat; Parakat,	
Leim,	Ger.	Parkat,	Malay.
Sirrisht,	Guz.	Vaj'ram,	Tam.
Sarisht,	Hind.	Vaj'ramu,	Tel.

Is extracted from refuse animal substances, such as the parings of hides, hoofs, ears of horses, oxen, calves, and sheep, and it is used for cementing wood. When good, it is hard, brittle, of a semi-transparent and deep brown colour, and free from clouds and spots. Glue, of a superior kind has been made from the waste residue of animal tissues, which have served the operation of tanning at the Government Tannery, Hoonsoor, samples have been received from Ootacamund, prepared by Mr. Brophy, from bones and remnants of animals which have served as food. Glue of a tolerably good quality is made by the Chinese from ox-hides, sufficient to supply the Chinese themselves, and furnish an article for export to India. Agar-Agar is the Malay name for the tenacious jelly or glue, made from a marine plant, the Plocaria (Gigartina) tenax. It is imported into China from the Eastern Archipelago, though the Chinese likewise manufacture it for themselves, and apply it as size to many useful purposes and use it as food. The bamboo lattice work of lanterns is covered with paper saturated with this glue or gum, which, when dried, is semi-transparent. It is also used in paper and silk manufacture. It is incomparable as a paste, and is not liable to be eaten by insects. When boiled with sugar, it forms a palatable sweetmeat. *Faulkner, Williams, Morrison M. E. J. R.* See Gelatine. Gigartina Tenax.

GLUGA. *Malay* is the Broussonetia papyrifera of botanists, the paper mulberry tree, the plant from which, in China and Japan, a kind of paper is made and clothing in the islands of the Pacific. The Javanese are the only people of the Archipelago who manufacture a paper from the liber or inner bark of this plant, and this is by a process very similar to that by which the ancients manufactured papyrus, but the ordinary Japanese paper, instead of being costly, like the papyrus, is a very cheap commodity. Its colour is that of parchment; it is very tough, and, except that it is liable to be preyed on by insects, owing to the rice-water used in its preparation, it is very durable, The name of the plant, and that of the paper, "daluwang" and "dalambang," are native Javanese words; and it may be concluded that the art of manufacturing paper from the gluga plant is also a native one, and been long known for the few ancient manuscripts found in Java, and which, belonging as they do, to the times of hinduism, cannot be of later

date than the year 1478, that in which hinduism was finally subverted. The Gluga culture and paper manufacture, are chiefly carried on in the province of Kadiri, once an extensive seat of hinduism, and the parties conducting them are the mahommedan priests: in this matter very likely the successors of the brahmins. It is prepared by a process of maceration and beating.—*Crawfurd Dict.*, p. 143. *Journ. of the Indian Archipelago*, Nos. VI., XII. June—December, 1853, p. 276.

GLYCINE, *Species.* Butwause Hind. A very fine and prolific pulse, much cultivated in the Upper Provinces of India.—*Ainslie.* p. 236.

GLYCINE ABRUS. Linn. Syn. of Abrus precatorius.—*W. and A.*

GLYCINE SINENSIS. Takes its name from glykys, sweet, the roots and leaves of most of the species being so. The flowers, which hang in racemes from the axila of the leaves, are violet, yellow, or purple. Fortune found it wild on the hills, where it climbs among the hedges and on trees, and its flowering branches hang in graceful festoons by the sides of the narrow roads which lead over the mountains. From the 20th of April to the beginning of May, most conspicuous amongst the shrubs and herbaceous plants of China, are the flowering Viburnum macrocephalum and dilatatum, with their large heads of snow-white flowers; Spiræa and the double variety, which is more beautiful than the original species; Weigela rosea, now well known in Europe: Moutans of various hues of colour; azaleas, particularly the lovely little "Amæna," Kerria japonica; the lilac and white glycine: roses; Dulytra spectabilis and Primula cortusoides, and with such a host of Flora's beauties the Chinese gardens are gay indeed. But perhaps the most beautiful sight of all is the Glycine sinensis; climbing upon and hanging down from other trees, the effect produced by this climber is fine, attaching, itself to a tree, or a group of trees, it entwines itself round the stems, running up every branch and weighing down every branchlet and, in the end of April or beginning of May, is covered with flowers. —*Riddell. Fortune's Wanderings*, p. 66. *A Residence among the Chinese*, p. 242.

GLYCINE TOMENTOSA. Syn. of Dollichos uniflorus.

GLYCINE TRILOBA. Linn. Syn. of Phaseolus trilobus.—*Ait.*

GLYCYRRHIZA, a genus of plants belonging to the natural order Fabaceæ, or Leguminosæ, consisting of herbaceous plants with pinnated leaves, small flowers in axillary spikes, and roots running very much in the soil in which they grow. Species of Glycyrrhiza also extend into Affghanistan, whence liquorice-root, jeteemadh, is imported into India. The Glycyrrhiza with both smooth and scabrous pericarps, the Arabs call soos: Jetthimud is the Glycyrrhiza glabra, and is imported from the Red Sea. There is a Taverniera with a sweet root which has the same name. Glycyrrhiza echinata, is a native of Apulia, on Mount Gardano, in Greece and Southern Russia, extending into Tartary and Northern China. The whole plant is glutinous to the touch. The roots are horizontal, in taste like the common liquorice. This is sometimes called Russian Liquorice. *Bot. Mag* .252, *Mignan's Travels* p. 35.—*Eng. Cyc. Sim's Nees*, 328. *Royle.*

GLYCYRRHIZA GLABRA. Linn.

Asl-us-sus	Ar	Bekh-mekeh,	Pers.
N'wy-k'hyo	Burm.	Madhuka,	Sans.
Mithi-lakri,	Duk.	Yestimadhuka,	,,
Liquorice	Eng.	Adi-modram	Tam.
γλυκυρριζα	Gr.	Yestimadhuka	Tel.
Jetimadh,	Hind.	Ati madhramu	,,
Urit-manis	Malay.		

A native of the South of Europe, Crete, and Candia, also of Cochin China and China. The name liquorice, according to Du Theis, is a corruption of the French word 'reglisse,' which is itself a corruption of Glycyrrhiza. The roots abound in a saccharine mucilaginous matter, which is slightly bitter, and readily soluble in water. A powder, and the well-known common extract, are prepared from it. The decoction in different forms is a common remedy for coughs.

Mignan found the plant abundant throughout the country, burnt as fire-wood.

Jetimad'h is only sold in the bazaars as a medicine—If imported it is the root of Glycyrrhiza glabra;—if indigenous, it is obtained from the root of Abrus precatorius. —*Ains. Mat. Med. p.* 24. *O'Shaughnessy, page* 293. *Eng. Cyc. Mignan's Travel* p. 35.

GLYCYRRHIZA TRIPHYLLA.

Zaisi, of Aslasus,	Aff. Root.	Jetimadh,	Hind.

Inspissated juice, rab-us-sus. Several species, possibly including that of Europe, G. glabra, are common, wild in Affghanistan, where they are mentioned by Griffith, and where Bellew collected two at 5,000 to 6,000 feet. *Dr. J. L. Stewart, M. D.*

GOL. Hind. Round, globular, hence Gola a cannon ball; Goli, a musket ball.

GOLA. Hind. A caste employed as rice cleaners, or in salt manufacture.

GOLAB-JAM. Beng. Rose apple, Eugenia jambosa.

GOLA-DAS. Hind. Slaves.

GOLAGANDI. TEL. also Amada-kada. TEL. Cyanotis axillaris.—*Schult.*

GOLAKONDA MIRAPA, TEL. Capsicum frutescens, *L.* var. *β.* flavum. It is called by various names, as Golconda, Chilly, Nepal Chilly, &c.

GOLAKA. SANSC. A son born of a widow. Among the Mahrattas, the term Golak is considered to apply to a caste supposed to be descended from the illegitimate offspring of a woman of the braman caste; Randa-golak, is the adulterous progeny of a woman who has a husband, Runda-golak-golak, the illegitimate son of a widow. The members of the Golaka caste at Poona act as astrologers, agents, money changers and are held as no better than sudras.—*Wilson.*

GOLA-PURAB. HIND. An inferior tribe of Sunadh brahmans, who cultivate lands in the Agra district.—*Wilson.*

GOLAREE PASS. See Khyber, p. 521.

GOLCONDAH. A small town in the vicinity of Masulipatam but in the Hyderabad territory, from which, formerly, diamonds were obtained, the soil is not now worked.

GOLCONDAH. A fortress and small town on the left bank of the Moosa river five miles W. from Hyderabad. Golcondah was formed into a hindu kingdom in the reign of Mahomed Toghlak by a descendant of a royal house of Telinganah. A mahomedan dynasty was subsequently founded, here, by Kuli Kutub Shah. He ruled for sixty years during which he was employed in reducing the hindus eastwards to Masulipatam and Rajahmundry. Golcondah fell to Aurungzebe in 1677 after a protracted siege. In Orme's time, under the Asof Jahi dynasty, the Golcondah sovereignty included Arcot, Kurnul, Cuddapah, Rajahmundry and Chicacole. The town of that name has almost disappeared but the fortress on a fortified rock remains. It is commanded by a low range of hills to the north.

GOLD. ENG. GERM.

Zebeb, Tibr,	ARAB.	Amas, Kanchana,	MAL.
Guld,	DAN. SWED.	Zar,	PERS.
Goud,	DUT.	Zloto,	POL.
Or.	FR.	Oiro, Ouro.	PORT.
Zabab,	HEB.	Soloto,	RUS.
Suna,	DUK. GUZ. HIND.	Swarnam,	SANS.
Oro,	IT. SPAN.	Ponnoo,	TAM.
Sol, Aurum, Rex Metallorum,	LAT.	Bungarroo,	TEL.

Gold is one of the precious metals. It is found in nature in its metallic state. It is occasionally found mineralised by tellurium. Native gold occurs in cubes without oleavage, also in grains, thin laminæ, and masses, sometimes filiform or reticulated. The color varies in shade, sometimes being a bright yellow, at others almost silvery white, from the quantity of silver with which it is mixed. It is very ductile and malleable. Hardness 2·5 to 3. Specific gravity 12 to 20, varying according to the metals alloyed with the gold. Native gold usually contains silver, and in very various proportions. The finest native gold from Russia yielded—gold 98·96, silver 0·16, copper 0·35, iron 0·05; specific gravity 19·099. A gold from Marmata afforded only 73·45 per cent. of gold, with 26·48 per cent. of silver; specific gravity, 12·666. This last is in the proportion of 3 of gold and 1 of silver. The following proportions have also been obtained; $3\frac{1}{2}$ to 1, 5 to 1, 6 to 1, 8 to 1; and this is the most common; 12 to 1 also is of frequent occurrence. Copper is often found in alloy with gold, and also palladium and rhodium. A rhodium gold from Mexico gave the specific gravity 15·5 to 16·8, and contained 34 to 43 per cent. of rhodium. Iron and copper pyrites are often mistaken for gold by those inexperienced in ores: but, gold is at once distinguished by being easily cut in sizes and flattening under a hammer. The pyrites when pounded are reduced to powder; iron pyrites is too hard to yield at all to a knife, and copper pyrites affords a dull greenish powder. Moreover the pyrites give off sulphur when strongly heated, while gold melts without any such odour. Native gold is to a large extent obtained from alluvial washings. It is also found disseminated through certain rocks, especially quartz and talcose rocks, and it is often contained in pyrites, constituting the auriferous pyrites; the detritus affording gold-dust has proceeded from some gold-bearing rocks. Gold is widely distributed over the globe. It occurs in Brazil (where, formerly, a great part of that used was obtained), along the chain of mountains which runs nearly parallel with the coast, especially near Villa Rica and in the province of Minas Geraes; in New Granada, at Antoquia, Choco, and Grion; in Chili; sparingly in Peru and Mexico; in the southern part of the United States. In Europe it is most abundant in Hungary at Konigsberg, Schemnitz and Felsobanya, and in Transylvania, at Kapnik, Vorospatak, and Offenbanya; it occurs also in the sands of the Rhine, the Reuss, and Aar; and southern slope of the Apennine Alps, from the Simplon and Monte Rosa to the valley of Aosta; in Piedmont; in Spain, formerly worked in Asturias; in the county of Wicklow in Ireland; in Wales and parts of the west of England: in Sutherlandshire in the north of Scotland,

and in Sweden at Edelfors. In the Ural mountains there are valuable mines. There are mines in Africa at Kordofan, between Dar-fur and Abyssinia; also south of Sahara, in the western part of Africa from Senegal to Cape Palmar; also along the coast opposite Madagascar between 22° and 28° S. lat., supposed by some to have been the Ophir of the time of Solomon. Other regions in which gold is found are the Cailles Mountains in Little Thibet, Central Asia, India, Malacca, China, Japan, Formosa, Ceylon, Java, Sumatra, and the Philippines.

Until lately, nearly all the gold of commerce came from Asiatic Russia and Mexico, but recent discoveries of gold in California and Australia have opened new and vast sources of supply.

The imports into India, of bullion are continuous. The export of bullion from London to the undermentioned countries during the six months ending 31st December 1856, were

1856.	Gold.	Silver.	Total.	Total of corresponding period last year
	£	£	£	£
India (including Ceylon)	55,000	4,971,500	5,027,500	5,105,350
China and the Straits ...	54,930	2,753,300	2,808,300	1,696,910
Cape of Good Hope and Mauritius	9,000	3,500	12,500	5,950
Hamburg, Belgium, and Rotterdam	1,970,000	740,700	2,711,600	1,095,660
France, via Boulogne, Calais, and Dunkirk...	154,460	94,700	219,100	24,940
Peninsula and Mediterranean, with Constantinople and the Crimea	166,500	4,500	171,100	1,075,790
West Indies	161,600	.....	161,600	383,060
Brazils.	171,100	.....	171,100	77,120
Africa.....	.....	5,000	5,000	3,400
Total....	2,744,000	8,573,200	11,317,200	9,462,210

Total £17,806,940, in 1856, against £14,224,610 in 1855: from the Mediterranean ports, during the twelve months, £3,700 of gold and £2,025,540 silver, and extraordinary amounts despatched via Folkestone and Dover to France, of which no accurate records are obtainable. In reporting on the state of the bullion market, they give the subjoined as the latest prices. In a recent publication it was stated that, within the last five years, twenty-four millions of specie has been absorbed by Calcutta and Bombay alone.

	Bombay.	Bengal.	Total.
1851-52...Rs.	1,65,72,753..	2,49,63,184...	4,15,35,937
1852-53... „	2,23,05,796...	3,49,66,251 ..	5,72,72,047
1853-54... „	1,67,82,200 ..	2.12.90,787...	3,80,72,987
1354-55... „	67,87,340..	64,08,606 ..	1,31,95,946
1855-56... „	3,71,67,761...	5,81,00,445...	9,32,68,206
Total Rs.	9,96,15,850	14,57,29,273	24,53,45,123

The drain towards China is almost as great, and both, together, cause a withdrawal of some seven millions a year from the currency of Europe. In connection with the above, it may be interesting to show the amount of gold.

Imported from Calcutta into Madras, from 1st November 1855 to 31st October 1856.				Exported from Madras to Subordinate Ports, from 1st November 1855 to 31st October 1856.			
Bullion.	Sovereigns.	Gold Mohurs.	Total.	Bullion.	Sovereigns.	Gold Mohurs.	Total.
1,63,950.	2,50,685.	19,885.	4,34,520	11,625.	54,840.	750.	87,215.

Mr. Wood's statistics of the trade of Calcutta shows the following imports of gold and silver:

	Gold.	Silver.
	£	£
1851-52	449,258	2,069,755
1852-53	673,916	2,822,628
1853-54	464,159	1,665,060
1854-55	326,565	383,913
1855-56	1,028,966	4,750,020
1856-57	793,028	5,812,689
1857-58	989,220	6,857,846
1858-59	1,171,068	3,916,077
1859-60	1,437,198	3,855,926
1860-61	1,422,091	2,590,032
1861-62	1,619,562	2,643,089
	10,276,055	37,367,041

In 1848 the total amount of gold in use in the world was estimated by the best authorities at about £600,000,000 sterling and the annual supply was believed to be between eight millions and nine millions sterling. From the influx consequent on the opening of the gold fields of California and Australia, the amount in hand, in 1858, was computed at about £820,000,000 sterling, equivalent to about 205,000,000 ounces troy or 8,542 tons. Great as the amount seems, it could be all contained in a cubic block of gold only 23 feet in diameter. The gold coinage in Great Britain, France and the United States amounted in 1843, to £4,200,000 and in 1853, it was £41,800,000 or nearly ten-fold as large. *H. D. R.* p. 189.

In India, scales of gold are found in the gravel of river-beds over a great extent of country. The probability is, therefore, that the gold quartz is practically inexhaustible.

But no practical man has yet tested this quartz by roasting and crushing it, so as to determine whether the per-centage of gold produced would repay the expense of working on a large scale. In the process of quartz-crushing the quartz is first calcined in an ordinary kiln to assist the process of crushing; after being broken into smaller pieces, it subsequently undergoes the stampers. But a common flour mill the ordinary chert or mill-stone grit, will crush it better than any and millers aver that this work wears them less than even grinding Indian corn. The crushed or ground quartz flows with a stream of water into slime pits and labyrinths of narrow pipes, at the entrances of which the particles of gold sink according to their specific gravity. For the reduction of silver, copper, lead, and iron, complicated processes are necessary. But, in the separation of gold, a simple mechanical operation is all that is required to extract the metal from its matrix, whether that matrix be quartz, or slate, or granite. Where silver and copper particles are associated with gold, finer processes are however necessary for their separation; but for commercial purposes it would be sufficient to make the rude separation we have indicated on the spot where the gold quartz exists. A ton of Virginian quartz was found to yield 1 oz. 7 dwts 7 gr. of pure gold, or nearly an ounce and a half. Half an ounce per ton if worked upon the spot where the quartz is found would pay all expenses. About three quarters of an ounce can be obtained from Welsh quartz.

Gold is often mentioned as an article of commerce.

In the Bible (I. Kings, c. 9, v. 26) about 1,000 B. C. Solomon, king of all Israel, "made a navy of ships in Eziongeber, which is beside Eloth on the shore of the Red Sea, in the land of Edom." And these ships brought gold, silver and precious stones from Ophir and Tharshish in such quantities that king Solomon "exceeded all the kings of the earth for riches." Silver was so plentiful at his Court that it was "accounted nothing of." The king's drinking cups were made of pure gold, and his shields were covered with beaten gold. It has never been satisfactorily settled where Ophir and Tharshish were situated, but we are distinctly told that the navy of Tharshish brought "gold and silver, ivory and apes and peacocks," and it has been surmised by some writers that Tharshish was either China, or some islands in the China seas. Ophir, is also supposed to have been some district or port in the Red Sea, on the East Coast of

Africa, or on the Malabar Coast or Coast of Malacca. The "precious stones" which king Solomon procured from Ophir are specially referred to. Some Portuguese historians, have supposed that it was Sofala, or some other place near the mouths of the Zambezi, on the east coast of Africa, whence the Tharshish fleet brought the rich merchandise which contributed so much to the splendour and magnificence of Solomon's kingdom. The Tharshish fleet is, however, said to have arrived at Eziongeber only once every three years, from which we may fairly infer that the voyage was a considerable one, or the ships had to go with the S. W. monsoons and return with the N. E. winds, or that they made a trafficking voyage from one place to another until the cargo was sold and another shipped. Ships or boats coasting from the Red Sea to the mouths of the Zambezi would scarcely take three years for such a voyage. We are inclined to believe, therefore, that king Solomon's navigators crossed the open seas and traded with India and China.

Eziongeber, on the shores of the Red Sea, (I Kings ix and 26,) is a little port at the head of the Elamitic, or eastern gulf of the Red Sea. This town more naturally belonged to the Midianites of Sinai, or rather to their friends the Egyptians. It was afterwards called Berenies by the Ptolemies; and its place is still pointed out by the Egyptian name of the valley in which it stood as Wady Tabe, the valley of the city, and is no doubt the town known seven centuries later under the name of the Golden Berenice, and not many miles from the modern Souakin, where gold was more common than in every other place of trade. Solomon's ships sent from Eziongeber, brought home chiefly gold from Ophir. From Ophir they also brought precious stones and ebony. *Sharpe's History of Egypt*, Vol. I, p. 107.

There are, however, conflicting opinions amongst the learned as to the meaning of Ophir, whether it was a country or it be the Arabic verb, Afr, to flow, to rush in, to pass on. If the latter etymology be the correct one, whatever place produced gold, would be styled Ophir by the Hebrews. There are, at present, in the Eastern Archipelago two places called Mt. Ophir—one of them a mountain in Sumatra, in the Palimbayang district 9,770 feet above the sea, to which the name was given by the Portuguese, and they gave the same name to a mountain 40 miles N. of the town of Malacca, 4,000 feet high. In the vicinity of both of them gold has been obtained.—*Bikmore* 403.

The Malabar coast, in particular, it is thought must be rich in gold, for the geological formation of the country is very similar to that which led Sir Roderick Murchison to foretell the existence of gold in Australia. Moreover, tradition indicated the mineral wealth of this part of India; and some writers set forth the opinion—an opinion, by the way, which is strongly advocated by Mr. Max Muller in his recent lectures on the science of language—that Malabar is the Ophir of Scripture. Undoubtedly Berenice, on the shores of the Red Sea, was one Ophir. Even while the gold of Ethiopia may have only been picked up by the unsettled tribes of the desert, it had yet been a source of great wealth to Ethiopia; but when Ethiopia was conquered by the Egyptians and its mines were worked by Egyptian skill, the produce seemed boundless. The gold was found in quartz veins within a slaty rock, at various spots in the Nubian desert, between Derr on the Nile and Souakin on the coast. They were said to bring in, each year, the improbable sum of thirty-two millions of minæ, seventy millions sterling, (Diod. Sic. lib. i. 49.) as was recorded in the hieroglyphics under the figure of the king in the Menmonium, who is there offering the produce to Amun-ra. To these mines criminals and prisoners taken in war were sent in chains, to work under a guard of soldiers; and such was their unhappy state, banished from the light of heaven, and robbed of everything that makes life valuable, that the Egyptian priests represented this as the punishment of the wicked souls in the next world. No other known mines were so rich. From the word, Noub, gold, the country received the name of Nubia, or the land of gold, and gold was shipped from the port afterwards by the Ptolemies named the Golden Berenice. Gold was henceforth more abundant in Egypt than in any other country in the world; and food and every natural product must have been dearer. Under these circumstances, while they may have imported iron and copper from Cyprus, oil and silver from Greece, with a few other articles from Arabia and Palestine, they could have exported very little beyond gold. The gold mines helped the people's industry in performing their great works in building and in war; but after a time it undermined that industry, and made the country an easier and richer prey for its neighbours. (*Sharpe's History of Egypt Vol.* I. p. 89.)

In Arabia, silver, iron, lead, and copper, are met with in different parts, the last, recently in Oman. Gold is mentioned by the ancient writers, and in all probability it will be found when the country is better explored, but at present it is not known to exist in Arabia.

Malabar. A Committee appointed by the Madras Government in 1832 to consider Lieut. Nicolson's proceedings, reported that nearly the whole of the province of Malabar, except that part immediately along the coast consists of lofty mountains covered with dense forest or thick jungle. The chain more immediately connected with the gold washing is formed of the Koondah and Mokoorty Hills to the south-east of Calicut and Neilgherries to the east, and the Wynaad mountains to the north-east. These send off numerous lateral ranges between which are chief valleys in most places closely covered with forest. The most extensive of these is that of Nelamboor including nearly the whole of the Ernaad talook, bounded on the east by the Neilgherries, on the north by Wynaad, on the north-west by a lateral range running south from the ghauts called the Wawoot Hills, and on the south by the Koondah and Mookoorty mountains. From these, on all sides, innumerable mountain streams descend, and uniting near Nelamboor, form the Beypoor river, of considerable magnitude, which falls into the sea about eight miles to the southward of Calicut. In the mountainous district of Wynaad, streams in the same manner descend through every valley and unite into large rivers which fall into the Cauvery in the Mysore and Coimbatore countries. The committee reported the whole of the above-mentioned mountains to be of primitive formation. In the Nelamboor valley, so far as the observations of the Committee went, the prevailing rock is gneiss, a stratified granitic rock. Above this, in most places, is a species of clay-ironstone, which from its softness, enabling it to be cut into the form of bricks for building, received from Dr. Buchanan the name of laterite. It is the overlying rock of the whole country between the ghauts and the sea to the westward, and many of the smaller hills are entirely formed of it. "When fresh dug it is perfectly sectile, but on exposure to the heat of the sun, and to the weather it becomes of considerable hardness. So far as the gold mines are concerned, it may be considered to be a deposit formed in the lapse of ages, from the gradual disintegration of the immense mountain masses in the neighbourhood; in which process part of the precious ore may be supposed to have been washed down along with the earthy particles.

However this may be, it is certain that gold exists more or less abundantly in the whole of the country on the western side of the ghats in every stream which takes its rise from the Koondah, Neilgherry, and Wynaad mountains, and in the sands of the sea-shore along the whole of South Malabar. It is throughout in the form of minute grains. One of the persons examined stated that he had once or twice seen a piece as heavy as a gold fanam (about the 1-80th part of an ounce Troy), but in all the specimens examined by the Committee, the portions were infinitely smaller. The principal washings are in the Ernaad, Wynaad, Neddinganaad, Koormenaad, Calicut, and Shernaad talooks, but Lieut. Nicolson, who during 1830, and 1831 and 32 was employed, with a body of pioneers, to ascertain the value of the gold mines in Malabar, then distinctly stated that he had traced the source of the gold to its matrix, in the rocks of the Coondah and Mookoorty Hills; in one of his later reports he mentioned that the miners in Malabar generally pursue the veins of quartz, and wash the portions of rock and earth composing them from a belief that they are most productive. About ten years subsequent to this, Capt. Newbold remarked that where plutonic rocks come in contact with the primary shists a greater tendency to metallic and silicious development is observed, and from the Himalaya to Cape Comorin, in the Malayan peninsula, Borneo, Sumatra, Assam, the Burman Empire, and in Hungary it is in veins of quartz, ferruginous quartz and their alluvium that gold is found in the greatest abundance. The gold rocks in the Madras Central Museum show the same fact of quartzoze rocks being the matrix of the gold in Southern India. In 1793, Mr. Duncan, Governor of Bombay, ordered a minute report to be made to him on the subject of the mines in Malabar, which still continue to be worked very industriously by the natives of the country. Afterwards in 1831, Mr. Sheffield the Collector of that province made their existence known to Government, when he stated that gold dust, weighing 11,449 fanams had been collected in a few of the talooks there: for gold is found in all the rivers of the Malabar province, from the stream which falls into the sea at Elatoor about 8 miles north of Calicut, as far south as the numerous streams flowing through the Palghaut valley, which form their junction about 15 miles below Paulghautcherry to the great Ponany river, and some of which reach the southern boundary between Cochin and Malabar about one hundred and ten miles to the south-east of Calicut.

Arliporamboor river, a feeder of the Todakul river.

Arankyum river, disemboguing at Caralondy.

Beypore river—gold is found in the beds of the several branches of this river which flow through the Nelamboor valley, before they all unite above Mambaat Angaddy.

Carampoya or Carambye river rises like the Ponapoya, q. v. with which it unites at Poolliumpara in Wynaad, and their united stream is then called Pamdy-paya, but this, on approaching the ghauts, again divides into two streams and the main branch called in the Nelamboor valley, the Carambge, rushes down the Alliumpully cherum.

Calicut. Pooloowye river in Calicut talook.

Iroopoonjay river in Calicut talook.

Coodernapoya river, a feeder of the Beypore river.

Caracoorpoya river, descends from Devalla to the right of the road through the Carcoor pass to join the Poonapoya river.

Capul Mines.

Carembat jungle near Carcoor.

Cumballa Nullay, one of the Chulamally range close under Nellialum.

Ernaad viz.

Ariabode river	Goddaloor
Aripanaad hill	Koornenaad taluk, viz.
Carcatode	Ponam river
Cacatode (perhaps the same as Carcatode.)	Poonooa ,,
	Maroothcyl, river
Catchapoora river	Maroothey, ,,
Eddakara river	Mooryatha, ,,
Karamanua river	Malanoom, ,,
Karote,	Pallay Kooth river
Rootakel,	Pathillypaddom ,,
Kakatode,	Poolakottu ,,
Moothoota	Pootoo Piryarate river
Morootingat	Varoor ,,
Mannakat,	

Killakumpoya river, rushes down from the Wynaad into the Nelamboor valley to join the Poonapoya river.

Kutchambara on the bank of the Coodoora Poya river.

Mambaat-angady, see Beypoor river.

Malabar, the matrix of the gold ore is supposed to be in the mountains and hills of Malabar, and in many elevated spots in the valleys of Nelamboor and Mookoorty, and immediate vicinity of Devalla and the Koondah and Neilgherry mountains, and that which is found in the beds of rivers and other mountain streams seems to be brought down by the monsoon rains.

Mullialum.

Moondairy and Maneecote.

Nedingenaad Talook.

Alliporam river in Nedingenaad.

Poondaloor river in Nedingenaad.

Nelamboor valley—the mines are here innumerable: the principal however, are in the thickest part of the jungle immediately under the Wynaad Hills and near the following villages belonging to the Teeroopaad of Nelamboor, viz.

Coodrambat, Kutchapoora.
Coorambal, see Neelamboor.
Kutchapoora, see Nelamboor.
Moondairy, see Neelamboor.
Manneecote, see Neelamboor.

Parparangaddy. The sands on the sea beach between Parparangaddy, Caralondy and Beypoor.

Poonapoya or Golden river, rises in the Paral Mallah N. E. of Mookoorty forming part of the main chain of the Neilgherries. The Poonapoya descends the mountains between Alliam Pullay and the Carcoor Cherrum and long before its formation with the Carrumbye, it receives both the Kellakumpoya and Caracoopoya.

Shernaad, viz.

Caralondy or Kadaloondy on the sea beach.

Parparangady in the Shernaad Talook to Caraloondy and thence to Beypore—the sea beach between these places.

Teeroowalay or Teermoulay a hill near Mambaat Angady, about 150 feet above the level of the Beypore river. Teeroowambady division of Polwye, North of the Beypore river is a mountain stream which, descending the Ghauts to the left of the road through the Tambercherry pass, runs through the Tambercherry and Palwye districts and forms a junction with the great Beypore river between Pauroor and Sherwaddu, and opposite to Mapooram, in the Ernaad Talook.

Pooney Hill in Tiroowally Talook.
Poolyode „ „ „
Toodakul river a feeder of the Poonany.

Wynaad, above the Ghauts, gold is found in Parkmeetil, a higher table land, between Manantoddy and Nambollacotta, at a place called Chollyode in Nonanaad and Nillialum and Ponany in Moopeyanaad, it is likewise found at Devalla and its immediate vicinity in Namballacotta.

Cholyode in Monanaad in Wynaad.
Devalla and its vicinity in Wynaad.
Monanaad, in Wynaad.
Moopeynaad, in Wynaad.
Manantoddy, in Wynaad.
Nambalacutta, in Wynaad.
Nillialum, in Mopeynaad, see Wynaad.
Park Meetil in Wynaad.
Poonany in Moopeyanaa, see Wynaad.

Southern Mahratta Country. About the year 1830 the attention of the late Captain Newbold was drawn to the gold districts in the Dharwar and Belgaum collectorates, when travelling through Damul, and p. 44, Vol. xi. of the Madras Lit. Journal gives his report of the gold that he saw there, in the bed of a rivulet at Sattoor, a few miles from Dhoni, in the Kupputgode range of hills near Damul. Also in the sands of the Hurti rivulet, in the same range, a few miles to the south of Gudduk; and he mentions that gold likewise exists in the Kir talook of the Dharwar collectorate, near Chik Mulgoond. The gold of the Kupputgode range seems mixed with silver, for he obtained a small button of that metal from the auriferous ore collected in the sands near Dhoni, and he subsequently discovered a grey silver ore in a fragment of quartz that he picked up there. There has not been recorded any account of the products of the washings of Malabar, but in washing the sands of the Kupputgode range, there remains a black sand (menachanite) which Captain Newbold supposed to be probably derived from the decomposition of the dykes of basaltic rock, or the greenstone and hornblende rocks in the vicinity. Native gold-washers are in the habit of going out after the monsoon and washing the heavy deposits of crushed quartz (detritus) which the rains bring down from the Kupputgode Hills. Dr. Clarke, of Australia, however, having written to the Bombay Government informing them that, having studied a geological map of India, he could point out to them, with certainty, where gold must exist, the Government appointed Captain Aytoun, of the Bombay Artillery, to survey the Kupputgode Hills, and report whether they contained gold or iron. Captain Aytoun in 1852, found gold in the sand forming the beds of nullahs, which are mountain torrents in the rainy season and almost dry during the rest of the year. The particles of gold were, however, almost infinitesimal. An Australian colonist, Mr. Le Souef, who had come to India on other business, having heard, mention of Capt. Aytoun's discovery examined the locality and reported that he had, as he says.

'Found gold in payable quantities in the bed of a small river, close to the village of Soortoor, and bearing about west from it. This river extends for many miles, and at every place—say every 500 yards, for about eight miles in the bed of the creek, where I washed the drift, I found gold. I also sunk two shafts to make sure that gold existed in the bed rock, and from a handful

of dirt taken from one of these holes I obtained gold. The other pit filled with water so rapidly that I was unable to descend to the bottom. To work the bed of this river with advantage and profit it will be necessary to have it drained.....In one of my letters from Dhonee I stated that I had found a promising quartz reef, and that in a few days I should be able to report upon its gold-bearing qualities; but upon reflection I thought it better to abandon the idea of opening up a reef until I had made sure of the existence of fluvial or alluvial gold. Now that I have ascertained this fact, I would advise that one reef be opened at Dhonee and the other at Huttee Kuttee. It is my firm opinion that the part of the territory I have surveyed for gold had not been ocean-submerged, and, consequently, that these quartz reefs will give a more constant return of gold than those of Australia. I may mention that the majority of the reefs in the Kupputgood Hills run nearly north and south; all gold-bearing reefs in Australia and California run in this direction."

Subsequently Mr. J. Schott wrote to the Times of India stating that the geological position of this part of the country points out the presence of gold; yet there are so many obstacles to the profitable working of it that, he adds, 'I am surprised so much thought has been bestowed on the matter. The quartz he says, occurs in strata very much contorted, and is consequently found piercing the rock in all directions of the compass. The quartz, also occurs principally as small leaders or veins, and anything like a permanent and workable reef is rarely met with; but, independent of this as steam power is the only means we can employ to reduce a large quantity of quartz in the shortest possible time, the absence of timber for timbering up the mine, as the process of excavation proceeds, in the shaft and tunnels; also to burn the quartz after the manner of lime in order to free it from the many volatile and pernicious metals which too often interfere with the process of amalgamation if crushed in the crude state, the positions are so few in which alluvial mining is carried on by the natives, and also the results are so insignificant, added to the total absence of coarse gold, he concludes that the reefs are worthless, and, could discern nothing in them to warrant the belief that they are payable. The alluvial deposits, he confidently stated will never pay, as the deposit in which the gold occurs is confined to a few insignificant nullas and blind water courses, occupying the slopes and flats, the bed rock in every case being exposed more or less, denoting a very scanty supply of wash-dirt, the native gold washers (a very limited body) confining their operations to a stratum not exceeding five inches in depth. Twelve days work at Soortoor yielding from two to three rupees worth of gold, (about a penny weight) and he never in the whole course of his experience met with such careful and effectual washing as theirs, surpassing even the Chinese, who in Australia are considered perfection in that respect. I may here remark, he adds, that the country between Belgaum and Dharwar presents to the eye of the experienced far greater inducement in a geological point of view to prospect than the Dumal Hills; and should any one be induced to make a trial, let them always bear in mind that quartz to be payable ought to show gold, say in every third or fourth piece broken.

Ceded Districts, Bellary. Further to the east, the same kind of black sand is mixed with the gold found in the bed of the river at the village of Canahelly, near Bellary. It has been reported that gold has been detected in the Cuddapah collectorate, but it seems unlikely to have escaped the notice of Dr. Voysey, who mentions the fact of a large proportion of silver being found in the sulphuret of lead discovered 15 miles in a N. E. direction from the branch of the Penaar, south of Cuddapah. The only other places, in the Ceded districts, where gold is authoritatively mentioned as occurring, is at Suttangul, where Heynes at p. 343 of his Tracts describes it as having been discovered near Royacottah, not far from Pangampillay, near Hurrydroog.

There seems no doubt that the gold in these auriferous rivulets is only washed down from the neighbouring hills, and many years ago Captain Newbold suggested that the sands should be carefully examined every 40 or 50 yards, and the spot where the particles of gold no longer appear, most diligently explored, the adjacent rock laid bare, and if necessary an excavation made into it, but with our more perfect knowledge, now, of the matrices of this ore, the explorer, hammer in hand, might strike at once at the veins of quartz that traverse the rocks adjacent to the gold rivers.

Near Canevehully in the Bellary district, a nullah takes its rise about a coss from Bavehully taluk, a hamlet of Mydoor in the Harpunhully taluk, at a hill called Jageracullygoodda. There is also another nullah called Shegahulla rising in the same hill and runs into the Baegaly tank, where they say gold sand was formerly found. A man

cannot procure more gold than will pay him for his days labour.

Central Provinces. Further north in the Central Provinces, Mr. Burr describes gold as occurring in many of the rivers in the Nagpore district, and gold dust is now found in beds of rivers at Purnalia, Chota Nagpore. Gold dust is extracted from sand in the beds of rivers in Manbhoom and Palamow, but not in large quantities. Gold dust is found in the Paiqdhur nullah, in the Seonee district. The little stream rises in the Konye range of hills, and falls into the river Wyne-Gungah. The gold is obtained by washing the sand, and the natives say they never get more than four annas worth by a days work, and would consider it unlucky if they did, as the goddess who is supposed to make it would then leave their locality.

Gold is found in the Balaghat, being washed in the Deo and Son rivers, in the Sonbera nulla near the Panchera ghat in the Dhansua parganuah, and in the Nara river of the Mau tract; but the quantity obtainable scarcely repays the labourers.

Gold is also washed in the sands of the Banjar river, an affluent of the Nerbuddah.

Gold is washed in Bastar from the sands of the Kutri river, and towards Prattapur, and in the forks of the Kutri and Indravati rivers.

Gold particles are found in some of the nallas of the Chandah district, and diamonds and rubies were formerly obtained near Wairagurh.

Hyderabad. In the Hyderabad Territories, gold has been mentioned as occurring at Goodaloor, or Godalore, on the Godavery, where the late Dr. Walker, (p. 184 of Vol. XVI. of the Madras Lit. Society's Journal,) mentions its occurrence, where the Ramghere and Cummumet Circars meet, and also in several nullahs that feed the Godavery from the south. It is washed for, also, in the bed of the river, nearly opposite Marrigudum, in the Nuggur taluk, also where the Kinarsani nalla falls into the Godavery a little below Badrachellum.

Dalrymple's Oriental Repository (Vol. II, p. 472) mentions that in the bed of the Godavery near its debouchure are found, amethyst, garnet, crystal, onyx, and jasper, and that gold dust, is found in many places so soon as the monsoon floods have subsided.

Northern Circars. Gold washing is carried on at Sumbulpore and Cuttack and also in the beds of the Mahanuddy and its affluents. According to the late Mr. Mason, the natives obtain a little gold by washing in the streams near Vizagapatam. As we turn southwards, however, we do not observe mention made of any gold in the Masulipatam or Guntoor collectorates, nor do the specimens of rocks from these districts in the Central Museum indicate the presence of the ore there. In the Nellore collectorate, however, Dr. Voysey mentions the occurrence of copper in the veins of white quartz,—and at Callastry in the North Arcot collectorate, he states that the quartz rock contains lead ore mixed with silver.

Gold mines are mentioned by Heyne (Tracts p. 342) as being worked at Suttergul a few miles from Pungumpilly.—(*Cat. Ex.*, 1862.)

South India. Gold, writes Mr. Burr, occurs in Coimbatore and the southern declivities of the Neilgherry Hills Capt. Newbold quotes Vol. I., p. 514 of Sir Whitelaw Ainslie's Materia Medica that gold was discovered by the late Mr. Mainwaring in the Madura district, where it occurs mineralized by means of zinc, constituting a blende which he thought resembled somewhat the schemnitz blende of Hungary.

The streams running through the Paulghaut valley, which unite about fifteen miles below Palghautcherry and form the great Ponany river, are repeatedly mentioned as containing gold; and in June 1832 Lieut. Nicolson visited Darampooray, at the foot of the Shevaroy Hills, Sattiamungalum, Donagancottah, Addivarum or Stremogoy and Metapollum, where gold, it is stated, is to be found and saw also the gold sands of Polygonuth, about 45 miles from Dindigul. Natives likewise wash for gold at the branch of the Cauvery, which runs past Darampooram.

Neilgherries. When describing the gold of the Kuppotgode range, Capt. Newbold mentions the existence of the ore around the base of the Neilgherry and Koondah mountains, in the Wynaad. Lieut. Nicolson, indeed, when working in Malabar stated that he had fairly traced the strata that contain gold in the direction of the Koondah and Mookoorty Hills, but his report was not subsequently confirmed. Gold, however, occurs in the Carcoor Pass, and at Devalla: and specimens of the rocks, from the gold mines at the latter place, are now in the Madras Central Museum, and a specimen of the gold rocks at Goondaloor. Mr. Burr, (p. 72 Vol. XII. of M. L.S. J.) also mentions the southern declivities of the Neilgherry mountains as gold districts: Dr. Benza is however the only author who seems to state that gold has been found on the plateau of these hills, below Gradation Hall. It is a belief that owing to the similarity of the rocks of the detritus to the quartz veins of the Malabar coast, gold may be found in

these hills. An officer, who had been employed on the Malabar coast, for the purpose of ascertaining the existence of gold in the detritus of that coast, said that he found gold in the earth on the side of one of the hills of the Dodabetta group facing the cantonment."

Mysore. Captain Arthur of the Engineers found Native gold in Mysore, disseminated in quartz, and also in an indurated clay: also some specimens crystalized, in minute cubes. Captain Warren discovered gold in Mysore in 1800, betwixt Annicul and Poonganore, disseminated in quartz, and found it, also in the alluvial soil. Two specimens were sent by Lieut. Puckle from the vicinity of Bangalore, one in a matrix of dark blue quartz, and another in black sand, a sufficient quantity was procured to make a ring. It is not known how long the natives have been working for gold at Baitmungalum just above the ghats—but Heyne mentions that Captain Warren had learned the fact of the natives so employing themselves, in their leisure, and the fact is repeated by Sir Whitelaw Ainslie and Dr. Clarke, the latter of whom remarks that gold was discovered in the eastern provinces of Mysore by Lieut. Warren of H. M. 33rd Regiment in 1802,—who found it in the small nullahs or ruts or breaks in the ground at Warrigum, a small village 4½ miles S. W. of Baitmungalum, also on the banks of the Palar river, and the Ponian near Caargory: He found gold also at Marcoopium three miles south of Warrigum, where mines were worked by natives which had also been worked by Tippoo. Heyne likewise (p. 41) states that gold has been found near the hills to the S. E. of Ooscottah, and Newbold describes gold as having been discovered by Captain Warren, near the Batterine hills. These sites in Mysore might all be carefully examined, and the river ore traced to its matrix. The glacis-like slope at the foot of the Mysore hill facing the town, where a crumbling grey chlorite rock exists, might also be looked at. On the right hand side of the Mercara road, about two miles west of the town of Hoonsoor a whitish sand will be observed, in which, if washed, gold may be detected and it might be looked for also between Yeddadora and Saligram, about 18 miles from Hoonsoor.

The matrix rocks from the gold districts of the Madras Presidency, consist of steatite and ferruginous quartz; and such rocks are abundant in Mysore and Madura. Indeed among the steatite and quartz specimens which the Rev. Mr. Muzzy contributed from the Madura district, several closely resemble the rocks from the gold mines at Devalla and other places on the Western Coast. Gold, it is understood, was obtained in the Madura district, by the late Mr. W. Mainwaring, in a native sulphuret of zinc (blende).

Ceylon. Gold has been discovered at Saffragam in Ceylon. Ilam is said to be the Tamil name of Ceylon and to signify gold, but gold in Tamil is Ponnu.—*Trans-Himalayan and Trans-Gangetic.*

Central Asia. Wood mentions a torrent in Wakhan called Zerzamen, probably Zarzamin, "Gold-ground," He also says (p. 382.) all the tributaries of the Oxus are fertile in gold. Gold dust is also imported from Elache, in Khotan. (*Yule Cathay.* I. p. ccxxxvi. *Afghanistan.*)

Afghanistan. Gold and lapis lazuli are found at Huladat, near Bamian, and at Istalif north of Cabul, also in the Cabul river and auriferous rocks occur near Candahar.

Punjab Salt Range. Gold is found in minute scales in the sandstone of the Salt Range, in a lower range of hills running parallel to the Himalayan chain, between the rivers Indus and Jhelum and it is also found in small quantities in the sands of the Indus, Jhelum, Beas, and Sutlej; but the occupation of gold-washing is not very remunerative, amounting on an average to not more than from 3d. to 6d. a day, and the proceeds of the annual lease of gold-washing amounted for one year only to £84.

Tibet. Gold is found on the banks of the Basha stream, in Little Tibet. Vigne has no doubt that the drun or marmot of Little Tibet, are the "ants as big as foxes" noticed by Herodotus as throwing up gold. Nagyr is celebrated for its gold washings. Tavernier tells (p. 156) that "toward the Thibet, which is the ancient Caucasus, in the territories of a raja, beyond the kingdom of Chachmeir, there are three mountains close one by another, one of which produces excellent gold, the other granats, and the third Lapis Lazuli.—(*Tavernier Travels*, p. 156.) Thokjalung in latitude 32° is the chief gold field of Western Thibet. It is a large desolate plain about 16,000 feet above the level of the sea, and in 1868, the Pundit sent by Captain Montgomerie saw a nugget weighing 75 tolas, or 2 lbs. In Thibet the gold fields are said to extend from Rudok to Lhasa, or eleven degrees of longitude = 700 miles. They also extend northerly, to between Aksu and Ili. Numer-

ous parts of Central Russia and China, also contain gold.

Indus and its neighbourhood. The Indus flood of 1842, strewed with gold the fields of Chuch, above Attock, and the sands of the Sutlej and other Himalayan rivers also contain gold. Dr. Thomson found a number of people a little below Khapalu washing the sand of the Indus for gold; but the produce seemed to be very trifling, and the work is only carried on during winter, when labour is of no value for other purposes. He purchased for a rupee (paying, he believes, a good deal more than the value) the produce in gold-dust of one man's labour for three weeks. He supposed, however, he only worked occasionally.—(*Dr. Thomson's Travels in Western Himalaya and Tibet*, p. 212.)

Kamaon Captain Hardwicke says, gold can be obtained from sand, in the Sirinagur district. The rivers of Kumaon abound in gold-dust, and this precious metal is sometimes found in large pieces. There is a gold mine at Dango Bookpa, twelve days journey S. E. of Mansarowar, and very lately they say one has been discovered between Goongeoo and Mansarowar, which was immediately shut up by orders from Lhassa. The people told Captain Gerard that after the sand of the river is washed so as to be free from all the lighter particles, it is mixed with quicksilver, and the gold is detected by observing the pieces tinged by that metal, which is afterwards evaporated by heat.—(*Capt. Gerard's Account of Koonawur*, p. 155.)

Gold is obtained from the sands of the Indus and between Attock and Kalabah, about 300 persons are employed in washing the sand for gold, which occurs in small flattened grains. (*Hist. of the Punj*, Vol. I, p. 43—45.)

Gold has been supposed to occur only in sand, washed down in greater or less abundance by the rivers of the Punjab. A Murree correspondent of the Delhi Gazette however, said that while sinking an experimental shaft in connexion with the proposed tunnel, on the banks of the Indus, a veritable gold mine was discovered. Under the stratum of slate a deposit of rich auriferous quartz was found. From the specimens, the mineral seemed to contain a large proportion of gold.

Dr. Cleghorn mentions that a little gold-dust is brought across the higher range through Chilas from the valley of the Indus where gold washing is carried on to a considerable extent.—(*Cleghorn Punjab Report*, p. 178.)

In the tertiary formations of the Salt Range, gold is found in minute scales, and has doubtless been derived from plutonic and metamorphic rocks, the disintegration of which has furnished the material of which the strata of the series are composed and in the beds of numerous nullahs which flow through the "meiocene" formations, the sand is washed for gold. Gold seems to be obtained in the largest quantity towards the Indus, north of the Salt Range. The gold washings of the Salt Range are nearly all in the Jhilam district. In the year 1850, 158 cradles were at work, and they were taxed from Rs. 2 to 5 per "troon;" the total tax amounted to Rs. 525. In the streams where gold-sand is washed, grains of platinum are occasionally found in small quantities; the gold seekers call the metal "safed sona," and reject it as useless, platinum has also been found in the Tavi river of Jammu territory, and in the Kabul river at Naushera.

At the Lahore Exhibition of 1864, there were specimens of gold from Karrar on the Markanda river in the Amballa district; from Spiti; from the Beyas near Haripur in Kangra district, from Lahaul, from the Jhilam river, from Kas Gabhir in the Jhilam district, from Attock and Hazara.

Gold has been found in large quantities between Umballa and Kalkah. In the neighbourhood of Pateealah is a small mountain stream, where gold is washed for by the Soonjbir or gold-washers.

Hindustan. Gold is obtained in the sands of the river Beyas: in those of the Gumti river: at Jompole:—in sand in the Moradabad district.

Assam. In Assam at Heerakhond, where diamonds also occur. Tavernier tells us (Travels p. 156) that gold, "comes from the kingdom of Tipra, but it is coarse, almost as bad as that of China." Gold dust is washed in the Dikerie river in the Tezpore district, but all the rivers in the North of Assam probably contain the auriferous metal, and on approaching the, small strata that exist in the hills, the grains of metal found are of larger size. The value of the gold on the spot is rupees 16 for a quantity of the weight of a rupee. The Assamese use no cradle. A spot is selected and after digging down 4 or 5 feet, the sand is taken out and washed by passing water over it in any long leaf found at hand. The dust is then put into a small wooden or brass cup and a small quantity of quicksilver added, the mass is then gently moved together, the mercury taking up the gold and leaving the sand. The water is then drained

off and the mercury with the gold placed in a piece of charcoal, the centre of which has been hollowed out; this is then put into the fire and the smelting takes place, the gold-finder using a piece of bamboo as a blow pipe: when the whole mass is red hot, the charcoal containing the gold is taken out, dropped into water, and the shining metal appears. (*Cat. Ex.* 1862.) Gold also occurs in the Dirjumosh River, Assam.

In Burmah, gold dust is washed from the sands of many streams. It is found near Bamo; also in the streams of the Kyen-Dwen river, and in the sands of the streams in the vicinity of the coal mines of Thingadhan. The washings in Burmah are principally amongst the streams to the eastward of the Irawadi, though those to the west also yield it. The Kibiung stream is one in which it is thus sought. There are gold washings on a small scale, in many of the rivulets both of Pegu and of the valley of the upper Irawadi and of the Kyen-dwen which may have been more productive in ancient times. Gold is successfully washed in the streams, feeding the Irawadi near Thika-dau, but never with any system or skill. (*Oldham in Yule's Embassy*)

Auriferous deposits occur in the vicinity of Shoay Gween in the Province of Martaban. The gold discovered both in Assam and Martaban is of considerable purity, the latter, Mr. Oldham considers fully equal in value to the average quality of Australian gold. Though not quite so abundant as in California, yet there is, perhaps, no mineral, except iron, more universally diffused over the Provinces, than gold. It is found in the lead near their northern boundary. Gold is deposited by the Nars rivers at the mouth of the Martaban stream, a tributary of the Shoay Gween river. It is washed in the Meh-Tyne stream, also a tributary of the Shoay Gween river; it is deposited at the bottom of the Shoay Gween river and is washed in the Mehwine stream, a tributary of the Beeling River.

Malay Peninsula and Eastern Archipelago. This metal, is found in sufficient abundance to be worked, in the Malay Peninsula, Sumatra, the Northern Western and Southern sides of Borneo, the Northern and South-Western Peninsulas of Celebes, and in a few parts of the great Philippine islands of Luzon and Mindano or Magindanao. It has been coined for money at Achin, but in no other part of the E. Archipelago. Mr. Logan estimates the total produce of the Malay Peninsula at no more than 20,000 ounces: it is washed from the sands of the Tenasserim on the south, and the streams that tumble from the high granite mountains between Yay and Monmagon are constantly 'rolling down their golden sand' into the valleys around. It has been collected in small quantities, in the tin deposits east of Tavoy. Mr. O'Riley found gold in the tin from Henzai, half a degree south of Yai, and "almost all the creeks," says Dr. Helfer, "coming from the eastern or Siamese side of the Tenasserim river, contain gold. The greatest quantity is obtained close to the old town of Tenasserim where people wash it, and obtain sometimes one anna's weight each, during the rainy season." The richest deposit of gold in the Tenasserim Provinces, is, however, at the head waters of Tavoy river, where it is found in an alluvial or diluvial formation of red earth and pebbles, very similar to that in which gold is found in North Carolina. On the east side of the mountains, at the base of which the deposit rests, "the Siamese Government," says Dr. Morton, "have several hundred men permanently occupied, each of whom it is said is expected to deliver one tickal (about one rupee and a quarter) weight of gold dust per annum,—The Burmese authorities in former times also employed people in this work at the streams on the British side of the boundary, but though the quantity then procured was greater than at present, this does not appear to have ever been considerable. The method adopted is that of digging a longitudinal excavation in the sand, and washing from time to time the deposit found therein." On one occasion, the head native officer in Tavoy made an experiment at "the diggings" on Tavoy river, and by the washings, of nine days, obtained gold to the value of about ten rupees. This gold appears to contain a considerable proportion of silver. Mr. O'Riley says that the Assay Master at the Mint in Calcutta reported it.

Gold.....	87·895
Silver	9·244
Base metal,.....	2·864
	100·000

Gold is found in Nanning, near the hill, Buket Jalatang. But, in the Malay Peninsula gold is chiefly got at Ulu Pahang, Tringanu, Kalantan, Johole, Gominchi, and Jellye, at Reccan and Battan Moring, and other places, at the foot of Mount Ophir.

Ophir is a detached mountain thirty or forty or fifty miles east of Malacca, its height calculated at 5,693 feet. Gold dust is found abundantly near its base, which, at an early period, gave it the name Ophir, and later

suggested it as the source of Solomon's wealth, the Aurea Chersonesus of antiquity. It occurs there disseminated, and in thin granular veins, in quartz, and in alluvial deposits, such as beds of streams. It has been found near beds of tin ore.—(*Newbold's British Settlements*, Vol. I., p. 431. *John's Indian Archipelago*, Vol. I., p. 76.)

In all the larger specimens seen it is disseminated in small particles, and in streaks in quartz. Like the tin ore it has not been seen in the undisintegrated rock. (*J. I. A., No.* 11, *February* 1848.)

Siam. Gold is found in Siam, at Bang Taphan in the province of Xamphon, at the foot of the Three hundred peak Mountains. Crawfurd, had never heard of any attempt at estimating the amount obtained at Sumatra, Celebes, or the two Philippine Islands. (*Crawfurd Dict. page* 14.) The gold deposits of the Malayan Peninsula, Sumatra, Celebes, Timor, and New South Wales, are only found on the side of the range opposite to that against which the volcanic force has been directed.

Archipelago. The gold of the Archipelago at one time was imported into Calcutta. Mr. Crawfurd (Vol. XIV., p. 483) gives a table showing the amount so received from 1801 to 1814, from the west coast of Sumatra, and from Borneo and the rest of the Archipelago, a total of 146,195 ounces valued at £621,328,,15.

Sumatra. In the Island of Achen or Sumatra, after the rainy season, when the torrents are wasted, Tavernier says they find veins of gold in the flints, (quartz?) which the waters wash down from the mountains that lie toward the North-east. Upon the West-side of the Island, when the Hollanders come to lade their pepper, the Natives bring them great store of gold, but very coarse metal, if not worse than that of China. (*Tavernier's Travels*, p. 156.)

Borneo. Gold occurs in lumps in the alluvium of a mountain in Sarawak, named Trian. Several of the lumps weighed from three to four bunkal, and they were rarely less than one or two amass in weight. The produce of the Western side of Borneo, by far the largest, has been estimated as low as 52,000 ounces, and this, by parties, reckoning the Chinese population of the same country, most of it engaged in gold washing, as high as 25,000. On the other hand, Sir Stamford Raffles estimated the total annual produce of the Western part of Borneo as high as 225,335 ounces, which, at the value of 3*l.* 17*s.* the ounce, would give a total value of 867,539*l.*

Mr. Earl examined the gold mines in the neighbourhood of Montradok. Those nearest were about four miles to the eastward, the gold being found in stiff soil. The soil which contains the metal is found in small veins from eight to fifteen feet below the surface. If the depth of the vein be less than ten feet, a trench is dug, the whole of the upper stratum being removed, but if deeper, a shaft of three feet square is sunk perpendicularly into the vein, and the miner works into it about ten feet in both directions, sending the ore up in baskets. When it is all removed, another shaft is sunk into the vein twenty feet beyond the first, and the miner works back into the old excavation, extending his labours ten feet in the opposite direction. The gold is found in very small particles, for the most part as fine as sand. Large specimens, however, are occasionally found, not in lumps, but in small irregular pieces joined together by integuments, much resembling lead that has been melted and afterwards thrown into water. The gold dust is often adulterated with a glittering sand called passir B'rni or Borneo sand, from the place whence it is procured. (*Mr. Earl*, p. 286, 287.)

In Borneo, the gold which is found in alluvial soils is that of which the supply is most to be depended on. This, in Sarawak, is found and worked in many places, principally by the Chinese, though the Malay also occasionally work it on a smaller scale. It is not found in veins in any part of Sarawak, but in small particles distributed through the soil, nor does it extend to any great depth. Sir Stamford Raffles calculated the number of Chinese employed in the gold mines at Montrada and other places on the western side of Borneo at not less than 32,000 working men. When a mine affords no more than four bunkal (weighing about two dollars each, or something less than a tahil) per man, in the year, it is reckoned a losing concern, and abandoned, accordingly. Valuing the bunkal at eighteen Spanish dollars, which is a low rate of estimation, and supposing only four bunkal produced in the year by the labour of each man, the total produce is 128,000 bunkal, worth 2,224,000 Spanish dollars, equal to 556,000*l.*, at the rate of five shillings the dollar. But it is asserted, that upon the general run of the mines, seldom less than six bunkal per head has been obtained, and in very rainy seasons seven. Taking the medium at six and-a-half bunkal, the 32,000 Chinese will procure 208,000 bunkal, which, at eighteen Spanish dollars the bunkal, is 3,744,000 Spanish dollars, equal to 936,000*l*

(*Raffles' History of Java, Vol. I., p.* 236; *Mr. Low, Sarawak, Inhabitants and Productions, p*, 22, 23.)

The Borneo gold is very pure, and is worked with considerable profit by the Chinese. On one occasion, rain fell in great quantities in Sarawak, and a considerable portion of the face of the mountain called "Trian" was washed down into the plains below. The deposit was found to abound in gold, and afforded work for fully two thousand men for about a month or six weeks, and it was reckoned that at the smallest average, they procured a bunkal a month per man. The gold was in lumps, and not in dust, several of the lumps weighing from three to four bunkal, and they were rarely less than one or two amass in weight. This corroborates the statement inMr. Low's work,though it is contrary to the received opinion, and the experience of the workings in the Brazils, where gold is rarely to be traced to the neighbouring mountains. (*Journal of the Indian Archipelago*, No. X. October 1849, p. 681.)

Celebes. According to Professor Bikmore (p. 378) gold is found in great quantities in Celebes. It occurs over all the northern peninsula from the Minahassa south to the isthmus of Palas. Tavernier also relates that "Celebes or Macassar produced gold which is drawn out of the rivers, where it rowls among the land." *Tavernier's Travels*, p. 156.)

Japan. Gold is found in many parts of the Japanese empire, sometimes it is obtained from its own ore, sometimes from the washings of the earth or sand and sometimes it is mixed with copper. The quantity in the country is undoubtedly great. An old Spanish writer of the seventeenth century tells us that in his day the palace of the emperor at Yedo, as well as many houses of the nobility were literally covered with plates of gold. In the beginning of the Dutch trade the annual export was £840,000 sterling and in the course of sixty years the amount sent out of the kingdom through the Dutch alone was from twenty-five to fifty millions sterling. Silver mines are quite as numerous as those of gold. In one year the Portuguese, while they had the trade, exported in silver £587,500 sterling: copper, lead, quicksilver, tin and iron also occur in Japan.

Thunberg tells us that the richest gold ore and which yields the finest gold, is dug up in Sado, one of the northern provinces in the great island of Nipon. Some of the veins there were formerly so rich, that one catti of the ore yielded one, and sometimes two, thails of gold. But of late "he says" he was informed the veins there, and most other mines, not only run scarcer, but yield not near the quantity of gold they did formerly, which we were told, was the occasion, amongst other reasons of the late strict orders relating to the trade and commerce with use, and the Chinese. There is also a very rich gold sand in the same province, which the prince causes to be washed for his own benefit, without so much as giving notice of, much less part of, the profit, to the court of Jeddo. After the gold mines of Sado, those of Surunga were always esteemed the richest, for besides that this province yielded at all times a great quantity of gold-ore, there is some gold contained even in the copper dug up there. Among the gold-mines of the province Satzuma, there was one so rich, that a catti of the ore was found upon trial to yield from four to six thails of gold for which reason the emperor hath given strict orders, not to work it for fear so great a treasure should be exhausted too soon. A mountain on the gulf Ookus, in the district of Omura, which had leaned on one side for a considerable time, happened some years ago to fall over into the sea, and there was found at the bottom of the place where it stood, so rich a gold sand, that, as I was credibly informed, it yielded one half of pure gold. It lay somewhat deep, and was to be fetched up by divers. But this rich harvest lasted not long, for a few years after, in a great storm and extraordinary high tide, the sea overflowed all that stop of ground, and covered at once these estimable riches with mud and clay to the depth of some fathoms. The poor people in the neighbourhood still busy themselves washing the sand about this mountain, which contains some gold, but in so inconsiderable a quantity, that they can hardly get a livelihood by it. There is another gold-mine in the province Tsikungo, not far from a village called Tossino, but so full of water, that they cannot go on with working it. However, the situation of the mine is such, that by cutting the rock, and making an opening beneath the mouth of the mine, the water might be easily drawn off. This was attempted accordingly, but as they went to work, there arose of a sudden such a violent storm of thunder and lightning, that the workmen were obliged to desist and to fly for shelter, which made the superstitious vulgar believe that the tutelar god and protector of the place, unwilling to have the bowels of

the earth committed to his trust, thus rifled, raised this storm purposely to make them sensible how much he was displeased at this undertaking. Nor was there any further attempt made since, for fear of provoking his anger and wrath still more. Such another accident, and which had the same effect, happened at the opening of a gold-mine in the island of Amakusa, for it was so suddenly filled with water, which broke out of the mountain, and destroyed all the works, that the miners had scarce time to escape and to save their lives. (*History of Japan*, Vol. I, p. 107 and 108.)

As for silver-mines, there are none in all Asia but only in Japan, but some years since at Delegora, Sangora, Bordelon and Bata, have been discovered plentiful mines of tin, to the great damage of the English, there being now enough in Asia of their own besides. (*Tavernier's Travels*, p. 157.)

Cochin China. Perhaps, in no part of the world, is gold found in such quantity or with less trouble than in Cochin China; nay, it would appear, from the description of that kingdom which is given in the Asiatic Annual Register for 1801, that gold there is almost taken pure from the mines, which are near the surface of the earth. (*Ainslie's Mat. Med.* p. 54.)

China. In China, gold is collected in the sands of the rivers in Yunnan and Sz'chuen, especially from the upper branch of the Yang Tsze-kiang called Kinsha-kiang or Golden Sanded River. The largest amount is said by Sir John Davis to come from Li-kiang-fu near that river and from Yung-chang-fu on the borders of Burmah. It is wrought into personal ornaments and knobs for official caps, and beaten into leaf for gilding, but is not used as a coin, nor is much found in market as bullion. Silver also is brought from Yennan, near the boarders of Cochin China and the mines in that region must be both extensive and easily worked to afford such large quantities as have been exported during the last five years. (*Williams' Middle Kingdom*, p. 144.)

Tavernier also tells us there comes gold from China, which the Chinese exchange for the silver which is brought them. For price they love silver better than gold, because they have no silver mines. Yet it is the coarsest metal of all the Asiatic gold.—*Tavernier's Travels*, p. 156. *Ainslie's Materia Medica*, p. 54. *Williams Middle Kingdom*, p. 144. *Times of India. Calcutta Review. Journal India Archipelago. McCulloch Commercial Dictionary. Sharpe's History of Egypt*, vi. 107. *Bikmore's Travels, in the Archipelago*, p. 403. *Yules Cathay and the way thither*, i., p. 236. *London Exhibition of* 1862. *Thomsons' Travels in the Western Himalaya and Tibet*, p. 217. *Gerard's Account of Koonawur*, p. 155. *Cunningham's History of the Panjab*, vi, p. 43-44. *Cleghorn's Panjab Report*, p. 178. *Powell's Panjab Products*, p. 12. *Mr. Pelly in literis. Benza in Madras Lit. Soc. Journal. Heynes' Tracts. Thunberg's History of Japan. Oldham in Yule's Embassy in Ava. Logan in Journal India Archipelago. Earl in do. Low's Sarawak*, p. 23. *Quarterly Review*, p. 501, No. 222. *Raffles History of Java*, Vol. I., p. 236. *Mr. Burr*, p. 30 Vol. XII. *Madras Literary Society Journal. Chairman's Report*, pp. 353 357 *of No.* 35. *Lieut. General Cullen's letter to Chief Secretary to Madras Government* p. 4 *printed* 1846. *Sir W. Ainslie in Materia Medica*, Vol. I. p. 155. *Dr. Clark, at* p. 120, Vol. IX *of Madras Literary Society Journal. Mr. Sheffield, Lieut. Nicolson, Mr. Duncan, Governor of Bombay, Dr. Buchanan, Sir Whitelaw Ainslie quoted in Gold Committee's report to Madras Government at* p. 154, Vol. XIV *of Journal of Madras Literary Society. Dr. Turnbull Christie* Vol. XV p. 154 *of Madras Literary Society Journal. Newbold* p. 44, Vol. IX *of the Madras Literary Society Journal; Guzeteer, Central Provinces* p. 186.

GOLDAR. Duk. Sterculia guttata.

GOLDEN ISLAND or Chinsan, is in the middle of the Yang-tse Kiang, or great river of China, where the width is near three miles. It is the property of the emperor. It is interspersed with pleasure-houses and gardens, and contains a large monastery of priests, by which the island is almost entirely inhabited. A vast variety of vessels in form and size are constantly moving about on this large river. *Macartney's Embassy*, Vol. I p. 27.

GOLDEN EAGLE, the Aquila chrysaetos, occurs in High Asia. Atkinson (p. 493) figures a young hart seized by a trained Golden Eagle; and the species appears to be C. elaphus. Pennant remarks in his Asiatic Zoology, that—"the independent Tartars train the Aquila chrysaetos for purposes of falconry for the chace of hares, foxes, antelopes, and even wolves. The use," he adds, "is of considerable antiquity; for Marco Polo, the great traveller of 1269, observed and admired the diversion of the Great Khan of Tartary, who had several Eagles, which were applied to the same purposes that they are at present;" and in the Naturalist for May 1837, (as quoted by the late Mr. Yarrell, in his History of British Birds,) we read that—"Captain Green, of Buckden, in Huntingdonshire, has now in his possession a splendid specimen of the Golden Eagle, which he has himself trained to take hares

and rabbits." Such a bird would be decidedly prone to pounce upon dogs, calves, sheep, &c.; and young children would be scarcely safe from it. The Lammergeyer (Gypaetos), is the so called 'Golden Eagle' of the Himalayan residents. *Indian Field.* See Birds.

GOLDEN FOOT. A title of the king of Burmah.

GOLDEN STREAM. The Chrysorrhœa of the ancients, is the Barrada river of Damascus.

GOLDEN-THREAD ROOT OF ASSAM. Coptis teeta.

GOLD EMBROIDERY. Many of the sarees, or women's cloths, made at Benares, Pytun, and Boorhanpoor, in Guzerat; at Narrainpett, and Dhanwarum, in the territory of His Highness the Nizam; at Yeokla in Khandesh, and in other localities, have gold thread in broad and narrow stripes alternating with silk or muslin. Gold flowers, checks, or zigzag patterns are used, the colours of the grounds being green, black, violet, crimson, purple, and grey; and in silk, black shot with crimson or yellow, crimson with green, blue, or white, yellow with deep crimson and blue, all producing rich, harmonious, and even gorgeous effects; but without the least appearance of or approach to glaring colour, or offence to the most critical taste. They are colours and effects which suit the dark or fair complexions of the people of the E. Indies; for an Indian lady who can afford to be choice in the selection of her wardrobe, is as particular as to what will suit her especial colour—dark or comparatively fair, as a lady of Britain or France. India in this manufacture stands unrivalled, and it makes some very gorgeous shamianahs and elephant saddle cloths.

The gold and silver fancy fringes of Hyderabad are well known in India. Solid silver wire fringes and ornaments are made in Madura but they are surpassed by the silver thread of Hyderabad.

In the embroidered fabrics of India, it may be mentioned as a principle, that patterns and colours diversify plane surfaces without destroying or disturbing the impression of flatness. They are remarkable for the rich diversion shown in the patterns, the beauty, distinctness and variety of the forms, and the harmonious blending of several colours.

The oriental races have ever been celebrated for their skill in this art of embroidery which appears to have been practised in Assyria and introduced from thence into India. Pliny, however, mentions that it was a Phrygian invention, and in Rome embroiderers were called Phryigiones. In Babylon, clothes were woven of different colours and called Babylonica. During the early part of the middle ages, Europe obtained its most important embroideries from Greece and the East.—*J. B. Waring. Master pieces of Industrial Art. Exh. of* 1862. *William's Middle Kingdom* Vol. II p. 123. *Royle, Arts of India, &c.*, p. 506-507.

Burhanpur contains 8,000 masonry houses and a population of 34,137, most of whom are dependent in one way or other on the wire-drawing and cloth weaving industries of the place. The value of its fine fabrics depends mainly on the purity of the metals employed in the composition of the wire, and to secure this the wire-drawing has always been kept under government inspection. A hereditary tester called the "chaukasi" received and assayed all the silver and gold brought to the "taksal," or mint, (where the Burhanpur rupee was also coined), and here the wire was drawn out to a certain degree of fineness before being allowed to pass again into the hands of the manufacturers, an arrangement still continued by the British. The drawing now takes place only at Burhanpur and Lodhipura, a suburb of the old city. The silver bars are covered with a thin gold leaf weighing from four to forty-two masha, (of fifteen grains troy each); to each pasa, that is, from about half to six per cent. on the amount of the silver. The number of masha employed is called the "rang," (colour) of the wire. The adhesion appears to be effected purely by mechanical skill on the part of the workmen called "Pasa Tania." It is then passed by the same workmen through a series of holes in steel plates of diminishing size by manual power applied by means of a spoken wheel of the rudest construction. It is passed through forty of these holes before it leaves the Taksal, and is then reduced to about the size of an ordinary sodawater wire. Thence it goes into the hands of another set of operatives called Tania, who still further reduce it through a gradation of forty more holes, the last of which is as fine as a human hair.

Their apparatus is of somewhat more delicate construction, but the work requires neither the same skill nor hard work as the first operation. The wire is drawn by them down to various degrees of fineness, according to the work for which it is destined. The round wire is then given to the Chapria, who flatten it into an almost impalpable film, by hammering between two polished steel surfaces, an operation requiring, it is said, superior skill. In this state it is term-

ed "badla," and is used for some few sorts of work. The greater part of it has, however, to be spun into a thread along with silk before being woven up. This is done by persons called Bitai, who use no sort of apparatus for the purpose, excepting a couple of wooden spindles twirled by the hand. Indeed the beauty of the result obtained by such primitive implements must strike every one with amazement. The layer of gold on the finest wire must be of almost inconceivable thinness. The mixed thread is called "kalabatun," which is woven into the kimkhab and other brilliant fabrics worn by rich natives on high occasions.

The wire-drawers were originally Pathans introduced from Upper India by the emperor Akbar, but now all castes work at the trade. The fabrics are of many different sorts many of them of great beauty. Kimkhab (vulgarly kincob) which is of mixed silk and gold thread, is now little made in Burhampur, the Ahmedabad and Benares articles, from being produced both cheaper and nearer the great markets for such staffs, having driven it out of the field. The same may be said of mashrua, a fabric of silk warp with the woof of cotton thread wrought with a pattern in Kalabatun, though made to a small extent it is greatly inferior to the produce of Ahmedabad. The chief fabrics still made in the city are zari, a very rich light stuff in which the flattened wire is interwoven with silk in the warp, with a thread woof, chiefly made up into scarves and saris worn by females on wedding and other high occasions. Selari is half silk and half thread, with brilliant edging and borders of silk and gold thread, mostly in the form of saris and dopattas, Pitambar all silk with the same edging is a better sort of the same. Turbans, shashes, &c. are made in all these fabrics. The gold thread also is much woven up with silks into rich borders and edgings, exported to be attached to the cloth manufactures of other places, silk for these cloths is all imported, it is mostly from China; generally spun and dyed in fast colours at Puna, a little however is spun in the city from the material imported raw. The cotton-thread used is extremely fine, and is both English and made on the spot. The former costs in Burhanpur exactly one-fourth of the latter but it is greatly inferior both in strength and cleanness. The closely-twisted native thread breaks with a sharp crack, while the English article from its fluffy open character, parts without any noise. The English thread, from its greatly superior cheapness, has however, supplanted the native for all but the finest stuffs. The city thread is spun by the families of the weavers and others, the best being produced by the Balahi (Dher) caste. A coarser thread is generally spun throughout the country by the women of almost every caste. It is woven into every description of common cloth by the Burhanpur weavers, even the best of them, when out of fine work, having to take to the commoner stuffs. The latter now greatly preponderate in quantity, and it is said that every day the demand is getting smaller for the finer qualities. It is not difficult to account for this. The supersession by the rough and ready Marathas of the luxurious mahomadan princes and nobles was probably the first blow to the trade.

The average earnings of the weavers range from about five to ten rupees a month, besides what their families earn by spinning, dyeing and odd work connected with the trade.—*Dr. Watson.*

GOLD AND SILVER FILIGREE WORK. The native silversmiths of Cuttack have long been noted for the fineness, neatness, and lightness of their filigree work. This kind of work is executed, for the most part, under supervision, by mere boys, whose nimbler fingers and keener eyesight are supposed to enable them to bring out and put together the minute patterns with more distinctness and accuracy than their elders can; comparative cheapness is, perhaps, another reason for their employment. The ruling rates for this filigree work are from two to two and a half rupees, that is to say, taking the first rate, two rupees or four shillings is charged for every rupee weight of finished silver work, namely, one rupee for workmanship, and one rupee as the price of the silver. The filigree work in gold, of Delhi and other places, is famed. Next to muslins, and embroidered fabrics, filigree work is that for which Dacca is most celebrated but the art is also practised in great perfection at Cuttack, and in Sumatra, and China. The articles usually made at Dacca are Lady's ornaments, such as bracelets, ear-rings, brooches, chains, necklaces, &c. and attardans and small boxes for natives. The design best adapted for displaying the delicate work of filigree is that of a leaf. It should be drawn on stout paper, and of the exact size of the article intended to be made. The apparatus used in the art is exceedingly simple, consisting merely of a few small crucibles, a piece of bamboo for a blow pipe, small hammers for flattening the wire, and sets of forceps for inter-twisting it.—*Dr. Watson.*

GOLD AND SILVER WIRE. The drawing of silver and gold (*i. e.* silver covered with gold) wire, used as thread in embroidery

is extensively carried on in several places, and Benares is celebrated for this art. There are several varieties of silver and gold thread (badla) made at Dacca, as "goolabatoon" for the embroidery of muslins and silks; "goshoo" for caps and covering the handles of chowries; "sulmah" for turbans, slippers, and hookah snakes; and boolun for gold lace and brocades. Some of it is drawn almost as fine as a hair. In the time of Aurungzebe, a quantity of this article was made yearly for the Court at Delhi. A hundred sticks covered with it, and plain gold, and silver "badla" to the amount of £2,000 in value, appear among items composing the "Mul boos Khas Nuzr" or present of royal clothing annually sent to the Emperor. The Trichinopoly filigree work is as light and elegant as that of Malta or Genoa. *Dr. Taylor.*

GOLD AND SILVER TINSEL. Among the manifold and various manufactures of China, the gold and silver tinsel cloths of Pekin stand deservedly in high estimation, their chief value arises from the peculiar property which they possess of never tarnishing or becoming discolored. The gold and silver filigree work of the Chinese, equals any ever produced by ancient Venetian masters, and their chasing in silver is unrivalled.—*Sirr's China and the Chinese*, Vol. I pp. 384, 386. See Filigree.

GOLD FISH. Cyprinus auratus, seem to have long been known in China, but were introduced into Britain only two or three centuries back. They are seldom seen in India, but are very common in the Mauritius. They are supposed to be of accidental production as they are not found wild and their fins and tails greatly vary. Mr. Hodgson mentions the tameness of the large gold fish at Japan. No sooner did they see his little girl coming to the edge of the water, than they almost rose from their natural element to gasp and gasp, with open mouths, at the bread, biscuit, or cake which she was half afraid to offer them.—*Darwin, Species, Hodgson's Nagasaki, p.* 75.

GOLDFUSSIA, a genus of plants, of which the following species are known in India. They belong to the order Acanthaceæ and occur in the Khassya Hills.

G. anisophylla	G. isophylla	G. tristis
G. dalhousiana	G. lamifolia	G. zenkeria
G. decurrens	G. pentstemonides	
G. glomerata		

GOLDINGHAM, J. for many years, the Hon'ble E. I. Company's Astronomer at Madras. He gave an account of the monolith temples of Mahabalipuram in As. Res. Vol. IV. 407 and furnished Astronomical and Meteorological observations, 3 Vols. folio, 1827. Measuring the length of the seconds, pendulum at the equator.—*Ibid.*

GOLDSMITH, one of the five artizans among the hindus of India, the other four being the blacksmith, carpenter, brazier, and stone cutter. These all wear the poitu, zonar or sacred cord, and, though hindus do not reverence brahmins: those in the Malabar country follow the rule of descent by the mother and their women are polyandrists. See India, Kummaler, Poitu, Polyandry.

GOLEEREE, a pass in the Khyber mountains, forms the great middle route from Hindustan to Khorasan, by Dera Ismael Khan and Ghuznee: crosses the Suliman range in lat. 32°.

GOLENJUN. Guz. Hind. Galangal.

GOLI. Hind. a pill; also a bullet, from gol, round.

GOLIGA, Malay, also Mantika, also Matika, Bezoar.

GOLIMIDI also Golive, also Gilagaddi. Coix barbata, *R.* iii. 569. Common in rice fields and its seeds often therefore mixed with the paddy. Hence rendered "tares, Lolium."

GOL KADDU. Hind. Benincasa cerifera.

GOL KAMILA. Hind. Glochidion, *Sp.*

GOLKANKRA. Beng. Momordica Cochinchinensis.

GOLKAR. Karn. Sons of female slaves or bondwomen. *Wilson.*

GOL-KARA. Beng. Momordica mixta.

GOLKHANDLA. Hind. A kind of imported iron.

GOL-KHUYRA. Beng. Hollyhock, Althæa rosea.

GOLKONDAH CHILLY. Eng. Capsicum frutescens. *Linn.*

GOLLA. Tel. Karn. A shepherd. A man of a caste whose duty it is to graze sheep or cattle, sometimes employed as confidential servants and assistants in public treasuries also called Gollar, &c. *Wilson.*

GOL-METHEE. Beng. Cyperus seminudus.

GOLMIRICH. Hind. Piper nigrum, black pepper.

GOL-MULUNGA. Beng. Cyperus Roxburghii.

GOL-MARICH. Beng. Black-pepper, piper nigrum.

GOLSINK. Hind. A kind of bar iron.

GOLOMI. Sans. Acorus calamus. *Linn.*

GOL SIR. Hind. Ficus glomerata.

GOLUGU. Tel. Glycosmis pentaphylla. —*D. C.* Limonia pentaphylla.—*Roxb.*

GOLUK. A hindu race in Woon.

GOLUNDA ELLIOTTI, The Coffee rat of Ceylon, occasionally commits much damage, seemingly to get the bark, for they do not seem to eat the coffee berries. With their long sharp incisors they bite off with great smoothness the smaller and younger branches, generally an inch from the stem, and should the plants be quite young, just taken from the nursery, they bite them right off a few inches from the ground, and carry them to their nests in hollow trees. They appear irregularly, at intervals, from the jungles, and there is hardly an estate that does not now and then receive a visit from them. The Natives of Ceylon say that their food in the jungles is a species of Strobilanthus, called Nilu in Singalese, and that the rats only issue from their forest residence and attack the coffee estates when their forest food fails. The coffee-rat is an insular variety of the Mus hirsutus of Mr. W. Elliot, found in Southern India. They inhabit the forests, making their nests among the roots of the trees, and feeding, in the season, on the ripe seeds of the nilloo. When the seeds of the Nilloo, Singh.—Strobilanthes, on which they feed are exhausted, they invade the coffee plantations in swarms, gnaw off the young branches and divest the trees of buds and bloom. So many as a thousand have been killed in one day on a single estate. Like the lemming of Norway and Lapland, they migrate in vast numbers on the occurrence of a scarcity of their ordinary food. The Malabar coolies are so fond of their flesh, that they evince a preference for those districts in which the coffee plantations are subject to their incursions, where they fry the rats in cocoanut oil, or convert them into curry.—*Nietner on the Enemies of the Coffee Plant. Tennent's Sketches of the Natural History of Ceylon*, p. 3-44.

GOMA. Sp. Gum.

GOMA AMMONIACO. Sp. Gum ammoniac.

GOMALA BANSA. A branch of the Ahir.

GOMA-LACA. Sp. Lac.

GOMANGASA. See Topes.

GOMARAM. Port. Gamboge.

GOMASHTAH. Hind. An Agent.

GOMATI. An affluent of the Beas.

GOMAYAM. Tel. Cow-dung cakes. Bratties, used as fuel.

GOMBEAW. West Indies. Abelmoschus esculentus, W. & A.

GOMBOGE. See Gamboge; Gamboge butter. Resin.

GOME. Jav. also Ko. Jap. Rice.

GOMEAH, a town in Hazarechagh.

GO-MEDHA. Sans. from go, a cow, and medha, flesh.

GOMEZ. The Portugese, Lorenzo de Gomez, was the first of the European navigators who approached the northern part of the island of Borneo, he arrived in 1518 in the ship St. Sebastian on his route to China. We presume that he gave to the country the name of Burne, but he says that the natives term it Brannai or Brunai. The travellers who have recently penetrated into different parts of the interior, the Dutch major Muller, Colonel Henrici, the members of a scientific commission, Diard, S. Muller and Korthals, as well as the rajah Brooke, assure us that the people have no general name for the island.

GOM-LAC. Dut. Lac.

GOMMA. It. Gum.

GOMMA AMMONIACO. It. Gomme ammoniaque. Fr. Gum ammoniac.

GOMMA ARABICA. It. Gum arabic.

GOMMA GUTTA. It. Gamboge.

GOMME. Fr. Gum.

GOMME ARABIQUE. Fr. Gum arabic.

GOMME DE KINO. Fr. Kino.

GOMME GUTTE. Fr. Gamboge.

GOMMI ASTRAGANTI. Fr. Gum tragacanth.

GOMONA, is a small island in lat. 1° 56' S. long. 127° 38' E., 37 miles off Amboyna flagstaff.—*Horsburgh.*

GOMPHIA ANGUSTIFOLIA. *Vahl.*; *W. & A.*; *Prod. I.* 152.

Walkera serratta,	*Wild.*	G. zeylanica,	*D. C.*
Ochna zeylanica,	Lam.	G. malabarica,	,,
Pua-jetti,	Maleal.	Jokati,	Tam.
Bokaara-gass,	Singh.		

This tree grows to the height of thirty feet on the continent of India and in Ceylon it is common up to an elevation of 3,000 feet. The wood is useful for building purposes. The root and leaves are bitter, and employed in Malabar in decoction, in milk, or water, as a tonic, stomachic, and anti-emetic.—*Thw. En. Pl. Zeyl. I.*, page 71. *O'Shaughnessy*, p. 269.

GOMPHIA MALABARICA. D. C. Syn. of Gomphia angustifolia.—*Vahl.*

GOMPHIA ZEYLANICA. D. C. Syn. of Gomphia angustifolia.—*Vahl.*

GOMPHRENA GLOBOSA. Linn.

Ma-hnyo-ban,	Burm.	Everlasting flower,	Eng.
Jafferi gundi,	Duk.	Gul mukhmul,	Hind.
Globe amaranth,	Eng.	Pedda goranta,	Tel.

This flowering plant has a red and white variety, and the red resembles red clover. It is cultivated in the gardens of Europeans and Natives in India and Burmah.—*Mason's Burmah*; *Riddell's Gardening. Gen. Med. Top.*, p. 187.

GOMTI RIVER of Meywar. Lake Kankrowlis also called Rajsumund. This great national work is twentyfive miles north of Oodeypoor the capital of Meywar, and is situated on the declivity of the plain about two miles from the base of the Aravalli. A small perennial stream, called the Gomtee or serpentine, flowing from these mountains, was arrested in its course, and confined by an immense embankment, made to form the lake called after the ruler, Raj-sumund, or royal sea. The bund or dam forms an irregular segment of a circle embracing an extent of nearly three miles, and encircling the waters on every side except the space between the north-west and north-east points. This barrier, which confines a sheet of water of great depth, about twelve miles in circumference, is entirely of white marble, with a flight of steps of the same material, throughout this extent, from the summit to the water's edge; the whole buttressed by an enormous rampart of earth, which, had the projector lived, would have been planted with trees to form a promenade. On the south side are the town and fortress built by the rana, and bearing his name, Rajnuggur; and upon the embankment stands the temple of Kunkraoli, the shrine of one of the seven forms (saroop) of Krishna. The whole is ornamented with sculpture of tolerable execution for the age; and a genealogical sketch of the founder's family is inscribed in conspicuous characters. One million one hundred and fifty thousand pounds sterling, contributed by the rana, his chiefs and opulent subjects, was expended on this work, of which the material was brought from the adjacent quarries. But, magnificent, costly, and useful as it is, it derives its chief beauty from the benevolent motive to which it owes its birth: to alleviate the miseries of a starving population and make their employment conducive to national benefit during one of those awful visitations of providence in the shape of famine which from time to time recur in different parts of India.—*Tod's Rajasthan*, Vol. I p. 389.

GO-MUKHI. HIND. A bag used by hindu devotees, contains a rosary the beads of which are counted by the hand. Literally the two words mean cow's mouth.

GOMUL. A river of Afghanistan, course 160 miles. It rises about lat. 33 °, long. 69 ° 6', at the foot of an offshoot from Safed Koh, runs S. W.; and a little E. of S. to Goolkuts; thence E., N. E., and S. E., until absorded by the sands of the Daman.

GOMUL or Goolairee. A pass in the Derajat in lat. 32°, long. 70° 30', and about 100 miles long. It runs 20 miles from the entrance of the road to the N. W., then 80 miles S. W., then N. W. to Ghuznee. This pass is of great commercial importance. Every spring, large caravans traverse it from Hindoostan to Afghanistan.

GOMUTI. MALAY.

Makse,	AMB.	Sagwire,	PORT.
Duke, or Dok,	JAV.	Anow,	SUM.
Iju, or Fju,	MALAY.	Cabo negro,	SP.
Eju, or Si ji,	,,	Scho,	TER.

The Tree

Nawa,	AMBOIN.	Anau,	MALAY.
Areng,	MALAY.		

Gomuti is a fibrous product of the Arenga saccharifera, a horse hair looking substance produced at the base of the petioles, and is known by various names in the languages of the Archipelago. This fibrous substance is superior in quality, cheapness and durability to that obtained from the husk of the cocoa-nut. It has great power in resisting wet, and is used by the natives of the Indian islands for every domestic and naval purpose to which cordage is applied, a practice in which Europeans have, of late years, imitated them. The coarser parts are used as pens by all the tribes who write on paper, and as the arrows for blow pipes or arrow-tubes. The Gomuti, of all vegetable substances, is the least prone to decay, it is fastened like straw over bamboo thatch, round the ends of posts placed in the ground, is mixed with mortar, and is plaited by the Bornoese into ornaments for the arms, legs and neck. The Arenga saccharifera tree produces about six leaves annually, and each leaf yields from eight to sixteen ounces of clean fibres.—*Seeman.*

The Gomuti fibre, though well known in Eastern commerce and as used in Eastern shipping, is little known in the Western world. It is, however, occasionally heard of by the name of "vegetable bristles." Though a portion of the fibres may be likened to stiff bristles, the greater part is more like black horse-hair. This is celebrated in the countries where it is produced, both for its strength and for its imperishable nature, even when exposed to wet. It is supposed to be the same as the Cabro negro of the Spaniards of Manilla. The tree yielding it was described and figured by Rumphius ('Herb. Amb.,' i, p. 57, t. 13) under the name of Gomuto, or Saguerus; but the latter name being too similar to that of the true Sago tree, has been changed to Arenga, from the native name Areng, under which it was described by Labillardiere. The specific name has been given from the large quantity of sugar procurable from its sap by cutting the spadices of the

male flowers. The tree is valuable for several very distinct, and all very useful, products. It is described by Marsden, in his 'Sumatra,' under the name of Anou, as a palm of "much importance, as the natives procure from it sago (but there is also another sago tree, more productive), toddy, or palm wine, of the first quality; sugar, or jaggery; and ejoo." Dr. Roxburgh, writing in the year 1799, strongly recommended its extensive introduction into India and the Arenga now grows in Bangalore and to some extent in the Nuggur division of Mysore. The palm wine itself, and the sugar it yields, the black fibres for cables and cordage, and the pith for sago, independently of many other uses, are objects of great commercial importance. This palm is to be found in all parts, from the gulf of Bengal to all the Asiatic islands on its eastward, especially in low moist situations and along the banks of rivers. Dr. Roxburgh describes the trees (in 1810) which had been introduced into the Botanic Gardens at Calcutta about twenty-four years before, as from twenty to thirty feet in height, exclusive of foliage or fronds, which rise from fifteen to twenty feet higher. These fronds or leaves are pinnate, and from fifteen to twenty-five feet long. The trunk is straight, at first covered entirely with the sheaths of the fronds or leaves, and the black horse-hair-like fibres, called, by the Malays, Ejoo, which issue in great abundance from the margins of these sheaths. As the tree advances in age or size, these drop off, leaving an elegant, columnar, naked trunk. He further states that he had observed that each of the well-grown thriving trees produced about six leaves annually, and that each leaf yields about three quarters of a pound weight of these fibres, and, therefore, each tree about four pounds and a half. But some luxuriant trees yield at least one pound of fibre from each leaf. As these black fibres issue from the sides of the sheaths, they necessarily surround the stem, and may be cut off without injury to the tree. Even in commercial specimens, some may be seen covered both on the upper and lower surface, with dense cellular membranes, having between them a mass of these black fibres. These are supported by thicker or whalebone-like fibres, which are attached to the thinner fibres by cellular tissue. These stiff fibres are employed in Sumatra as styles for writing with, on the leaves of other palms, &c., as mentioned both by Marsden and Bennett. These fibres are further described as stronger, more durable, but less pliant and elastic than those of the coir; but they resist decay, and are therefore more fit for cables and standing rigging, though less suitable for running rigging. "The native shipping of all kinds are entirely equipped with the cordage of the Gomuto, and the largest European shipping in the Archipelago, find the advantage of using cables of it. It undergoes no preparation but that of spinning and twisting,—no material similar to tar or pitch, indispensable to the preservation of hempen cordage, being necessary with a substance that, in a remarkable degree, possesses the quality of resisting alternations of heat and moisture. The best Gomuto is the produce of the islands farthest east, as Amboyna and the other Spice Islands. That of Java has a coarse ligneous fibre; the produce of Matura is better. Gomuto is generally sold in twisted shreds or yarns, often as low as a Spanish dollar a picul, and seldom above two; which last price is no more than one sixth part of the price of Russia hemp in the London market. Were European ingenuity applied to the improvement of this material, there can be little doubt but it might be rendered more extensively useful. Milburn, also, in his 'Oriental Commerce,' mentions the Ejoo is, of all vegetable substances the least subject to decay, and that it is manufactured into cables, and the small cordage of most of the Malay vessels are made of it: "it is equally elastic with coir, but much more serviceable, and floats on the surface of the water." The fibres are employed, in making cordage for their nets and seines, for the rigging of vessels, and also for cables. These are described by all as remarkable for their tenacity and durability, and as not undergoing any change by exposure to wet, not even when stowed away in a wet state. In some experiments made by Dr. Roxburgh, some thickish cord bore 96 lb., and some smaller 79 lb.; while coir of the same size bore only 87 lb. and 60 lb. respectively.

Besides the above horse-hair-like fibres, there is at the base of the leaves a fine gossamer-like woolly material, baru, *Malay*, Kawal *Jav.* much employed in caulking ships, as stuffing for cushions, and as tinder.

Ejoo was sent to the London Exhibition of 1851, viâ Singapore, from Malacca, separated from stiff fibres, and as prepared for manufacture or export, and also prepared as sinnet or coarse line for making ropes or cables. The portion belonging to each leaf having apparently been cut off close to the sheath, and each measuring about three feet in breadth and two feet in length. The bundles of the coarse and fine fibres are about six feet in length, and about twelve inches in diameter, neatly tied up

with split cane. Interspersed among the coarser, there are some finer fibres, something like black wool. The sinnet is coarse, but strong, and broke with a weight of 85 lb., when coir of about the same size broke with 75 lb.; but the comparison is not very exact. Mr. Kyd, formerly a ship-builder of Calcutta, possessed a cable made of the Ejoo fibre, which he had had for four years exposed to all weathers, and which raised the bow anchor of a merchant ship of 500 tons, buried in the sands of the Hoogly; in two previous attempts at which, three Russian hempen cables had given way. Besides making strong and durable cordage, the Ejoo fibre is no doubt applicable to a variety of purposes for which horsehair and bristles are now employed.—*Royle, Fib. Pl.* p. 99. *Seeman on Palms. Voigt.* p. 636. *Roxburgh Fl. Ind.* iii. p. 626. *Hon'ble Mr. Morrison's Compendious Description.*

GOMUTUS, The Saguerus of Rumphius, is the Arenga succharifera of Labillardiere, one of the products of which is the Gomuto. Hartwig says the outer rind of the fruit is poisonous and used to poison wells. The nuts have a delicate flavour. The reticulum or fibrous net at the base of the petioles of the leaves, called the gomuti is extensively used for cordage and cables. The small hard twigs found mixed up with the gomuti are used as pens and as the shafts for the Sumpits or blow pipes. Underneath the reticulum is a soft silky material used as tinder by the Chinese and as oakum for caulking.—*Hartwig.* See Arenga.

GOND. Hind. Typha angustifolia.

GOND. Hind. Gum, hence.

Gond-i-babul, gum of Acacia arabica, and of Acacia farnesiana.

Gond-chimbri, gum of Acacia modesta.

Gond-i-dhao, gum of Conocarpus latifolia.

Jinga, or Kani Gond, gum of Odina wodier.

Gond-i-kikar, gum Arabic.

Gond-i-phulah, gond of Acacia modesta.

Serval-gond, gum of Bombax heptal phyllum.

Gond-i-shaft-alu, gum of Armeniaca vulgaris, apricot.

Gond-i-siris, gum of Acacia serissa.

GOND. The province of Gundwana or Gondwana, on the old maps, occupied a large area in the centre of India. It was bounded on the S. W., and W. by the Godavari, Pranhita, and Varuda rivers and the Kaligong hills; the Narmada separated it from Malwa and Dumoh, and then the boundary line ran N. E. along the Kutne, and on the N. E. side it had Berar and Chota Nagpore. On the E. and S. E. its limits seem to have been but indefinitely fixed, it extended at least to a line drawn from Gangpur on the Brahmini to Bhadrachalam about 120 miles from the mouth of the Godavari, and included Sambhalpur, Sonpur, and Patna; but on Hamilton's map of 1820, it includes Kalahandi, Boad, and Sinbhum. Its length from S. W. to N. E. was not less then 380 miles and its average breadth fully 300, whilst its area was at least 115,000 square miles, or double the size of England and Wales.

The Gond tribes are scattered over the mountain ranges of this territory, though they do not extend quite so far to the E. as it does. They are found extending into Sarguja on the N. E. they are found in Karial and Kalahandi or Kharond along with the Khond and Uriya. In the South, says Mr. Hislop, they form the mass of the population of Bastar and a portion of the inhabitants of Jeypore (in the Madras Presidency), while they occupy the hills along the left bank of the Godavari, about Nirmal; and on the West, they are intermingled with Hindus of Berar for 30 miles from the right bank of the Wurda.

The Gonds are one of the most important of the aboriginal tribes of India and probably number 600,000 souls, they speak dialects of the great Turanian or Tartar family of languages, spoken by all the tribes from the Himalaya to Okotsk and to Lapland, and including the Hungarian, Krimean, and Turkish. In India, there are three or four distinct branches of this family of languages, and consequently of the Turanian race:—in the North, are the Himalayan dialects and tribes, from Upper and Lower Kanawar on the Sutlej to Butan of the extreme east. Then we have the Lohitic class—comprising with the Burmese and others of the eastern peninsula, the dialects of the Naga and Mikir tribes in Assam, and of the Bodo, Kachari, Kuki and Garo in Eastern Bengal. Nearly related to this class is the Kol or Munda family including the Kol, Sonthal and Bhumij of Singhbhum and Western Bengal, and the Mundala of Chota Nagpur. The fourth class is the Tamulic or Dravidian, to which belong to the Brahui of Baluchistan, the Gondi, the Tulava of Kanada, the Karnata of the S. Maratta country, the Todava of the Nilgiris, the Malayalam of Travankur, the Tamil and Telugu. The Kur or Muasi and the Korku in Hushangabad and westward in the forests on the Tapti and Narmada, until they come in contact with the Bhil of the Vindhya hills, and the Nahal of Khandesh belong to this Kol family, indeed Mr. Hislop held that the word Kur is identical with Kol. The close relation-

ship of the Kur and Sonthal, and their separation from the Dravidian may be illustrated by a few examples :—

English.	Kuri.	Sonthal or Kol.	Gond, dialects.	Tamil.
Dog,	...Situ, chita..	Seta,	...Nei,	...Nay.
Ear,	...Lutur,	...Lutar,	...Kavi,	...Kathu.
Hair,	...Op. up,	..Up,	...Meir,	...Mayer.
Nose,	...Mu,	...Mu,	..Muku,	...Mukku.
Belly,	...Lai,	...Lai,	..Pir,	...Walru.
Fire,	...Singal,	..Sengel,	..Narpu,	..Nerappu.
Water,	...Da,	...Du,	..Tanni,	...Tannir.
House,	...Ura,	...Ora,	..Ron,	...Vidu.
Star,	...Epal,	...Ipil,	..Sukum,	...Tarakai?
Man,	..Koro,	... ...	...Manwal,	...Manidan.
Two,	...Barku,	...Bara,	..Rand,	...Erandu.
Three,	..Apkor,	..Apia,	..Mund,	...Mundru.

Mr. Driberg compiled a very complete grammar and vocabulary of the Mahadeo dialect of the Gond language, and the dialect of the Saonee Gonds was noticed in a paper by Mr. Manger.

From the geographical distribution of the Kol and Dravidian languages, Mr. Hislop concluded that while the stream of Dravidian population, as evidenced by the Brahui in Baluchistan, entered India by the north-west, that of the Kol family seems to have found admission by the North-east and, as the one flowed south towards cape Kumari, and the other in the same direction towards Cape Romania, a part of each appears to have met and crossed in Central India. This hypothesis rests on the presence of the Brahui where they are, a fact which is not inconsistant, however, with the supposition that the Dravidian tribes may also have entered India from the north-east or even across the Himalaya, as the Kanawar, Newar, Chepang, and other tribes have done, while the Kol tribes were an offshoot from a later horde, the main body of which entered the Eastern Peninsula. The Brahui may have been driven westward by the invading Arya from the upper Indus. To the early Arya the prior tribes were known as Dasi, and Dr. J. Wilson tells us they were not altogether barbarians, for they had distinctive cities and other establishments of at least a partial civilization. Then, as now, they were darker than the Arya: and, according to Dr. Wilson, the more marked Turanians in Gujarat and other provinces are still denominated the "Kali Praja" (corrupted into Parej) or black population. The Gond of Berar, is a hill race, occupying the Mailghaut and the southern skirts along with the Andh, the Kolamb and Koorkoo. All these have a physical resemblance, but each of them speaks a different tongue and in their features they are quite distinct from the people of the villages. There are 8000 of them in the Oomraoti district. In the Central India Provinces the chief Gond tribes are :—

Mari Gond, in Chandah.
Mariah or Gottawar, Upper Godavery.
Khutalnar, in Chanda.
Durweh, of do.
Aguriah, of Mundla.
Hulba, of Upper Godavery.

The Gondwana of the older maps is a wider extent of country than is now occupied by this race and is politically, rather than etymologically Gond. Whilst the Gond race were dominant, they were masters of all Gondwana, including the open and cultivated tracts about Nagpore, Raepore, Jubbulpore and perhaps as far as Ellichpur and to the south of the Godavery, where some Gonds are found amongst the Tiling population. Deogurh in the Satpura range, was the chief seat of their power. They immediately preceded the Mahrattah, by whom they were ousted from the open and valuable tracts. The Gond do not now form any considerable part of the population of the plain champagne country, but the chiefs and large zemindars of the Satpura ranges and most of the men of importance in parts of Saugor and other districts north of the Nerbuddah are supposed to be Gond, through some claim to be Rajputs and others have become mahomedans. The Gond predominate from Sargujah, westward along the line of the Satpura hills, through all the hilly country of the districts of Mandla, Jubbulpur, Seoni, Chandwara, Baitul and Hoshungabad and in some degree to the neighbourhood of Asseerghur. They had varied fortunes, from the beginning of the present era, sometimes attacking other powers, sometimes defending themselves, sometimes aiding mahomedans, sometimes attacked by them, but, since Akbar's time, they have been subject to other nations. The term Gond, seems identical with Khond, supposed to be derived from the Hindi word Kond or Konda, a hill, indicative that they were regarded as a hill people. In the interior of the peninsula are Gond tribes, and the Khond, Kund or Ku, also Dravidian, who are estimated at half a million of souls. The Gond race is physically below the average of Europeans, in stature, and, in complexion, the Gond race are decidedly darker than the generality of the hindu. They are well proportioned but somewhat thickset and muscular; their features are rather ugly ; they have roundish heads, wide mouths, with thickish lips and somewhat distended nostrils. Their hair is straight and black and the beard and mustache scanty. Their hair and features, according to Mr. Hislop, are decidedly Mongolian. They have an average amount of intellect and remark-

able quickness of observation. They are truthful in their statements, faithful to their promises, and are honest with each other, but do not scruple to plunder strangers. They are courageous, shy with strangers; simple minded, superstitious though free from fanaticism. They are habitually drunken, every feast or festival being attended with excesses. Their religion is as distinctively of Scythian origin as is their language and physique. Earthenware figures of the horse are offered instead of the living sacrifice. They propitiate the manes of their ancestors, by offerings of these earthenware horses, rice and other grains, eggs, fowls or sheep. The sacrifice of the cow was prohibited by the Bhonsla Government. Children everywhere, and many adults, are buried, but the Madia of Bastar and the Gond races who have conformed to hindu customs burn their dead. They have in all about thirty divinities, but a few of these are most worshipped. The Creator, under the name of Bhagwan, is occasionally worshipped in their houses by prayers, and by burnt offerings of sugar and ghi, but their chief worship is to the inferior divinities. The chief of these are

(1) *Badu dewa* (great god) or *Budhal pen* (old god) who is the same as the Bura pen of the Kond race and appears to be the same as Rayetal or the sun-god represented by an iron tiger three inches long, and is probably the same as the Marung Bura of the Sonthal. He is worshipped once a year, at the rice harvest, and a hog is then sacrificed to him. Among the Gaiti, he is represented by a copper piece, kept in a tree in the jungle. This they take down at the annual festival, clean a space of about a foot square, under a tree, in which they lay the pice, before which they arrange as many small heaps or handfuls of uncooked rice, as there are deities worshipped by them. The chickens brought for sacrifice are loosed and permitted to feed on the rice. Goats are also offered and their blood presented in the same manner. On the blood, arrack is poured as a libation to their deities. The pice is now lifted and put in its bamboo case which is shut up with leaves wrapped in grass and returned to its place in the tree, to remain there till it be required in the following year. Both Budhal and Matya (about to be noticed) are said to be sometimes of iron and a foot long.

(2.) *Matya*, called *Mata* by the Kurku, is both the god (or goddess) of the much dreaded scourge small pox and of the town. The Gond of Seoni represent Matya as the attendant or Kotwal of Budhal Pen, and they offer him a pig. The Kurku suppose Matya to reside inside the village and they make offerings of cocoanuts and sweetmeats but no blood.

The Gond have no images in their houses, and, at their religious ceremonies, they employ only the rudest symbols,—knobs of mud, stone, iron rods, pieces of wood, chains, bells, &c. Their festivals are associated with their crops and are celebrated under the Saj tree or Eim tree, three or four times in a year, as on the occasion of the commencement of rice sowing, when the rice crop is ready, and when the Mahwa tree (Bassia latifolia) comes into flower. In the south of the Bandara district are to be seen squared pieces of wood, each with a rude figure carried in front, set up somewhat close to each other. These represent Bangaram; Bangara Bai or Devi, who is said to have one sister and five brothers, the names of the latter being Gantaram, Champaram, Naikaram and Potlinga, the sister being known as Danteswari, which is a name of Kali. These are all deemed to possess the power of sending disease and death upon men, and under these or other names seem to be generally feared in the region east of Nagpore city. At Dantewada, in Bastar, about 60 miles S. W. of Jagdalpur near the junction of the Sankari and Dankan tributaries of the Indrawati, is a shrine of Danteshwari, at which, about 1835, it is said that upwards of 25 full grown men were immolated on a single occasion by a late raja of Bastar. Since then, numerous complaints have reached the authorities at Nagpore of the continuance of the practice. Amongst the Moria Gond, Bhawani is worshipped as the small-pox goddess, and as Maoli or Danteshwari.

3. *Sale*, or *Sali*, or according to the Gaiti Gond, Saleng, sits on the same gaddhi with the great god, to whom he is said to be nearly equal. An offering of a she-goat is made to him, and he is probably the protector of cattle.

4. *Gangara*, Ghagara, Gagaral, Gongara Mal, is the bell god, and is represented by a bell, or by an iron chain of four links.

5. *Palo*, of whom only the name is known. The suitable offering to Gangara and him is a cow.

6. *Gadawa* is the god of the dead, and is, perhaps, the same as Chawar, and identical with Dichali of the Chaibassa Kol.

7. *Kham or Kank* the last of the seven deities (sat dewala), is worshipped under the Saj tree, (Pentaptera tomentosa.)

Kodo-pen, is besides these seven, and is the horse-god, common to the Gond and Kur. Mr. Driberg supposes him to preside over a

village, and thus he would correspond to Nadzu Pen of the Kond. But Mr. Hislop conjectures he may be the god of crops, Kodo, the paspalum frumentaceum, being the grain chiefly cultivated by the Gond. In the wilder villages, near the Mahadeva hills, Kodo Pen is worshipped by new comers near a small heap of stones, through the oldest resident, with fowls, eggs, grain and a few copper coins which become the profits of the officiating priest.

Mutua or Mutya Deva among the Kurku, is a heap of small stones inside the village, besmeared with sandur. He is associated with the prosperity of the village and is worshipped with a goat, cocoa-nuts, limes, dates, and a ball of sandur paste.

Pharsi pen, or Pharsa pot, is represented by a small iron spear-head. This name may possibly be connected with barchi (hindi) a spear, and he may be identical with the Loha Pen of the Kond, the iron god or god of war. Pharsa, in Gondi, also, means a trident, which is an ancient Tartar weapon. He is worshipped every third or fourth or fifth year, at full of the moon Vaisakh, and on the occasion people assemble from great distances, and offering is made of a white cock, a white he-goat and a white young cow. The ceremonies are conducted with great secrecy, and no hindu or Gond woman even is allowed to be present. He is apparently the same as Dula Dewa, the god of the battle axe of the Gaiti Gonds, who represent Dula Dewa by a battle axe fastened to a tree.

Hardal, at Amarkantak, is worshipped as the cholera god, but Mr. Hislop supposed this to be another name for Budhal Pen. The Kurku style him Lala Hardal, and he possibly is the same as the Gohem of the Chaibassa Kol.

Bangaram is probably the god of fever, as among the Kol of Chaibassa, where he is associated with Dichali and Gohem, as also with Chondu the god of itch and Negra of indigestion.

Bhiwasu or Bhim Pen is, in the Mahadeva Hills, the god of rain where a festival lasting for four or five days is kept in his honour at the end of the monsoon, when two poles, about 20 feet high and 5 feet apart, are set up, and a rope attached to the top, by means of which they climb to the top of the pole down which they then slide. Offerings of fowls, eggs and grain are presented to him. All over Gondwana, he is generally worshipped under the form of an unshapely stone covered with vermillion, or of two pieces of wood standing from three to four feet above ground, like those set up for Bungaram. Before these, the Moria Gond regularly perform worship, previous to sowing. A little S. W. from Bajar Kurd, however, and North of Parsenni, is a formed idol of Bhiwasu, 8 feet high, with a dagger in hand and a barchi (javelin) in the other. A Bhumuk is the pujari or officiating priest, and the people worship on Tuesdays and Saturdays, making offering of hogs, he-goats, cocks, hens, cocoanuts. At an annual feast the potail gives two Rupees and hindu cultivators rice; the pujari takes a cow by force from the Gowar and offers it to Bhim Sen in presence of about twenty-five Gonds.

Sasarkund is a pool in the Mahur jungle where the Pain ganga is said to be engulfed. The Naikude Gond repair there, in pilgrimage, at the month Chaitra, to a huge stone that rises in a gorge, and goes by the name of Bhim Sen, before which Naikude Gond mingle with Raj Gond and Kolam in worship. Towards evening, the worshippers cook a little rice, and place it before the god, adding sugar. Then they smear the stone with vermillion and burn resin as incense, after which all offer their victims, sheep, hogs and fowls with the usual libations of arrack, the pujari appears to be inspired, rolls his head, leaps wildly about and finally falls down in a trance, when he declares whether the god has accepted the services or not. At night drinking, dancing and beating tomtoms goes on, and in the morning they return home after an early meal. Those unable to leave home perform similar rites beneath a Mahwa tree.

Waghoba, the tiger god, is worshipped by the Naikude Gond; and under the name of Bag Deo, by the Kurku.

Sultan Sakada is worshipped by the Kur.

Sakal Deva, or Sakra Pen, the chain god is worshipped in Seone and elsewhere.

Sanyal Pen or Sanalk, the spirits of the departed, are worshipped or propitiated for a year after death, but persons of note, head men of villages or priests, are treated as gods for years or generations, and sacrifices are usually offered at their Sthapana or shrines of earth.

Koitor, *viz.*

Raj Gond.	Katulya.	Ojhyal.	Koi-kopal.
Raghuwal.	Padal.	Thotyal.	Kolam.
Daduvi.	Dholi.	Koila-bhutal.	Madyal.

Koitor are a section of the Gond, including the Raj Gond, the Raghuwal, the Daduvi and Katulya. The Koitor is the Gond par excellence: and some suppose the term derived from the Persian "Koh" a hill.

Koi is the name given to the Meria sacrificing tribes of Orissa.

Padal, Pathadi, Pardhan or Desai, is a Gond tribe who are the bards or religious counsellors of the upper classes of Gonds. From these has sprung a half caste tribe, who speak Maratha, and occupy themselves in spinning thread and playing on wind instruments.

Dholi, a Gond tribe who dwell in jungly districts and are employed as goat herds.

Ojhyal, a Gond tribe, wandering bards and fowlers.

Thotyal, meaning the maimed, a wandering Gond tribe, also called Pendabarya or minstrels of God, also Matyal because their songs are chiefly in honor of Mata. They make baskets.

Koila-bhutal, a wandering Gond tribe, whose women are dancing girls.

Koi-kopal, *i. e.* Gond Gopal, a settled race of Gond who are cow-keepers.

Madyal, a Gond tribe, called in Bastar Jhodia, are savages on the Beila Dila hills and in the remotest parts of Chanda. These women only wear a bunch of leafy twigs to cover them before and behind. In this, they resemble the Juanga to the south of the Kol country; the Chenchi near the Pulicat lake and to the north of Ellore and till about 30 years ago a similar custom existed amongst the Holier of the forests near Mangalore.

Kolam, a Gond tribe, along the Kandi Konda or Pindi hills, on the south of the Warda and along the table land stretching east and north of Manikgudh and thence south to Dantanpilly, running parallel to the right bank of the Pranhita.

Badya, a hill race, not Gond, occupying the tract between Chandwara and the Mahadeva hills, who have conformed to the hindus in their language and religious observances.

Halwa a hill race, not Gond, pretty numerous in Bastar, Bandara and Raepore, who covet the distinction of wearing the sacred thread, which right those in Bastar purchase from the raja.

Gaiti Gond, a tribe in Bastar who call themselves Koitor.

Moria Gond, the principal agriculturaists in Bastar.

Nai-Kude Gond a tribe that inhabit the jungles on both banks of the Pain Ganga, especially in the tract between Digaras and Umarkher and found about Aparawapet and as far as Nirmul. They have adopted the hindu dress and will not eat beef; but they live by the chase, cut wood and grass and are a terror to their neighbourhood, by their depredations.

Kur, also called Muasi, a hill tribe with a language quite distinct from the Gonds, living to the N. W. and W. of the Mahadeva hills.

Korkur or Korku a hill tribe dwelling to the N. W., and West of the Mahadeva hills speaking a language quite distinct from the Gond. They belong to the Kol or Munda family.

Binderwar. A Gond tribe who dwell in the hills of Amarkantak, near the source of the Nerbuddah river.—*Coleman*, p. 297. *Hislop, Review in Bombay Newspaper on Mr. Temple's editor of Mr. Hislop's remarks on the Gonds*. See Gonds.

GONDA. A station for European Soldiers.

GONDA. A branch of the Ahir caste.

GONDALA. See Inscriptions, p. 389.

GONDANA. A Mahrattah festival in honour of the goddess Devi.

GONDAR, A town in Amhara, the capital of the kingdom. This town is stated by Heuglin, (1862), to have contained from 6,000 to 7,000 inhabitants, but it is said to have been totally destroyed by the emperor Theodore.—*Par. Paper*.

GOND-BADUSTAR. HIND. Castor. ENG.

GONDHALI. The musician at the festival Gondana.

GONDHONA. TEL. Phyllanthus emblica.

GONDHUL. See Jat.

GONDI. HIND. also Gund and Gundni, Hindi, Cordia angustifolia, C. subopositifolia, also DUK. C. obliqua, the fruit of C. angustifolia, is an orange colored, sweet and rather mucilaginous berry.

GONDNI. A bulrush.

GONDI. See Gond; India.

GONDOPHERRES or Gondophares, B. C. 55, who took the Aryan name of Pharahitasa.

Abagasus, king of kings, A. D. 70, in Arian Abakhafasa, Professor Lassen supposes this name to be identical with Vologeses. Mr. H. T. Prinsep supposes their coins to be of Parthians who established for themselves a separate and independent sovereignty in Kabul and the Parapamisus.

Abalgasius, A. D. 80, Capt. Cunningham described the Arian legend on the coins to be of the "Saviour king Abagasus, younger son of Undopherres." See Abdagasses. Greeks of Asia. Kabul, p. 439.

GONDWARA, means, literally, the country of the Gonds, a race who at no remote period possessed almost the whole of the country to the south-east of the Nerbudda, which before the war of A. D. 1818 formed the extended dominions of the Mahratta prince

of Nagpore. In the second century of the christian era, the Hai-haya dynasty ruled. It is now the British district of the Central Provinces.—*Malcolm's Central India*, Vol. I p. 31.

GONDOPOLA. URIA? A tree of Ganjam and Gumsur, extreme height 45 feet, circumference 2½ feet and height from the ground to the intersection of the first branch, 8 feet. Bandy wheels and ploughshares are occasionally made of this wood, but it is chiefly burnt for firewood, being tolerably common.—*Captain Macdonald.*

GONG or Loo, a Chinese musical instrument, composed of a mixed metal, (said to be tin, copper, and bismuth), resembling bronze in appearance. It is in the form of a large flat basin, with a ridge; and, when beaten with a stick or mallet, covered with woollen cloth or twist, emits a strong reverberating or ringing bell-like sound. Its value is in proportion to the quantity of metal it contains. In China gongs are suspended at the doors of courts of justice, where applicants for justice attend and sound.—*Crawfurd Dict.*

GONGA—? Sterculia acuminata.

GONGALI. TEL. Cumbly.

GONG-KURA. TEL. Hibiscus cannabinus.—*Linn.* Ambari.

GONGHO. HIND. Brassica rapa.

GONGOO or Gangaw. BURM. A tree of Amherst, Tavoy and Mergui, maximum girth 3 cubits, maximum length 32 feet, very abundant from near Mergui, along the coast as far as Amherst. When seasoned, it floats in water. It is used for tables, chairs and miscellaneous articles by the Burmese; it has a good, hard, tough wood, durable and recommended for shelves also for handles of all kinds of tools. (Vide Major (now General) Simpson's Report.)—*Captain Dance.*

GONGOSHEOLEE. URIA.? Dondeepoholo. URIA? A tree of Ganjam and Gumsur, extreme height 25 feet, circumference 3 feet and height from ground to the intersection of the first branch 7 feet. No use seems to be made of the wood. The flower which has a powerful perfume is offered in all the pagodas to the presiding divinity.—*Captain Macdonald.*

GONGYLOPHIS CONICUS. *Schneider*, a genus of serpents of India, of the Family Pythonidæ: as under:—

Fam. Pythonidæ.
Python molurus.—*Linn.*
,, reticulatus, *Schn.* Nicobar, Tennasserim
Boa constrictor.—*Linn.*
Gongylophis conicus, *Schneid*, Upper India.
Eryx Johnii, *Rüssell* of Punjab.

GONGARA. Hibiscus cannabinus.—*L.*

GONI. HIND. Gunny.

GONI CLOTH. Gunny of Crotalaria, juncea.

GONIOTHALAMUS HOOKERI. *Thw.* A middle sized tree of Ceylon at Hinidoon and Reigam Corles, at an elevation of about 1,000 feet.—*Thw. En. Pl. Zeyl.*, p. 6.

GONIOTHALMUS THWAITESII. H. f. et. T. Caloocaara. SING. Not uncommon in the Central Province of Ceylon at an elevation of 2,000 to 4,000 feet.—*Thw. En. Pl. Zeyl.*, p. 7.

GONJI-PHAL. DUK. Limonia pentaphylla.

GONJI PANDU. TEL. Glycosmis pentaphylla.—*D. C.*

GONODACTYLUS CHIRAGRA. See Stomapoda.

GONTEMA GOMARU CHETTU. TEL. Ipomœa filicaulis, also Pæderia fætida.

GO-NYEN, BURNS, a vine producing pod three or four feet long, containing ten or twelve beans, ten inches in circumference. These beans, well boiled, are sometimes used for food.—*Malcolm*, Vol. I, p. 182.

GONYUCH. HIND. Lepidium latifolium.

GONZANG. HIND. Avena fatua.

GOOA. BENG. Betel-nut palm, Areca catechu.

GOOAL. HIND. A cow-herd. In Behar there are several subdivisions as Bhota, Bunarusya, Canougea and Choutaha. It is pronounced as Gwal. *Elliot.* See Ahir, Go, Goala.

GOOAL. HIND. A grain which in the North West Provinces is frequently sown with cotton, and given as fodder to cattle. It is also called Kowar. *Elliot.*

GOOA-MOUREE. BENG. Fœniculum panmori.

GOOBAK, also Gooya. BENG. Betel-nut tree, Areca catechu.

GOODA. HIND. also Goora. The name of a temporary place of refuge; hence the designation of many towns in India.—*Tod's Rajasthan*, Vol. I, p. 298.

GOODIA LATIFOLIA. One of the Leguminosæ, a genus of flowering plants, all natives of New Holland, colour of the flowers yellow, they never attain any great height, they may be raised from seed or cuttings, in a loamy soil.—*Riddell.*

GOOGA or Goga. In the lower Himalayas of the Punjab, there are many shrines to this mythological being. In one account he was a chief of Ghazni who was slain in war against his brothers Urjun and Surjun, but a rock opened, and Goga sprung forth armed and mounted; another account makes him

the lord of Durd-Durehra, in the wastes of Rajwara who died fighting against the armies of Mahmood.

The names Urjun and Surjun and Durd-Durehra are instances of the alliteration of which eastern races are so fond.

Chin and Machin is a phrase analogous to Hind and Sind, used to express all India, and Gog and Magog (Yuj and Majuj Arab, Pers) is applied to the northern nations of Asia; Sind and Hind are however capable of separation. The use of a double assonant name, sometimes to express a dual idea but often a single one, is a favourite oriental practice. As far back as Herodotus we have Crophi and Mophi, Thyni and Bithyni; the Arabs have converted Cain and Abel into Kabil and Habil, Saul and Goliah into Talut and Jalut, Pharoah's magicians into Risam and Rejam, of whom the Jewish traditions had made Jannes and Jambres; whilst Christian legends gave the names of Dismas and Jesmas to the penitent and impenitent thieves in the Gospel. Jarga and Nargah was the name given to the great circle of beaters in the Mongol hunting matches. In geography we have numerous instances of the same thing, e. g. Zabulistan and Kabulistan, Koli Akoli, Longa Salanga, Ibir Sibir, Kessair and Owair, Kuria Muria, Ghuz and Maghuz, Mastra and Castra, (Edrisi), Artag and Kartag (Abulghazi), Khanzi and Manzi (Rashid) Iran and Turan, Crit and Mecrit (Rubruquis), Sondor and Condor (Marco Polo). etc.

The name of Achin in Sumatra appears to have been twisted in this spirit by the mahomedan mariners as a rhyme to Machin; the real name is Atcheh. In every day conversation, in India, such alliterations occur, as Choki Oki, a chair, Kursi Gursi, a chair; Chavi-gavi a key, Koli-Geeli a key. Bach kach children· *Yule, Cathay.* See Quatremere's Rashid, pp. 243-246; D'Avezac p. 534; Prairies' Or. i. p. 399.

GOOGALA SANS. HIND. Balsamodendron agallocha W. & A.

GOOGOAN. A poor agricultural district in the Punjab.

GOOGUL. BENG. Amyris, Balsamodendron agallocha.

GOOGUL. HIND. A gum resin supposed to be identical with the Mooql of Arabia and to be the Bdellium of the ancients. A resinous substance named Googul (Hind), Mooql (Arab) is met with in all the bazaars of India. It much resembles myrrh, and is said by some good authorities to constitute the bulk of the article exported from Bengal as East indian myrrh. Royle considers the Googul identical with the Bdellium of commerce and he ingeniously traces in Budleyoon and Madelkon, the Greek synonymes of Googul, the βδελλιον and μαδελχον of Dioscorides. A tree in the Seharunpore Garden, pointed out as the Googul tree, had scaly bark exactly conformable to Dr. Roxburgh's description of his Amyris. Dr. Ainslie, in Vol. I p. 29, gives an excellent summary of all the information extant when his work was published, regarding the interesting substance known as Bdellium. He adduces as synonymes of Bdellium, Kookool, Tam., Googooloo, Tel. Googul, Can., Hind. Aflatoon, Arab, and Mukul, Pers. He describes the gum resin as semi-pellucid, yellowish, or brown, inodorous and brittle, softening between the fingers, in appearance not unlike myrrh, of bitterish taste, and rather strong smell. He states, however, that it is all brought from Arabia and from Persia, where the tree is called Darakht-i-mukul; but, in the bazaars of India, it is said that the googul "comes from the hills." The medicinal properties of Bdellium are exactly like those of myrrh, and being much cheaper, it may be preferred for Dispensary practice. (*Royle*, p. 177. *O'Shaughnessy*, p. 287.)

Under the term Googul, however, the resinous exudations of several trees seem to be classed.

Under the Canarese and Mahratta names Dhoop and Googul, Dr. Gibson mentions two species of Canarium, one in Canara and Sunda, on the Ghats above, and the second species of great size cultivated near Bilgil, and at Siddapore. The choice gum resins afforded by these trees are extensively used in the arts, and exported both inland and to the coast.—*Wight Ill. Dr. Gibson.*

Olibanum a substance famed in ancient and used in modern times, is the Thus looban and goondur of the natives of India. Under the latter name, it is described by Avicenna, evidently referring to the λιβανος of Dioscorides, who mentions both an Arabian and an Indian kind. The latter Mr. Colebrooke has proved to be the produce of Boswellia serrata, Roxb. (B. thurifera, Colebr) the Salai or saleh of the hindoos common in Central India and Bundlecund, especially about the Bisrumgunge ghaut. It is probably also produced by B. glabra, which has the same native name, and though extending to a more northern latitude, is distributed over many of the same localities. It is common in the low hills above Mohun Chowkee. To this kind, according to Dr. Ainslie, the term googul is applied by the Telugu people. The resin of both species is employed as incense in India. Central India alone furnishes the greatest portion of

the Indian olibanum of commerce; as it is chiefly exported from Bombay. From the affinity in vegetable production between parts of Arabia, Persia and India, it is not improbable but the genus Boswellia may extend into those countries and afford that which is known as Arabian olibanum.

It is evident from the above that the Hindi term googul is applied to the gum resins of various trees, in Bengal and Bombay from Balsamodendron Roxburghii, the supposed source of the Bdellium of Scripture or Madalchon *Drury* but Balsamodendron Mokul, *Hooker*, of Hindostan and B. pubescens *Stocks* of Sind, also yield a gum resin known by the name of Googul. In the Himalaya, the gum resins of Juniperus religiosa, *Royle*, and, in the Boreghat near Bombay, of Canarium strictum, *Roxb.* are known as googul. The googoola of Tilingana is from the Boswellia glabra *W. et A.*

Thus several plants undoubtedly yield the bdellium of Scripture, and amongst others are the Balsamodendron Roxburghii *Arn.*; B. pubescens, of Sind, *Stocks*, B. Mokul, *Drury*, B. glabra *W. & A.*, and B. Africanum, of Senegambia. *Drs. Wight Illustrations Roxb. Fl. Indica; O'Shaughnessy*, p. 287. *Royle productive resources of India; Ainslie* I. 59. *Gibson. Birdwood.*

GOOGUL FIBRE is supposed to be obtained from the Isora corylifolia, the Valumbrikaya of the Tamul language.

GOOHA. SANS. A secret place, from gooh, to hide or cover, hence, Goohya. SANS., from goohya, requiring to be concealed.

GOOJERAT. A town and district in the Punjab. Near the town of Goojerat, a battle was fought and won by the Indian army against the Sikhs, on the 21st Jany. 1850. The products of the Goojerat district are grain, cottou, opium, safflower, tobacco, indigo, goor, wool and ghee. About half the grain is exported on camels, mules, bullocks and donkeys, but chiefly by boats to Pind Dadun Khan, and from thence by boat to Mooltan and Sind. The Cashmere people in Jelalpore and Goojerat are in a rather impoverished state. Koftgari or gold-inlaying in iron is peculiar to Goojerat, and a very brisk business is carried on by the Koftgari workmen. Under former rulers, this inlaid-work was used chiefly in ornamenting weapons, but under the peaceful rule of the British Government the craftsmen now make principally baskets, trays, paper weights, paper knives, bracelets and ornaments. See Goozerat.

GOOJAR. A numerous race in the North Western Provinces of India, formerly notoriously predatory, but gradually becoming more settled to habits of peaceful industry. Their importance may be rated by their having given name to the Provinces of Goojerat on the Western Coast of India, and to Goojerat in the Punjab. They are sometimes considered to be among the prior occupants of India and have been so reckoned by Tod, who, declares them also to be a tribe of Rajpoots. Sir R. Jenkins, also, says that in the Nagpur Territory, they consider themselves to be Rajpoots and that as they are descendants from Lava, Rama's second son, they have an undoubted right to be so considered.

The Goojur are spread all over the Delhi Territory, the Upper Doab and Upper Rohilcund, and they enumerate 84 different tribes. In Delhi, the chief tribes are the

Chumayen,	Khare,	Rowal.
K' hutana,	Bursoee,	

In the Doab,—

Sookul,	Jindhur,	Budkana,
Bysle,	Peelwan,	Kusane,
Mavee,	Butar Adhuna,	Rouse,
Rat, hee,	CheeheKulseean,	Khoobur,
Bhuttee,	Ramayn,	Moondun,
Kusounee,	Khare,	Kudahun,
Bulesur,	Nagree,	Touhur,
Dede,	Chotkune,	Gorsee,
		Kunana.

In Rohilcund,—

Butar,	Motle,	Jindhur,
K'h hoobur,	Soorudne,	Muhynsee,
K. haro,	Poorbur,	Kusane.
Jattee,		

All these tribes intermarry on terms of equality, the prohibited Gotra or tribe being only those of the father, mother, and paternal and maternal grand-mother. A great part of the district of Seharunpoor was called Goojerat during the eighteenth century. By the Goojar themselves it was said to consist of three parts, and the division is known amongst them to this day, and is usually adopted in ordinary converse. The Goojar race has largely pressed into the Central Provinces of Central India and have settled down to agricultural pursuits, and those in Hoshangabad and Nimar are good farmers. During the mutiny and rebellion of 1857-58 in Northern India, many of the Gujar of Hindostan again gave play to their predatory propensities. In 1811 Colonel Tod's duties called him to a survey amidst the ravines of the Chumbul, of the tract called Goojurgar, a district inhabited by the Goojur tribe. Turbulent and independent, like the sons of Esau, their hand against every man and every man's hand against them, about the middle of the eighteenth century, their nominal prince, Soorajmul, the Jit chief of Bhurt-

pore, had pursued exactly the same plan towards the population of these villages, whom he captured in a night attack, that Janmeja did to the Takshac, as described in the Mahabarat; he threw them into pits with combustibles, and actually thus consumed them. *Tod's Rajasthan*, Vol. I, p.—*Elliots, Supp. Gloss.*

GOJAREA. A river running near Telkoopie and Bagorah in Rungpoor.

GOOJERATI. A term applied to a mercantile race dwelling in Guzerat. They are of Rajput origin and are principally of the Jain religion.

GOOJLAH. A river of Sylhet.

GOOJRANWALLAH. See Punjab.

GOOL HIND. Persian a rose, but compounded with many words to indicate other flowers and flowering plants, Properly *Gul. Pers.* See Gal.

GOOL. BENG. Euphorbia tirucalli.

GOOLA CHIN. BENG. Amaranth, Plumiera acuminata.

GOOLAB, distilled rose water, prepared in India, but largely imported from the Persian Gulf.

GOOLAL. HIND. A farinaceous powder which hindus throw on each others clothes during the Hooli festival. It is generally the meal of barley, rice, or singhara, dyed with Bukkum wood.

GOOLAL-TOOLSEE. BENG. Ocymum glabratum.

GOOL-ASUFUR. BENG. Three styled flax, Linum trigynum.

GOOL-DAOODI. BENG. Pyrethrum indicum.

GOOLDASTAH, or silver golden trees, decorated with imitations of jewels and precious stones used at ceremonials and on state occasions as a kind of epergne.

GOOLGA. BENG. Nipa fruticans.

GOOL-KHAIRA. BENG. Hollyhock, Althœa rosea.

GOOLKOO MOUNTAINS in lat. 33° 22', long. 67° 50', 30 miles S. W. from Ghuznee. Ghuznee is estimated at 1,300 feet.

GOOL-MUKHMUL. BENG. Gomphrena globosa.

GOOLOO. HIND. or Gulu, the pod of the Mahwa tree, Bassia latifolia. It yields a very useful oil, and is sometimes eaten by the poorer classes.

GOOLOOCHUNE. SIND. A mixture of puree, a pigment, and sandalwood, used to produce the yellow forehead mark of the hindu.—*Simmond's Dict.*

GOOLUNCHU. BENG. Cocculus cordifolius.

GOOM. CAN. Spilornis cheela. *Daud.*

GOOMA. A river in Kattywar, in lat. 22° 18', long. 71° 30' E., disembogues into the Gulf of Cambay. Length 88 miles.

GOOMADEE. TEL. Tagoomooda TAM. A large timber tree, a native of the mountainous parts of India. The wood of such trees as will square into logs from eighteen to twenty-four inches resembles teak, the colour is almost exactly the same, the grain rather closer, at the same time it is as light or lighter and is as easily worked. It is used for the decks of pinnaces about Chittagong, Dacca, &c., and is found to stand the weather without shrinking or warping better than any other wood known there. It seems to be the Gmelina asiatica.—*Rohde, M. S. S. Roxb.*

GOOMBAUT of West Indies. Abelmoschus esculentus.—*W. & A.*

GOOMBELIE. See Khyber, p. 512.

GOOMSOOR. A hilly tract lying between 29° 40' and 20° 25' N. lat., and 80° 10' and 85° 5' E. long., in the neighbourhood of Ganjam and Vizagapatam. For a long period after British occupation of the peninsula, the zemindar held the Goomsoor country, on payment of rent.

GOOMPTEE. See Kattyawar.

GOOMTEE RIVER. A tributary to the Ganges. It rises in a small lake or morass, 19 miles E. of the town of Pilebheet, in lat. 28° 35', long. 80° 10'. 520 feet above the sea. It runs S. S. E., into the Ganges, joining 30 miles below Benares, after a course of 482 miles. In the rainy season, boats of 4,000 or 4,200 maunds (40 tons) burthen, are sometimes seen proceeding down the river to Lucknow. It runs near Lucknow, Juanpore, Syedapoor and near Chougong in Comillah.

GOOMUL. See Khyber, pp. 512 and 513.

GOON. BENG. Sanseviera zeylanica.

GOONA. SANS. A quality, from goona, to advise.

GOONA-SINDOO. SANS, from goona, qualities, and sindhoo, the sea.

GOONA-DOSHA. MALEAL, from Goona, good, Dosham, bad, a form of marriage amongst the Nair people, the words mean for better for worse. See Polyandry, p. 109.

GOONAS. See Kunawer.

GOONCH. HIND. Roots of Abrus precatorius, a substitute for liquorice root. Also the seeds of the Abrus precatorius, which are used as weights by jewellers, also for necklaces, bracelets, and other trinkets. *Simmond's Dict.*

GOONDAH. A river rising in the Velunuddhee hills, in Madura, which runs S. E., into the Gulf of Manaar. Its length is 95 miles.

GOONDAMANI. Tam. Tel. The seeds of the Abrus precatorius, used as beads, as weights for gold, and silver, three of these make one canteroy fanam, which is about 5·87 grains.—*Simmond's Dict.*

GOONDASREE. A river near Bancoorah.

GOONDEE. A river near Baleatpore in Bancoorah.

GOOND. A plateau in N. Canara near Dandilli. It has a considerable forest tract, and near Dandilli is a negro race.

GOONG also Goonch, Guz, Hind. Seeds of Abrus precatorious, they are of various colours, red, and red and black and almost wholly black.

GOONGU. Beng. Abrus erythrospermus.

GOONONG. Malay. A hill.

GOONONG API or Burning island, in lat, 5° 40', S. 127° 21' E. is one of the Moluccas.

GOONONG-API. A volcanic island of the Banda group called by the French the grenade of Banda. The base of the volcano occupies all the islet. Its height is about 2,000 feet. It is covered with magnificent vegetation, commencing at the line where the waves cease to beat and continuing upwards to the point where the lava ceases to flow, being cooled by the air. This volcano is the curse of the group, the nutmeg is not cultivated and the island is occupied by a few emigrants from Timor.—*Bikmore.*

GOONONG BEDONG. A high mountain in the Natunas Islands in the China seas. The mountain is in L. 4° 3' N. It is also called Quoin hill. Another mountain in the Natunas is called Gunong Ranay.

GOONONG GEDEH, or the Blue Mountains, a high range in Java, about 30 miles inland from Batavia. Pangeango rises 9,954 feet: Salak 7,322 feet, and Kanrang 6,014 feet above the sea.—*Horsburgh.*

GOONONG GEDUNG, is a mountain about 7000 feet high, it is about 30 miles E. by N. ½ N. from Malacca, and is also called Queen's Mount also Mount Ophir.

GOONONG MAR-OPI. A sulphureous mountain in Java, 2,000 feet high. *Account of a tour on Java in As. Jl.* 1821, Vol. XII p. 224.

GOONZ. Mahr. A silver weight in the Bombay Presidency.

GOOPTA. A Sanscrit word meaning concealed, or hidden, hence, Gooptava-Dhoota. Sans, from goopta, concealed, avadhoota, to renounce. Gooptee-Para. Sans. From goopta, hidden, and para, a division of a town.

GOOPTA. A surname of a dynasty of ancient renown in India. Chandra-goopta was an illegitmate son of Nanda, of the Takshak race, who ruled Magada, when Alexander approached India. Nanda was assassinated by Chanikya his minister. He was succeeded in his succession by his eight legitimate sons, and then by Chandragupta, an energetic and talented prince who steadily opposed the progress of Seleucus, and recovered the territories up to the Indus. He reigned twenty-four years, and was succeeded by his son Metra Goopta. See Gupta.

GOOPTEE. A sword stick.

GOOR, Neera, Seena, and Tandoor, rivers, affluents of the Bheemah river.

GOOR. Duk. Saccharum officinarum.

Jaggary,	Eng.	Bellum,	Tel.
Nullavellum,	Tam.		

A very coarse kind of sugar obtained from the sugar cane and the various palm wines, particularly that of the Phœnix dactylifera. Twelve pints of the sap are boiled down to one of goor, and four of goor yield one of good powder sugar.—*Ainslie, Mat. Med.* p. 266. *Simmond's Dict.*

GOOR. Bahram Goor, was famous for his liberty, gallantry, and love of the chase. He was the monarch whom the Greeks and Romans styled Varanes, and was the fourth monarch of the family. The famous imposter Mani, founder of the sect of Manichaeans, made his appearance in this king's reign, and was put to death by this king. Bahram Gor, is said, in some apocryphal histories, to have visited India in the fifth century, and to have left progeny there by a princess of Kanouj. See Gor.

GOORAKIEME. A Ceylon wood soft, fine, but open-grained, light.

GOORAKOO, Goodakoo or Goodak; called in Bengal tambakoo, the name given in the Peninsula of India to the compound of tobacco, for the hookah; from goor, raw sugar, and akoo Tel. leaf.—*Herklots.*

GOOROO. Sans. A teacher, from gree, to make known; hence, *Gooroo-mookhee.* Sans. from gooroo a teacher, and mookhi, belonging to the mouth: *Gooroomata,* Sans. from gooroo, a teacher: *Gooroo Prasada.* Sans. from gooroo, a teacher, and prasada, a favour, grace.

GOORANJEE, A river near Silwanee in Bhopal.

GOORANS. See Kurdistan.

GOORCHANEH. A tribe of Afghans, on the N. W. frontier many of whom live in the hills and some in the plains. They can muster about 2,000 fighting men. They are a debased and thievish set. A late chief was put to death by Sawun Mull. Their hill frontage is not more than twenty miles long, but it is inter-

sected by numerous passes, about thirty in number. Towards their southern limit stands the fort of Hurrund, a strong masonry structure, erected by Sawun Mull for restraining them. Near Hurrund, is an important pass leading towards Candahar. Raids of theirs were reported; in 1850, 1852, and in 1853, it was proclaimed that any of their hill-men found in the British territory would be seized and placed in confinement; in 1854, their headman entered into engagements to protect the passes, on which account they received an allowance of Rupees 1,000 per annum, since 1854 their conduct has not been marked by any flagrant misdeeds, and the embargo upon them was removed. In the midst of the Goorchance passes are four passes in the separate charge of one Kosah chief, and two chiefs of the Rind tribe, for which they receive Rupees 300 per mensem. See Khyber, p. 508, 515, 518.

GOORDASPOOR. See Punjab.

GOORDUL-SHIM. Beng. Lablab purpurescens.

GOORKHA, a race residing in Nepal. In features and figure the true Goorkha are always singular and remarkable, from their broad Chinese or Tartar-like physiognomy, the small eyes, flat nose, and meagre whiskers, as well as his stout square make and sturdy limbs. These, in every description of costume, and in all degree of raggedness, are to be seen mingled with inhabitants of Kumaoon, Sirmore, and Gurwhal. In 1792, the Goorkha race mastered the whole of the valley of Nepal, and the hill country from Sikhim to the Gogra, and a party of them crossed the Himalaya, and appeared suddenly before Teeshoo Loomboo. The Llama and priests hastily evacuated their convents, and fled to Lhassa, and the place was plundered by the Goorkha, who retired immediately with their booty. The Tibetans applied to China for aid, and an army was collected for the punishment of this act of unprovoked outrage. The Goorkha submitted unconditionally to the Chinese commander, who imposed a tribute and triennial mission to Pekin, besides restitution of all the booty taken at Teeshoo Loomboo, and he took hostages for the performance of these stipulations. The rajah of Sikhim was at the same time taken under Chinese protection. Checked towards the east by these events, the Goorkha extended their dominion westward, subjugating Kumaon, Sirinugur, and all the hill country to the Sutlej.—*Egerton's Journal of a Winter's Tour in India*, Vol. I, p. 177. *Prinsep's Tibet, Tartary and Mongolia*, p. 18. *Fraser's Himalaya Mountains*, p. 223.

GOORI. Beng. Eriocaulon quinquangulare.

GOORI-KUCHOO. Beng. Colocasia antiquorum.

GOORI-SHIORA. Beng. Ficus rubescens.

GOORMA. A river of Rewah.

GOOROO. or Goorao, a hindu race in the Oomraoti district.

GOOROO-CHIKUDI-KAIA. Tel. Dolichos fabæformiis.

GOOSAIN. A hindu sect, in India. See Gosaen.

GOOSE.

Hansa,	Sanskrit.	Cheu,	Greek.
Kaz,	Hind.	Anser,	Lat.

This bird was domesticated in ancient times, it is mentioned in Homer, and was kept in the Roman capitol B. C. 328, sacred to Juno. There are three or four closely allied wild species, but the prevailing belief is that the Anser ferus, the wild Gray lag goose is the species from which the domestic breeds have come. The A. albifrons may have crossed. The rock goose, the Bernicla antartica, does not seem to have crossed. With the Egyptians, the egg of the goose was the emblem of Seb or Chronos. (*Bunsen.*) The goose was deemed the bird of wisdom in ancient Europe, in Asia it was the symbol of stupidity; on the other hand, the European goose is the Asiatic emblem of sageness. The goose, is of the tribe Lamellirostres, which may be thus shown—

Fam. Anatidæ, Gooses.

Sub-fam. Phœnicopterinæ, 1 gen. 1 sp. Ph. roseus.

Sub-fam. Anserinæ.

Div. i. Swans, 1 Cygnus olor; 2 C. artrata.
„ ii. Geese, 3 Anser, 1 Bernicla.
„ iii. Perching geese, 2 Dendrocygna, 2 Sarcidiornis, 1 Nettapus.
„ iv. Shieldrakes, 1 Casarca rutila, 1 Tadorna vulpanser.

Sub-fam. Anatidæ, 1 gen. 6 Sub-gen. 10 sp., viz.,

1 Spatula, 3 Anas, 1 Daffila, 1 Chaulelasmus, 1 Marecа, 3 Querquerdula.

Sub-fam. Fuligulinæ, contains one species of the genus Biranta, and four species of Fuligula, viz.:—

Fuligula ferina. The Pochard, in circuit of northern regions, Barbary, common in India,

Fuligula nyroca 'Ferruginous Duck.' Europe, Asia, N. Africa: common in India.

Fuligula marila. 'Scaup Duck.' Circuit of northern regions: Punjab, Sindh, Nepal.

Fuligula cristata. 'Tufted Duck.' Europe, Asia, Barbary: common in India.

Fuligula rufina. (Palas,) is the crested Pochard.

Of *Anser*, the goose, the hans of India, the species A. cygnoides: A. cinereus: and A.

brachyrynchus; are known in India and the Punjab. Dr. Hooker mentions that A. Indica occurs at Siligori.

Anser cygnoides is domesticated in China.

Anser cinereus (*Anser ferus*; 'Grey-lag goose.') Europe, and Asia: common in India.

The domestic goose of India is a hybrid between A. cygnoides and A. cinereus.

Anser brachyrynchus. 'Pink-footed goose.' Europe, N Asia; Punjab (rare)?

Bernicla ruficollis (*Anser ruficollis*; 'Red-breasted goose.') N Asia, chiefly; rare in N. India.—*Darwin. Bunsen. Burton's Sind*, Vol. II, p. 137. *Hooker, Him. Journ.*, Vol. I, p. 399. *Catal. Cal. Museum.* See Cygninæ. Pelicanus platifrons: Birds.

GOOSEBERRY. The European Gooseberry grows in the Himalaya, but does not thrive or give much fruit, the Himalayan gooseberry, is the Ribes grossularia *Linneus*, or rough gooseberry, is not uncommonly wild, in the arid parts of the Upper Sutlej, Chenab, Jhelum and in Tibet, from 8,000 to 12,000 feet and was seen by Dr. Bellew, near the Safed Koh, at about 10,000 feet, but its fruit is small and intensely sour, and hardly ever eaten even by the natives: Ribes uva-crispa, is the smooth gooseberry: the country gooseberry of the peninsula, is the Cicca disticha *Linn*, its fruit the size of a gooseberry is round, succulent and subacid, is eaten raw and made into pickles and preserves and is cooling and wholesome. The fruit of Zizyphus jujuba is also, so named. See Grossularia.

GOOSHURA. Hind. The root of Barleria longifolia.—*Linn.*

GOOSROO, a river in the Myheer territories.

GOOTHOOBI. Beng. One headed cypergrass, Anosporum monocephalum.

GOOWA ROOREE. Beng. Fœniculum panmori.—*D. C.*

GOOYA-BABULI. Beng. Vachelli a farnesiana.

GOOZERAT, battle of fought 21st, Feby. 1849. See Goojerat.

GOOZUR. See Bhonsla.

GOP. Hind., also Gopa, also Gopala, also Kop, Hind., the avocation of a herdsman. Gopi, a herdwoman, from Go, Sans a Cow;

GOPALA. Sans. from go, a cow, and pala, nourishing, a herdsman. See Chaitanya. Krishna. Rudra Sampradayi.

GOPALA or Bhupala dynasty of Gaur. See Gour; Inscriptions, p. 377.

GOPAMOW. A town near Delhi, from which the nabobs of the Carnatic came. Anawar, the father of Anwar-ud-din, died there, his son Anwar-ud-din, was killed in battle at Amboor. Anwar-ud-din's son Mahomed Ali died at Madras in 1795, and his son Oomdut-ul-Umra died 1801. Azim ud-Dowlah, the nephew of Oomdut-ul-Umra succeeded and died in 1818. His son Azam Jah, died 1824 and the last nabob, Mahomed Ghouse, died 1855. The family were then designated with the title of Prince of Arcot.

GOPESWARA and Barahat are two towns in Garhwal, from which were received two bronze tridents, respectively twenty-one and sixteen feet high with an inscription in semi-barbarous Sanskrit without date.

The oldest inscriptions approach Allahabad No. 2, and the others nearly modern Deva Nagari. They have no religious invocation beyond Svastisir, and no mention of hindu gods whatever. In the more recent inscription on the Gopesvara trident, the invocation is Aum Svasti, and the spot is called sacred to Mahadeva. In the recent Sanskrit inscription from Gopesvara, the name of Prince Anik Mall occurs. The tridents are precisely of the form of the trident on the Indo-Scythic coins, with the axe attached to the shaft; the oldest inscriptions—which, however, from the form of the Deva Nagari, cannot be before the seventh century—are in relief upon the shaft, and make no mention of Mahadeva or hinduism; but the more recent are cut into the trident, which must have been taken down to admit of the incision. In one of these is the Aum and the name of Mahadeva, which had no association originally with the tridents. The facts strengthen the inference that the trident on the coins has nothing to do with hinduism. *J. B. As. Soc.* Vol. V. p. 347 and 485.

GOPESWARA. *Sans.* The distinguished god. *Tr. of Hind*, Vol. II p. 67.

GOPHER WOOD, of which the Hebrew ark was built, is supposed by some to be wood of Cupressus semperverens or common Cypress. But some commentators have supposed this term to be squared or planed wood; others the cedar, others pitched wood.

GOPI. A milkmaid, a herdwoman, generally applied to designate the herdwomen of Brindrabhan or Vrij, the native country of Krishna, with whom Krishna associated while a young man. Radha, daughter of Nauda, a pastoral chief was Krishna's first and favourite love, and the stories of his Gopi life, are much read by the hindus. It is said that on one occasion when the girls went to bathe in the river, Krishna stole away their clothes, from off the river bank, and up to the present day, the Vrijmai women, when they go to bathe, like the Gopi of old, leave behind their garments on the steps of the ghaut and make a rush to

the water and give a colouring of truth to the story. It is believed that the Rasmandala is typical of the zodiacal phenomena; that the nine Gopini are the personifications of the nou-ragini—the nine nobles of music; or the now rasa—the nine passions, excited by the powers of harmony. There is much in the hindoo mythology that is founded on an astronomical basis—much that perpetuates the early Vedic worship of the elements under a figurative garb. *Tr. Hind.* Vol. II. p. 61,71. See Kama, Hooli ; Krishna.

GOPHLA. HIND. Stauntonia latifolia.

GOPI CHANDANA, generally a common magnesian clay, used by hindus, to make the sectarian marks on their faces, breasts and arms. Vaishnava hindus employ a white earth from Dwarka, said to be the soil of a pool in which the gopi drowned themselves on hearing of the death of Krishna. It is also described as an aluminous yellow earth, brought from the Ganges at Hurdwar, and used to mark the foreheads of those who worship Vishnu : it is also given in medicine.—*Gen. Med. Top.*, p. 131. See Tripundra : Vibhuti.

GOPI-NAT'HA. SANS. from gopi, a name of Krisna, the wife of a milk-man, and nat-ha, a lord. See Chaitanya, Krishna, p. 546.

GOPURA, also called Gopuram, in hindu temple architecture, the tower over the porch. There are numerous beautifully sculptured gateways attached to the larger temples of the hindus, into which the people are not permitted to enter. On days of festivals, the figures of the deities are brought out of the temples through the gopuram, and placed in small open temples called Mantopa, to receive the adoration of the multitude.—*Cole. Myth. Hind.*, p. 381.

GOPUSTUMI, also written Gopashtami the name given to the 8th day of Kartik Shookl Puksh. On this day, as well as on the Godhun (Goverdhun), the day after the Dewali, garlands are suspended from the necks of cows, their horns, hoofs, and bodies are painted—and salutations are made to them. The whole ceremony reminds us of that observed on St. Anthony's day at Rome, when the beasts are sprinkled with holy water, and blessed by priests,

Yet to me they seem'd crying alack, and alas!
What's all this white damask to daisies and grass?
Then they're brought to the Pope and with transport they're kiss'd.
And receive consecration from Sanctity's fist.—*Elliot, Supp. Gloss.*.

GOPYAH. See Saraswati.

GOR. PERS., and Gad'ha, HIND. mean the 'wild ass,' and Bahram, the Varanes of the Greeks was surnamed Gor from his partiality to hunting that animal, the wild ass still ranges in the level wastes beyond Nushki. Various authorities state that Bahram Gor entered India in the fifth century, and left progeny by a princess of Kanouj. See Goor.

GOR. A celebrated tribe ; amongst the most illustrious of the Chohan feudatories ; a branch, until a few years ago, held Soopoor and about nine lakhs of territory. Col. Tod has no doubt the Gor appenage was west of the Indus, and that this tribe on conversion became the Ghor. Ferishta, writes concerning the proselytism of all the Afghan tribes, and Col. Tod is of opinion, that the Afghans are converted Jadoon or Yadu, not Yahudi or Jews. The Gor Rajpoot tribe, had only to convert Gor into Ghor.—*Annals of the Bhatti. Tod's Rajasthan*, Vol. II. p. 446. See Gori.

GORA. HIND. white, but when applied to cattle, it means brown.

GORA. See Bhairava.

GORA-BACH. BENG. Acorus calamus, *Linn.*

GORBAGRA. HIND. Eriophorum comosum.

GORAH BUNDAR river flows between lofty hills, beautifully wooded, and studded here and there with antique ruins, and huge masses of dark rock. The river abounds with crocodile. *Postan's Western India*, Vol. I p. 179.

GOROCHANA. SANS. Bezoar.

GORAD. See Hot Springs.

GORAGAMUDI. TEL. Eugenia bracteata *Roxb.*

GORAI. HIND. A clan of rajputs in the Agra district.—*Wilson.*

GORAKH MUNDI. HIND. Lippia nodiflora.

GORAKHNATH, at Gorakhpur, is a temple, which, according to local tradition, was founded by Siva, in the second of Treta age. It was converted by Ala-ud-din, into a mahomedan mosque. It was subsequently re-built in another place, but again appropriated by Aurungzeb to the mahomedan religion, but subsequently restored. It is the most celebrated of the temples of the Jogi sect.—*Wilson.* See Jogi or Yogi.

GORAKH PANW. HIND. Convulvulus pluricaulis also Heliotropium brevifolium.

GORAKHPUR. A town in L. 26 ° 46' 1"; L. 83 ° 18' 7", on the left bank of the Tapti, 130 miles N. W. of Dinapur. It is 340 feet above the sea. *Thorn.* See Inscriptions p. 385. Gorukpoor.

GORAKHPUR. In L. 22° 44', L. 81° 27', a town in Malwa, two miles W. of the left bank of the Seone; on the highest part of a plateau. The highest house of the village is 2,573 feet above the sea. The mean height of the plateau is 2,515 feet or 56 feet below the mean height of the village; by Aneroid. Schl., Rol.

GORALANA. HIND. Anabasis multiflora.

GORALANE. HIND. Caroxylon fœtidum.

GORA-LOG. HIND. Literally white people, a term applied to Europeans by natives of India, who call themselves Kala-log, or black people, also Kala-admi.

GORAM, A group of three islands in the East Archipelago. S. E. of Goram is a high group, composed of raised coral reefs 300 or 400 feet, with a volcano on the island of Teor which broke forth in 1659. In the Goram group, at Manowolko, east of Ceram, a slight infusion of Papuan on a mixture of Malay and Bugi, has produced a good looking people. The Goram people are wholly traders, every year they visit the Tenimber, Ke and Aru islands, the whole N. W. coast of N. Guinea, from Oetanata to Salwatty and the islands of Waigiou and Mysol. They also extend their voyages to Tidore, Ternate, Banda and Amboyna. Their prprahus are all built by the Ke islanders, who annually turn out hundreds of neat boats. The Goram people trade in tripang, medicinal Mussoi bark, wild nutmegs and tortoise shell, which they sell to the Bugi traders at Ceram Laut and Aru.—*Wall* II. 53 60, *Bikmore*, 243. See Adi, Island Papuan, India.

GORANTA. TEL. Lawsonia alba. *Lam*, also sometimes given to the balsam, Impatiens.

GORAPACHAR. A river of Gwalior in Sindhiah's territory.

GORDIL. HIND. Nepeta, *sp.*

GORDONIA. A genus of plants belonging to the Natural Order Ternstromiaceæ, one species, the Anan-pho, BURM. is a tree of Moulmein, and has strong wood, good for building purposes; another species, the Za-za, of the Burmese, is a large, common, timber tree of Martaban, the Anan-pho, seems to be G. floribunda.

GORDONIA FLORIBUNDA. *Wall.*

A-nan-pho, BURM. | Theet-ya, BURM.

A conspicuous tree of Moulmein, Chappedong, Tavoy and Martaban. There is some difference between the Tavoy and Moulmein trees; that of Moulmein has leaves precisely like G. obtusa "with shallow serrature;" but the leaves of the Tavoy tree are quite entire, and the Burmese have different names for them. The compact timbers of Gordonia floribunda, and Gordonia integrifolia are called "itch-wood" by the Tavoyers, from the itching which the chips or bark occasion when brought in contact with the skin. The timber is used for house posts, and for rice mortars.—*Mason.*

GORDONIA SPECIOSA. *Thw.*

Garria speciosa. *Gardn.*

A large tree, 40 to 50 feet high, rather uncommon, in damp forests of the central province of Ceylon, at an elevation of 5,000 feet and upwards.—*Thw. En. Pl. Zeyl.*, I, p. 40.

GORDONIA OBTUSA. See Gordonia floribunda.

GORDONIA WALLICHII, is a common tree in the Eastern Himalaya, much prized for plough-shares and other purposes requiring a hard wood: it is the "Sing-brang-kun" of the Lepcha, and in Sikkim ascends to 4,000 feet. Oaks at this elevation occur as solitary trees, of species different from those of Darjiling. There are three or four oaks, with a cup-shaped involucre, and three with spinous involucres enclosing an eatable sweet nut; these generally grow on dry clayey soil. Gordonia Wallichii is an erect and singularly handsome tree, much prized in all parts of the sub-Himalaya, and, by all the people, adopted for plough-shares and other purposes requiring a hard wood: it ascends 4,000 feet on the mountains. In very dry soils it is replaced by "Sal" (Vateria robusta), and more rarely by the Pinus longifolia.—*Journal of the Asiatic Society of Bengal*, No. XXIX, p. 425. *Hooker Him. Jour.*, Vol I, p. 157.

GORDONIA ZEYLANICA. *Wight.*

Var. *a.* lanceolata | Var. *b.* elliptica.

Grows in forests of the Central Province of Ceylon, at an elevation of 4,000 to 7,000 feet.—*Thw. En. Pl. Zeyl.*, I, p. 40.

GORITI CHETTU. TEL. also Goriti donka, also Koriti chettu, Plecospermum spinesum.—*Tric.*

GORGONIA NOBILIS. Red Coral.

GORGOONDY of BOMBAY? Calysaccion longifolia.—*Roxb. Wight.*

GORI; Hussain Gori, the first of the Ghori dynasty, succeeded to the throne of India in A. D. 1157 (other authorities say 1151 or 1155) by deposing Khusru Shah, the 13th and last of the Ghaznavide kings. Mahmud, the nephew and successor of Shahab-ud-din, was the 5th and last of the Gori dynasty. He imparted little influence on India, and was assassinated, accord-

ing to Orme, in 1212, but another authority gives 1214. He had attacked the king of Kharism at Takash, and subdued the Ghikar tribe, but in A. D. 1206 while returning to Ghazni, he was assassinated by two of his own tribe.

GORIAN. See Jews. Kalmuck.

GORIWAR. An agricultural tribe in the northern circars.

GORKHAR, or wild ass, Asinus onager, has been often confounded with the Kiang, or wild horse; it inhabits chiefly the rather hilly districts of Beluchistan, part of the sandy plains of Sindh; and another animal is to be found, to the westward of Beluchistan, in Persia, which is called Koolan (Equus hemippus.) Dr. Barth lately mentioned that, according to the description given to him, he thinks the asses he saw in Africa identical with the Gorkhar, or wild asses, of Sindh and Beluchistan. The Gorkhur is also called Khur-guddha. Though an inhabitant of the Sindh desert, it most abounds in the southern part, about Dhat, and the deep rooè which extends from Barmair to Bankasirr and Buliari, along the north bank of the great Runn, or 'Salt Desert.'—*Tod's Rajasthan*, Vol. II, p. 328. See Kiang Mammalia.

GORK-MUNDI. Hind. Sphæranthus mollis.

GORMUCHAI. Hind. Psiitu Harmuzi.

GOROCH. Rus. Pease.

GOROCHAMUN— ? Bezoar.

GOROCHANA. Sans. Bezoar.

GORONGTALU. See India, p. 356.

GOOROOHADO. Uria? A tree of Ganjam and Gumsur, extreme height 22 feet, circumference 2 feet height from ground to the intersection of the first branch, 10 feet, chiefly used for firewood though rafters are occasionally made of this wood.—*Captain Macdonald.*

GOROWLI. A feudatory chieftaincy in Bundelcund, with an area of 50 square miles, a population of 5,000 souls, and a revenue of Rs. 15,000.

GORNOSTAI. Rus. Ermine.

GORRE CHIMIDI. Tel. Andrographis echioides, *Nees*: the name means "sheep's mucus" the whole plant being very viscous.

GORRE PENTIKA. Tel. Loea, sp. This plant is from Palakonda. The name signifies "sheep's droppings."

GORRUKEENEE. Singh. Calophyllum calaba,—*Linn.*

GORSCHETSCHNUE POSSODU. Rus. Earthenware.

GORTSCHIZA. Rus. Mustard seed.

GORU CHIKKUDU. Tel. Cyamopsis psoraloides *D. C.* Dolichos fabæformis. *Roxb.*

GORU CHUTTU GADDA. Tel. Eulophia virens, *R. Br.* syn. of Limodorum virens, *R.* iii. 467. Whitlow-root.

GORUCKPORE. A town in the Benares district of the N. W. Provinces. The Goruckpore forests cover 120,000 acres mainly Sal Vatica robusta with an average of twenty-five well grown trees to the acre. The northern limit of indigenous teak is in Bundelcund. It has been planted in the Punjab, but in that dry climate it is poorly estimated. Great efforts have been made to bring the forest and jungle tract under cultivation. In the year 1833, 49,291 acres were allotted to Mr. Sym and to natives. The progress made by Mr. Sym in his grant was most gratifying, the improved aspect of the country, and, as it now appears, less unhealthy climate, bear witness to his perseverance, and not merely led to clearance of his own particular jungle, but proved a most efficacious example. See Gorakhpur.

GORWA. Hind. Arundinaria falcata.

GORUKHEE. Beng. Solanum rubrum serythropyrenum.

GORUKHYA-CHA-KOOLYA. Beng. Uraria lagopodioides.

GORUKMUNDI. Hind. Lippia nodiflora.

GORAKSHA. Sans. from go, a cow, raksh, to save,—a cowherd.

GORATNA CHETTU; Tel. Lawsonia inermis. Henna.

GOSAVI. Mar. A religious mendicant.

GOSAI. Sansc. from "Go" sense or passion and "sen" mastery written Gossain, followers of Sankara Acharya, of whom there are ten branches, from which they are styled the Das-nami—

Tirtha or shrine.	Bharati, goddess of speech.
Asrama, an order.	Puri, a city.
Vana a wood.	Giri, a hill.
Aranya, a wood.	Parvati, a hill.
Saraswati, goddess of eloquence.	Sagara, the ocean.

They are celebates and reside in a math or monastery and issue forth to beg. They are of three sects, one Saivava, worshippers of Siva, of whom some believe Sankara Acharya to have been an incarnation, these principally occupy peninsular India.

In Northern India, the Gosain are Vaishnava, worshippers of Vishnu: one of them, called Gokul Gosai, followers of Vallabha Acharya, who marry and follow religious pursuits: and Bengal Gosai, who follow the doctrines of Chitaniya. They also marry. Some Gossai vagrants used to go about naked. The Vaishnava and Saiva Gosaen have occasionally come in conflict, and, at Hardwar, on the Ganges, a celebrated place

of pilgrimage. Soldiers of the Bengal army had to keep the peace, ever since a battle occurred, about the beginning of the nineteenth century, in which they fought almost to extirpation. The descendants of Nityananda are gossains of Khurdah. The descendants of Adwaita are gossains of Santepoor and there, the principal idol is Shamchand. But one-third of the people of Santipoor are vaishnava.

The Gosai of Guzerat worship Siva. They wear orange-tawny clothes, and the tecluk, or sectarian mark upon their foreheads, is horizontal. This marking of the forehead and on other parts of the body, is forbidden by the Hebrew Scripture text, "Ye shall not make any cuttings in your flesh for the dead, nor print any mark, upon you. I am the Lord."—Lev. xix. 28. Bishop Patrick notes that this imprinting of marks or signatures was then understood to be fixing a badge or characteristic of the persons being devoted to some false deity.

The priests of Eklinga are Gosaen or Goswami. The high priest like all his order, is doomed to celibacy, and the office is continued by adopted disciples. Of such spiritual descents they calculate sixty-four since the sage "Harita," whose benediction obtained for the Gehlote Rajpoot the sovereignty of Cheetoe, when driven from Saurashtra by the Parthians. A numerous class of Gosaens have adopted celibacy, who yet follow secular employments both in commerce and arms; other Gosaens marry. The mercantile Gosaens are amongst the richest individuals in India, and at Oodipoor were thus useful when the Mahrattas demanded a war-contribution, as their privileged character did not prevent their being offered and taken as hostages for its payment. The Gosaens who profess arms partake of the character of the knights of St. John of Jerusalem. They live in monasteries scattered over the country, possess lands, and beg, or serve for pay when called upon. As defensive soldiers, they are good. Siva, their patron, is the god of war, and like him they make great use of intoxicating herbs, and even of spirituous liquors. In Mewar they can always muster many hundreds of the Kanfera Jogi, or 'split ear ascetics,' so called from the habit of piercing the ear and placing therein a ring of the conch-shell, which is their battle-trumpet. Brahmins and Rajpoots, and even Goojers, can belong to this order. The poet Chund gives an animated description of the body-guard of the king of Canouj, which was composed of these monastic warriors. The rana of Mewar, as the dewan, or vicegerent of Siva, when he visits the temple, supersedes the high priest of Eklinga, in his duties, and performs the ceremonies. The shrine of Eklinga is endowed with twenty-four large villages from the fisc, besides parcels of land from the chieftains. *Tod's Rajasthan*, Vol. II p. 141. Vol. I p. 516-17. *Tr. of Hind.* Vol. I, p. 21. *Ras Mala Hindoo Annals*, Vol. II, p. 312. *Elliott Sup. Wilson's Glossary* See Bal; Math; Choitunya, Rudra Sampradaya; Tripati.

GOSHA. Ar. Hind. Pers. Concealed. A gosha woman, means, a woman who carries out the mahomedan law of concealing herself from the sight of men, except certain near relatives. Many hindu women, however, follow this rule. A mahomedan is called a Gosha Nashin, who has withdrawn from the world and become an ascetic, or who lives a recluse life. It means sitting in a corner, and the term is applied to a woman of rank, or respectability, though the term for her is properly, Gosha or Parda nashin.

GOSHOO. Hind. Gold thread used to embroider caps.

GOSHT'HA-YATRA. Sans. from gosh'ha, a cow-pen, and yatra, to go.

GOSHT-KHORA. Hind. Penoea sarcocolla.

GOSSAMPINUS RUBRA. Rheede. Ham. Syn. of Salmalia malabarica. *Schott.*

GOSSAMPINUS RUMPHII. Sch. syn. of Eriodendron anfractuosum, the white cotton tree. The floss, which it yields abundantly, is preferred to the product of the red cotton tree. The Burmese name is thom-bau-lai.

GOSSYPION, Gr. Cotton; Gossypium.

GOSSYPIUM.

Cotton plant,	Eng.	Karpasi,	Sans.
Kappas ka jhar,	Hind.	Pangi,	Tam.
Carbasus,	Lat.	Patti chettu,	Tel.

The genus Gossypium belongs to the natural order Malvaceæ and its species, from the hair or wool which surrounds their seeds, are, next to food plants, the most important of the vegetable kingdom. There are now several recognised species, G. acuminatum, G. arboreum, G. barbadense, G. herba, G. hirsutum, G. obtusifolium, G. religiosum and G. vitifolium, De Candolle admits 13 species, and noticed others. Two others were described by Dr. Roxburgh, one by Rœusch, and another in the 'Flore de Senegambie.' Of varieties, Mr. Bennett says that he knows more than one hundred kinds, and they appear to him never ending. Dr. Royle, the most recent author who has treated expressly of the species, admits eight species, in which are absorbed some of De Candolle's; while others are avowedly unnoticed for want of materials for satisfactory determina-

tion. But from Dr. Royle's own observations, from Dr. Roxburgh's 'Flora Indica,' as well as from Swartz, '*Observ. Bot*,' for the West Indies, and the specimens in the British Museum, it is probable that several of the cultivated species are correctly determined. Other species, as G. punctuatum, from Senegal; G. obtusifolium, from Ceylon; and G. peruvianum, from Brazil, have been described, but Dr. Royle is of opinion that all the species of cotton may be reduced to four G. peruvianum (G. acuminatum); G. Indicum (G. herbaceum); G. arboreum; and G. barbadense. There can be no doubt that the cotton plant is indigenous in America, and the species of the old world appear to be Indian and Chinese. Cloth manufactured from cotton has been brought from the tombs of Peru, and cotton seeds have been obtained by Rosselini fom the monuments of Thebes. The Sanscrit name Karpasi has been taken into different tongues. The Hebrew word Karpas of the book of Esther (Ch. i. 6) and the Latin Carbasus are derived from it, and the Karpasus mentioned in the Periplus of Arrian, has been rendered by Dr. Vincent "fine muslin." Pliny (lib. xix. c. l.) mentions the cultivation in upper Egypt of a small shrub called by some gossypion, by others xylon, bearing fruit like a nut, from the interior of which a kind of wool is produced. The species of the cotton plant, grow in the warm tropical regions of America and Asia, but they are likewise extra tropical and Baron Humboldt mentions having seen it growing at 5,500 feet in Mexico and 9,000 feet of elevation in the Equinoctial Andes It is largely grown in China;—Dr. Royle mentions that it is cultivated in small quantities at 4,000 feet of elevation in 30° N. in the Himalaya and Dr. Stewart tells us that it is grown in many places all over the Punjab, as a hotweather crop, ripening up to christmas, and that it is cultivated up to the Kashmir valley (5,000 feet) but the quality does not appear first rate.—*Dr. Stewart's Punjab Plants*, p. 27. *Dr. Cleghorn Report Brit. Associat. Eng. Cyc. Dr. Royle Prod. Res, of India.*

GOSSYPIUM ACUMINATUM *Roxb. Wight Ill*; *Royle.*

Wa-ku-la,	Burm.	Pardi patti, pamidi patti,	Tel.
Brazil Cotton,	Eng		
Pernambuco,	,,		

This species is indigenous, growing in the mountains of Bengal and in Malacca. It is not cultivated, but as the wool is separated easily from the seeds, it is very desirable to make trial of it in agriculture. *Roxb.* III. 186. *Royle, Voigt.* 170.

GOSSYPIUM ANTIQUORUM. See Gossypium, Gossypium herbaceum.

GOSSYPIUM. ARBOREUM *Linn.*

Nu wa, Burm. | True Cotton, Eng.

This species is marked G. religiosum in Heyne's 'Herbarium,' and one specimen of G. Barbadense is marked G. arboreum in the 'Linnean Herbarium.' This species is found in the island of Celebes and in every part of India; it is noticed among lists of the plants of Arabia, and also of Egypt; it is planted near temples and habitations of devotees in India, and is stated to be sacred to the hindoo deities, and therefore employed only for making muslin for turbans. Stem arboreous, 15-20 feet, sometimes shrubby, young parts hairy, tinged of a reddish colour. Leaves palmate, 3- or 4- lobed, hairy, dotted with blackish spots of a dark green colour; lobes elongated, lanceolate, sometimes mucronate, sinus obtuse, glands one, sometimes three. Stipules oval-shaped. Flowers solitary, with short peduncles, intensely red, with a yellowish eye; and fruits the whole year. Leaflets of the exterior calyx cordate, ovate, entire, sometimes dentate. Capsule ovatepointed, 3- or 4- celled, seeds covered with a greenish coloured fur, enveloped in fine silky yellowish-white wool. According to Dr. Wight, almost the only distinction between G. religiosum and G. arboreum is, that the former has a yellow and the latter a purple flower and in the English Cyclopædia, the same facts as to the colours of the two species are stated. G. arboreum is an undoubted native of India, but G. religiosum is not; for according to Roxburgh and the most recent authorities it was introduced from China. Another marked difference between the two species is found in the colours of their wool, that of G. arboreum being white, while that of G. religiosum is tawny. *Madras Times*, *Eng. Cyc. W. Ic.* 1 *to* 10 *Royle Ill.* p. 99. *Roxb.* iii, 183 *Voigt.* 121.

GOSSYPIUM BARBADENSE. *Roxb.*

G. vitifolium, Cavanielles.

Barbadoes cotton,	Eng.	Long stapled, cotton	Eng.
Bourbon	,, ,,	Upland Georgian,	,,
Sea island	,, ,,	Short stapled,	,,

This cotton plant, a native of the West Indies is cultivated in India. Stem shrubby, 6-15 feet, smooth; leaves, the upper 3-lobed, the lower 5-lobed; lobes ovate, acute, smooth, often pubescent on the under surface; leaflets of exterior calyx large, deeply laciniate; flowers large yellow; capsule ovate, acuminate, smooth; seeds 8-12, free, oblong, black, and without any other pubescence than the long fine easily-separable cotton: fruits the whole year. Swartz describes this species as extensively cultivated

in the West Indies: it is also one of the cultivated cottons of Egypt. It is more than probable that the Sea-Island or Long Staple cotton is a variety of this species, as its seeds agree in character. More than this it is not possible to say. *Wight. Ill. Royle Ill.* p. 100. *Roxb.* iii, 187. *Voigt.* 121. *Eng. Cyc.*

GOSSYPIUM HERBACEUM.—*Linn.*

Var. α. Daccanense.
β. Berarense, Berar cotton.
γ. Chinense, China cotton.
δ. Cawnporeense, Cawnpore and Doab cotton.

This species grows in the Peninsula of India, in Hindustan, Bengal, the Malay Peninsula and the Archipelago. It is grown as a hot weather crop in many places all over the Punjab, ripening up to christmas; and is cultivated up to the Kashmir valley 5,000 feet) but the quality does not seem to be first-rate. It has large sulphur yellow flowers, with a dark blood red eye, and fruits nearly all the year through.—*Dr. J. L. Stewart*, p. 22. *Voigt.* p. 121.

GOSSYPIUM HIRSUTUM.—*Swartz.*

Green seeded cotton of AMERICA.
Short staple „ „
Upland cotton „
French cotton of the WEST INDIES.
Wa, BURM.

Shrubby, about 6 feet high, young pods very hairy. Leaves, the upper undivided, cordate, acute; the lower 3- or 5-lobed; lobes ovate, acute (triangular, *Roxb.*) hairy on the under and smooth on the upper surface. Petioles very hairy, dotted with black spots; glands 1 or 2 to 3; stipules lanceolate (Cavanilles); corolla, base yellow, purplish towards apex (uniform yellow, *Roxb.*); exterior calyx ovate-acute, very hairy, cordate, 3-toothed (Cav.) (laciniate, *Roxb.*); capsule large, ovate-acute; seeds many, free, clothed with firmly-adhering green down under the fine long white wool. (*Swartz.*) This species is cultivated in Jamaica and the East Indies according to Swartz. *Eng. Cyc. Roxb. Fl. Ind.*

GOSSYPIUM INDICUM. *Lam.*

Gossypium herbaceum *Linn. Roxb. W. Ic. Ill Royle.*

Kootn,	AR.	Ketoen,	DUT.
Birsoon,	„	Boomwol,	„
Kapase,	BENG.	Kotn,	EGYPT.
Tula,	„	Country Cotton plant,	ENG
Wa,	BURM.	Common, „ „	„
Bari of	CHENAB.	Coton,	FR.
Bomby of	CAUCASUS.	Kattun,	GER.
Cay haung,	CHIN.	Baumwolle,	„
Hoa-mien,	„	Boubaki,	GR.
Bomold,	DAN.	Cotone,	IT.
Kapas,	DUK. HIND. MALAY	Bombagia,	IT.
Rooi (the wool),	„ „	Paruti,	MALEAL.
Kobung,	MONGOLIA.	Bomull,	SW.
Pambah,	PERS.	Van Parati, parati,	
Kapa of Panjab,	„	Patti,	TAM
Algodno,	PORT.	Patti, karpasamu,	
Algodeiro,	„	pratti,	TEL
Chloptschateja,	RUS.	The clean Cotton,	
Karpasa,	SANS.	Rooi Hind.	
Karpasi,	„	The seeds, Binaula	
Kapa,	SINGH.	Barungi,	UBIA.
Algodon,	SP.		

G. Indicum, Lam., the Gossypium herbaceum, of Linn., is herbaceous in temperate, and usually with bitriennial stems 4-6 feet high in tropical, countries, is no doubt the Xyon, syn. of G. antiquorum, and includes also the G. Indicum of Lamarck, which is the preferable name for this species, this and its varieties being those chiefly cultivated in India. It has been procured from China and the Malayan Peninsula, and also from Egypt. The younger parts of the stem, as well as the flower and leaf-stalks, hairy and marked with black spots. Leaves hairy, palmate, 3- (generally) 5-lobed, lobes broad and rounded with a little point, or in the woody varieties sub-lanceolate and acute, Stipules falcate, lanceolate. Flowers of a lively yellow colour, with a purple spot near the claw. Segments of exterior dentate, sometimes entire. Capsules ovate, pointed, 3- or 4- celled. Seeds free, clothed with finely-adhering grayish down under the short-staple white wool. *Eng. Cyc. Roxb. W. Ic. McCulloch.*

GOSSYPIUM NIGRUM. This is an ornamental tall growing shrub generally cultivated in gardens on account of its dark red flowers:—from the staple of the wool being short although fine, it is not of much value.

GOSSYPIUM OBTUSIFOLIUM. See Gossypium Barbadense.

GOSSYPIUM PERUVIANUM. See Gossypium Barbadense, Cotton.

GOSSYPIUM PUNCTATUM, from Senegambia, is probably a variety. It is that cultivated in the Mediterranean region, and must have been the species taken to America from Smyrna.

GOSSYPIUM RELIGIOSUM. *Swartz.*

Nankin Cotton.

Perennial. Stem 3-4 feet, branches and petioles a little velvety, hirsute towards the apex, and covered with black points. Leaves cordate, superior 3-lobed, inferior 5-lobed, deeply divided; lobes ovate-acuminate, entire, pubescent (some of the lower ones ovate-acuminate), one to three glands; stipules lanceolate, deciduous (cordate-acuminate, Roxb.) Flowers large, fulvous, peduncles short dotted; leaflets of the exterior

calyx large, cordate-acuminate, deeply laciniate, hairy and dotted; capsule ovate-acuminate, dotted, 3- 4- or 5- celled; seeds black, covered with firmly-adhering short tawny fur under the long tawny-coloured wool but very different from the colour of the Nankin cotton cloth which is supposed to be dyed. The cotton of this species does not promise to be profitable. There is considerable confusion with respect to the species which should be called G. religiosum. The distinguishing characteristic of what is considered such at present is the having tawny-coloured instead of white wool. There are, however, at least two distinct localities for this kind of cotton; one Siam, the other China. From the latter country it was introduced both into India and America under the name of Nankin Cotton. Dr. Royle is of opinion that two distinct species yield tawny-coloured cotton; one with small velvety-looking leaves and much dotted in every part, of which he has seen specimens from Macao, Tahiti, and Guzerat. The other is a much larger plant, with the general appearance and leaves of G. barbadense, of which they are specimens in the 'East Indian Herbarium.' Mr. Wilkinson also brought specimens from Egypt of a rather tawny-coloured cotton, with brownish seed, free from fur, which he says is there called 'gotun Hindee.' *Bombay Products, Eng. Cyc. Voigt.*, p. 121. *Roxb. Fl. Ind.*

GOSTANI DRAKSHA. Sans. Vitis vinifera.—*Linn* also Hatahura, the "purple grape" which is of elongated shape like a cow's teat, in Sans. gostani.

GOSWAMEE. Sans. From go, a cow, and swamin, a master.

GOT. In common parlance, got has the same meaning as the more classical Gotra of Wilson's Glossary. Properly, those only are Got (v. Colebrooke, Trans: R. A. S. Vol. II p. 237), which bear the name of some Rishi progenitor, as Sandilya, Bharadwaj, Bushisht, (Vasisht'ha), kasyapa; but it has become the custom to call each sub-division of a tribe a Got, and according to the Nirnye Sindh, there are no less than ten thousand. The early genealogies of the Rajpoots frequently exhibit them as abandoning their martial habits; and establishing religious sects, or Gotras: Thus, Reh was the fourth son of Proorwa of the Lunar race, from him, in the fifteenth generation, was Harita, who with his eight brothers took the office of religion, and established the Causika Gotra, a tribe of brahmins." According to Col. Tod, both Got and Kamp, denote a clan, and in Rajputanah its sub-divisions have the patronymic terminating with the syllable 'ote,' awnt, 'sote,' in the use of which euphony alone is the guide: thus; Suktawut, 'sons of Sukta;' Kurmasote, of Kurma; Mair-awnt, or mairote, mountaineers, 'sons of the mountain.' *Elliot quoting Colebrooke, Miscell. Essays*, Vol. I p. 115, *Journ. R. A. S.*, Vol. III., pp. 354, 356; "*Sanscrit Dic.*" p. 298; *and Vishnu Purana*, p. 405 *Tod Rajasthan.*

GOTAMA. A name of Sakya Sinha, applied to him after his death, when he had become a buddha, and it is by this name that he is usually known in Burmah. It is also written Godama, Gaudama.

GOTAMA RISHI. See Jains.

GOTARZES. A Parthian king A. D. 45. See Greeks of Asia.

GOT-BEGOON. Beng. Solanum torvum.

GOT-BOR. Mar. Zizyphus xylocarpa.

GOTHIC. A branch of the Indo Germanic stock of languages. The Goths consulted the heart of victims, had oracles, had sybils, had a Venus in Freya, and Parcæ in the Valkyrie. See Baber.

GOTH ISLAND, belongs to the Japanese empire.—*Marryat Ind. Archip.*, p. 173.

GOTHO. Uria. Carissa carandas.—*Linn.*

GOTRA. Sans. A tribe. Professor Wilson calls it a family, lineage, relationship by descent from a common ancestor of the same name; a family, a tribe, especially applied to races of brahmans—who reckon their descent from some celebrated saint or regard him as their primitive spiritual head, and whose designation they bear;—as the Bharadwaja-gotra, Kasyapa-gotra, Sandilya-gotra, &c. In Vol. II, p. 12, of the Hindu Theatre, Professor Wilson says, "it is asserted that thirteen Gotra or families of brahmins own their origin to as many divine sages called after their name. Kasyapa (Kusip) is one of the number. The Aswalayana Sutra of the Rig Veda contains the enumeration of the Gotra, and their subdivisions, but in a very involved and unintelligible style. The popular enumeration of them, however, is not uncommon; but it is nearly, if not wholly, confined to the south of India, where several of the representatives of these tribes yet claim exist."

He also says, at p. 3, of his note to "Johnson's Extracts from the Mahabharata" that in the south of India, brahmans are still found pretending to be sprung from some of the patriarchal families. This, however, is not correct, for, throughout the entire peninsula, every brahmin claims his own Got, and every marriage is regulated by the Got,

no brahmin marries into his own Got but into one not belonging to the same natural family. *Elliot Wilson's Hindu Theatre Wilson's Glossary.* See Got, Hindu; Marriage.

GOTRABHID. Sans. from gotra, a mountain, and bhid, to divide.

GOTTE, also Gotti chettu. Tel. Zizyphus xylopyrus.—*Willd.* also Z. elliptica and Z. caracutta.—*Roxb.*

GOTTI GADDA. Tel. Spathium Chinense. *Lour.* syn: of Aponogeton monostachys *Linn.* The roots are much prized as food by the Yanadi race.—*Br* 271.

GOTUMBA. Sans. Byronia.

GOU-CHUNA, or Go-chunee is a field of wheat and Chuna or Cicer arietinum sown together. The practice of sowing culmiferous and leguminous plants together, is advantageous to the land, as well as to the crop. Dew readily forms on the leaves of the Chuna, which would not form on the wheat, and this, in seasons of drought is often the means of preserving both crops. Agriculturalists in Europe sow clover with barley, flax, and oats and Lent-corn.—*Elliot.*

GOUDRON. Fr. Tar.

GOUGHIA. A curious evergreen laurel-like tree, was found by Dr. Hooker at Chating in the Lachen valley of Sikkim. Its genus was named (*Wight, Ic. Plant*) after the Hon'ble Capt. Gough, to whom the botany of the Peninsula of India is indebted. It is a large and handsome evergreen, very similar in foliage to a fine rhododendron, and its hardier varieties would prove a valuable ornament on English lawns. Wight in Icones gives Goughia Griffithiana, and Neilgherensis.—*Hooker Him. Jour.* Vol. II, p. 33.

GOUGH, Hugh, Viscount, born in 1779, was the son of George Gough, Esq., of Woodstown, county of Limerick. He entered the British army in 1791, served at the capture of the Cape of Good Hope and the Dutch fleet in Saldanha Bay, 1795, and afterwards in the West Indies, including the attack on Porto Rico, the Brigand war in St. Lucia, and capture of Surinam. He proceeded to the Peninsula in 1809, and commanded the 87th at the battle of Talavera where he was severely and dangerously wounded; horses shod under him both at Barossa and Vittoria and Nivelle, again severely wounded, for which engagements he received the Gold Cross. He also commanded this regiment at the sieges of Cadiz and Tariffa where he was wounded in the head. At Barossa, his regiment captured the Eagle of the 8th French Regiment, and at Vittoria the baton of Marshal Jourdan. At Nivelle he was again severely wounded. He was nominated to the Mysore division of the Madras Army in 1837, and in 1840, went in command of the land forces against China, for which services he was made G. C. B. and a Baronet. He was appointed Commander-in-Chief in India, and on the 29th of December 1843, with the right wing of the army of Gwalior, he defeated a Mahratta force at Maharajpore, and captured 56 guns, &c. In 1845 and 1846, the army under his personal command defeated the Sikh army at Moodkee, Ferozeshah, and Sobrana, for which services he received the thanks of both Houses of Parliament, and was raised to the Peerage. During the last desperate struggle with the Sikhs in 1848-49, Sir H. Gough subdued the enemy, though at a great expenditure of human life. The next year he received from his sovereign additional rank in the Peerage, from the East India Company a pension of £2,000, and a similar sum from Parliament for himself and his next two successors.

Lord Gough died on Tuesday, 2nd 186? The son of a Limerick squire, he fought his way up to a viscountcy, a baton, and a fortune, by virtue of every quality of a good soldier. He was impatient in battle: though gifted with great powers of combination and strategy, his impulsive personal bravery, and rushing into the midst of the battle, by hurrying on one movement before the previous arrangement could be carried out, disarranged and rendered useless his own valuable plans. General Havelock said he was a man with a lust for danger; he excited the warmest attachment in his soldiers, and his zeal succeeded almost as well as Suwarrow's. He never lost a battle,—for Chillianwallah, though a terrible destruction of life was not a lost battle, and at Gujerat, where, for the first time in his life, he took advice and let artillery have fair play, he destroyed the most dangerous enemy, save Hyder, the British ever encountered in India. The victory was due in no slight degree to the reckless daring with which he inspired all under his command.—*London Spectator. Men of the Time.*

GOUL, amongst the Persians, a fabulous spirit, sometimes represented as in the form of a beautiful young woman, that resorts to church yards. They affirm that it entices the traveller by its cries, and then tears him to pieces with its claws.—*Baron C. A. DeBode'e Travels in Luristan and Arabistan*, p. 23. See Ghoule.

GOUN. Burm. Boehmeria nivea.

GOUPHOCARPUS FRUTICOSUS. See Cynanchum argel.

GOUR. A small territory, well situated for defence, in the centre of the most rugged country of the Paropamesus. Mahmud Gori conquered Afghanistan from the Tartar race of Sabaqtagin in 1160, carried his army into India and took Benares; and died A. D. 1205, his empire was divided amongst his favourites and his freedmen, and Afghanistan fell to the share of Eldoz. Eldoz was soon dispoiled of it by a prince of Kharism, whose successor Jelal-ud-Din, was compelled to yield it to Jenghis Khan.

GOUR, called also Lucknouti, the ancient capital of Bengal, and its territory supposed to be the Gangia regia of Ptolemy. It stood on the left bank of the Ganges, on a stone embankment about 25 miles below Rajmahal. It was the capital of Bengal 730 years before Christ, and was repaired and beautified by Akbar, who gave it the name of Jannatabad, which name is still born by a part of the circar in which it was situated. According to Ferishta's account, the unwholesomeness of its air about the middle of the sixteenth century occasioned it to be deserted soon after; and the seat of government was removed to Tondah or Tanrah, a few miles higher up the river,—then to Rajmahal. Three causes however, viz: the removal of the capital, the desertion of its old bed by the Ganges, and the unwholesomeness of the region have contributed to turn Gour into a wilderness. No part of the site of ancient Gour is nearer to the present bank of the Ganges, than four miles and a half, and some parts of it, which were originally washed bythat river, are now 12 miles from it. Taking the extent of the ruins of Gour at the most reasonable calculation, it is not less than 15 miles in length (extending along the old bank of the Ganges), and from two to three in breadth. The rulers of Bengal, capital, Kanauj or Gour? who have been identified as the first, were the family of Bhupala. Abu'l Fazl, however, enumerates three dynasties as prior to this family. The first of the Vaidya rajas, was Sukh Sen, in A. D. 1063. Its last hindu king was Lakshmanan. He had been placed on the throne in infancy, and during his long reign had been a just and liberal ruler. In A. D. 1203, Bengal was overrun by Bakhtiar, a general of Mahomed Gori and the last hindu king escaped to Orissa. Gour is also, by many, supposed to have been founded by one of the physician dynasty of Bengal, not long before the mahomedan invasion; though Dow and Rennel state that it was the capital of Bengal 730 years before Christ.—*Tr. of Hind.*, Vol. I, p 94. *Rennell's Memoir*, p. 55. *Prinsep's Antiquities by Thomas*, p. 272.

GOUR. Bos gaurus; See Bos, Bovidæ, Mammalia.

GOUR, A river 11 miles from Jubbulpoor.

GAURA or Goura. Sanscrit pundits, of old, divided the colloquial languages of India into two classes, each containing five dialects, denominated respectively, the five Gaura and the five Dravida. By the term Gaura or Gauda, are meant the Bhasha or Pracrit or spoken tongues in northern India, some old ones of which have since ceased to be spoken, or have merged into others. At present the languages which may be considered Gaura are Bengali, Hindi with its neighbour the Hindustani, Punjabi, Gujarathi, Marathi, and the languages of Kashmir and Nepal, altogether nine. The pundits named the five Dravida or Dravira, viz., Telinga, Karnatika, Mahratha, Gurjara, and Dravira or Tamil proper, but, at present, Dr. Caldwell displaces the Gurjara or Gujarathi, and the Marathi, and considers the Dravida proper or Tamil, the Telinga, Talunga, or Telugu, and the Karnataka, Kannada or Canarese, to be the three principal languages of the Dravidian family, and he adds thereto the Malayalam, the Tulu, and the uncultivated Tuda, Kota, Gond and Ku, altogether nine Dravidian or Tamulian tongues. The Gour alphabet is the immediate parent of the modern Bengali, and it is to be seen in the ancient inscriptions at Budd'ha Gaya in the Nag Arjuna cave also in an inscription from Bhubaneswur in Orissa and in one from Brahmeswar in Cuttack.—*Dr. Caldwell's Comparative Grammar.* See Abhaya, Deva, India. Inscriptions.

GOURAHUR. An obscure tribe of Rajputs in Saheswan, Gungeree, Puchlunah, Budurea and Bilram, on the borders of Budaon and Aligurh.—*Elliot.*

GOURAMY, the Osphromenus olfax, *Comm.* an excellent fresh water fish, of China, grows to lbs. 20 in weight, has been introduced into Bengal, Madras, Neilgherries, Australia, Mauritius, Cayenne. It is esteemed of more delicate flavour than the salmon or turbot.

GOURA-NEBOO. Beng. Citrus bergamia (a species.)

GOUR BRAHMAN, one of the ten tribes of brahmans. They state that they came from Gour in Bengal, but there is much improbability in the story. There can be little doubt of Canoujea brahmans emigrating on the invitation of Adiswara, from Canouj to Bengal; we therefore, cannot account for the whole tribe of Gour brahmans not only leaving their native seats, but crossing through the country of the Canoujea, and dwelling

on the other side of them. If they emigrated in or about the time of the Pandawa, as universal local tradition would induce us to suppose, it would lead to the inference that the Canoujea are a more modern race. The Gour brahman appear in general a more ignorant race than the Canoujea brahman, and can seldom be got to give an intelligible account of their own sub-divisions, but it may be gathered that they amount to the number of forty-two. The most noted tribes of Gour brahmins are the Adh Gour, Joogad Gour, Kytt'h hul Gour, Googur Gour, Dhurum Gour and Sidh Gour.—*Elliot Supp. Gloss.*

GOURD. Eng. Kikium, Ar. Gourd is a term, like that of melon, and pumpkin, applied as a suffix to the fruits of species of the natural order Cucurbitaceæ or Gourd tribe and of the genera Cucurbita, Cucumis and Lagenaria.

Cucumis melo, is the melon. Benincasa cerifera, is the pumpkin or white gourd.

Lagenaria vulgaris, is the bottle gourd or white pumpkin.

Tricosanthes anguina, is the snake gourd.

Cucumus sativa, the cucumber.

Cucurbita maxima, is the squash gourd or red gourd.

Cucurbita aurantia, is the orange gourd.

Cucurbita ovifera, is the vegetable marrow.

The wild Gourd of 2 Kings iv and 39, is the bitter cucumber, Citrullus colocynthis.—*Voigt.* p. 58-59.

GOURD OIL. See Oils.

GOUREA. See Inscriptions, p. 390.

GOUR-GIA. Pers. Andropogon schænanthus. *Linn.*

GOURHA RAJ. See Inscriptions, p. 390.

GOURIA. Sans. White, or light yellow: from goura,

GOURI. A forest in which Parvati and Siva were surprised by the Rishi. See Uma.

GOURI, in hindu mythology the goddess of abundance, and is called Isa, also Isani or Parvati, also Lakshmi and corresponds to the Ceres of Greece. Her festival relates to the Bassant or spring, the vernal equinox. An image is made of earth, barley is sown and by watering and artificial heat is made to grow. In Rajputanah beautiful girls carry the idol and bathe it in the water, and return with it to the palace. The festival resembles that of the Egyptian Diana, at Bubastis, and of Isis at Busiris within the Delta of the Nile. During the festival, Iswara yields to his consort Gouri, and occupies an unimportant position near her at the waters edge, meanly clad, smoking intoxicating herbs, and, whether by accident or design, holding the stalk of an onion in full blossom as a mace or club, a plant regarded by some of the Egyptians with veneration, but held by the hindus generally in detestation: and why the hindus should on such an occasion thus degrade Iswara is not apparent. Gangori, is a hindu festival sacred to the goddess Gouri about the beginning of September, on the 7th of Bhadrapad when Parvati is worshipped as a tender maiden. It lasts three days. Col. Tod remarks that by the prefix of Ganga (the river) to Gouri, the Gangor festival is evidently one, essentially sacred to a river goddess, affording proof of the common origin of the rites of the Isis of Egypt and India. The Rajputs term a preceding festival the Ahairea or Muhoorat ka shikar in which the nobles hunt the wild boar.—*Tod's Rajasthan*, Vol. I. p. 575. See Gauri.

GOURI-SANKAR. A hindoo idol, in which the god Siva is represented in a siting posture, with Parvati sitting on his knee, the bull Nandi at his feet and the Sinha or lion at hers. See Gouri; Burabur, Uma,

GOURINE, A sub-family of birds of the Order Gemitores, which may be shown thus:

Order IV.—Gemitores or Pigeons.
Fam. Columbidæ.
Sub-fam. Treroninæ 5 gen. 3 sub-gen. 23 sp. 3 Toria; 8 Treron; 3 Sphenocercus, 4 Ptilinopus Carpophagus.
Sub-fam. Columbinæ, 7 gen. 21 sp. 2 Alsocomus; 3 Palumbus; 2 Columba; 4 Macropygia; 2 Geopilia; 7 Turtur; 1 Chalcophaps.
Sub-fam. Gourinæ; 1 gen. 1 sp. viz., 1 Calænas Nicobarica

GOURKANI. The name of the tribe to which Timur belonged, also mirza Baber and his descendants. *Ferrier, History of Afghans*, p. 71.

GOUR-KAYET. One of the twelve subdivisions of the Kayet race they are chiefly to be found in Bengal. *Elliot, Supp. Gloss.*

GOUROOA also Gaurua, an inferior class of Rajpoots in Rehur and Nugeena of Bijnore, Iradatnugur of Agra; and Suhar Shergarh, and Huzoor Tahseel of Muttra. *Elliot Supp. Gloss.*

GOUR RAJPUT. One of the Chatees kula or 36 clans of royal rajpoots. According to Colonel Tod, (Vol.. I, p. 115), the ancient kings of Bengal were of this race, and gave their name to the capital Luk'hnoute. There are several of this clan in the N. W. Provinces of India, Colonel Tod gives the names of five Sak'ha of Gour, which do not at all correspond with those known in the N. W. Provinces, where they are divided into three classes called Bhut Gour, Bamun Gour, and Chumar Gour. *Elliot Supp. Gloss,*

GOUR TAGA, an important tribe of brahminical descent, in the North West of India, extending over a great part of Upper Rohilcund, the Upper Doab, and the Delhi Territory. They state that they were invited from Bengal to the N. W. Provinces by raja Janamejaya for the purpose of exterminating snakes; which fable, no doubt veils, under an allegorical type, the important historical fact, that the serpents, for whose annihilation so much trouble was taken, were Takshac—Scythian buddhists. *Elliot, Supp. Glos.*

GOUT. The following prescription has been found very successful in gout: preceded by a warm purgative or two the medicine may be begun with and continued for some weeks after the attacks.—*Rp.* Pulv. Guiaci. Potass Bromid. Magnes Carbon āa gr. viii. One powder to be taken three times a day before meals.—*C. M. D.*

GOUTUM RAJPOOTS, once a very powerful clan in the Lower Doab of Hindostan. The class is now usually rated amongst the Chunderbuns; but they are not considered as holding a place amongst the 36 royal races.

GOVA. Tel. Guatteria cerasoides.

GOVA GUTTI. Tel. Species of Trichodesda.

GOVAPA. Sans. Tallow.

GOUSSEE. See Koutouktow.

GOVARDHAN, a mountain which the Yadu race worshipped. It is celebrated in Indian poetry and is still a great place of hindu pilgrimage. Nothing less than that it is the personification of Krishna himself is the opinion in which Goverdhun is held byhis followers. Devout votaries, perform the circuit of the mount, by going round its base prostrating themselves at each step on the way, and marking the space covered by their bodies. This is a vow or penance, which can be completed only in several years and one devotee has been heard of who had been able to go round but half the mountain in seven years. No hindu dares to bring home any stone from Goverdhun; it is said to be endued with life. The Luka-Luki or Hide-and-Seek tank, near Goverdhun, speaks of the early age of that game among the hindus, having been played by Krishna with the Gopini.

The mountain Goverdhun is fabled to have been reared by Krishna.

Chitra Rathas smil'd; and, warbling in a softer mode,
Sang the red light'ning, hail, and whelming rain,
O'er G'ocul green and Vraja's nymph-lov'd plain
By Indra hurl'd, whose altars ne'er had glow'd,
Since infant Krishna rul'd the rustick train
Now thrill'd with terror—Them the heavenly child,
Call'd, and with looks ambrosial smil'd,
Then with one finger rear'd the vast Goverdhen,
Beneath whose rocky burden
On pastures dry the maids and herdsmen trod:
The Lord of thunder felt a mightier God;

—*Sir W. Jones's Hymns to Indra*, Vol. XIII, p. 274. *Tr. of Hind.*, Vol. II, p. 114, 115. See Krishna, Tripati.

GOVERNOR GENERAL, one rules British India, with 2 Governors of Madras, and Bombay; 3 Lieutenant Governors of Bengal, N. W. Provinces or Agra, and the Punjab, and its dependencies. 4 Chief Commissioners, Oudh, Central Provinces, Burmah, Sind and Hyderabad, Assigned Territories; 1 Commissioner of Mysore; 2 Residents of Hyderabad and Nepaul; 2 Agents to Governor General for Rajputanah and Indore. A Governor General rules the Portuguese possessions of India; another Governor General, rules the Dutch East Indies, known as the Netherland possessions in India; the Spanish East Indies in the Philippians have another Governor General, and the French Possessions in India have a Governor.

GOVILA. Tel. Aristolochia Indica.—*Linn.*

GOVIND. The tenth Guru of the Sikhs, from Nanuk. He trained them as soldiers.

GOVINDA. Sans. from go, a cow, and vid, to share out.

GOVINDA, Gopala, and Gokala, are names of Krishna, derived from his pastoral avocation of herdsman, from go, a cow. Gopinath husband or lord of the Gopi is derived from his association with the Gopi herd women. Jyadeva, Jyad the bard of the Yadu race, in the opening of "the songs of Govinda," says "if thy soul be delighted with the remembrance of Heri, or sensible to the raptures of love, listen to the voice of Jyadeva, whose notes are both sweet and brilliant" Jyadeva opens the first interview of Krishna and Radha with an animated description of a night in the rainy season, in which Heri or Krishna is represented as a wanderer, and Radha, daughter of the shepherd Nanda, is sent to offer him shelter in their cot. Nanda thus speaks to Radha: "'The firmament is obscured by clouds, the woodlands are black with tamala trees; that youth who roves in the forest will be fearful in the gloom of night; go my daughter, bring the wanderer to my rustic mansion.' Such was the command of Nanda the herdsman, and hence arose the love of Radha and Madhava." The poet proceeds to apostrophize Heri, which the hindu bard terms Rupaca, or personal description.

"Oh thou who reclinest on the bosom of Camala, whose ears flame with gems, and

whose locks are embellished with sylvan flowers; thou, from whom the day-star derived his effulgence, who slewest the venom-breathing Caliya, who beamist like a sun on the tribe of Yadu, that flourished like a lotus; thou, who sittest on the plumage of Garuda, who sippest nectar from the radiant lips of Pedma as the fluttering chacora drinks the moon-beams; be victorious, O Heri."—*Malcolm's Central India*, Vol. II, p. 135.

GOVINDA CHANDRA. See Inscriptions, p. 391.

GOVINDA RAJA. See Inscriptions, pp. 383, 390.

GOVINDH SINHI. See Hindoo. Sikhs.

GOWDI, a name for the fish called the Sword Dragonet, a species of Callionymus.

GOWGIRD. PERS Sulphur.

GOWHATTY, a town in Assam, 335 miles from Calcutta, it is on the left bank of the Brahmaputra river in long. 91° 40' E., and lat. 26° 20' N., and is 130 feet above the sea level.

GOWLA GUZ. HIND. TAM. A brown coloured seed, about the size of, and having much the same appearance as the coriander seed, but more oval. They have a pleasant, subaromatic and mucilaginous taste; and are considered by native practitioners as cordial and stomachic. They are imported into Bombay from the Persian Gulf, and are distinguished in the bazaars either with or without husks.—*Faulkner.*

GOWMUTTEE, a river near Bageswur in Almorah.

GOWRANDEE, a town in Manbhoom.

GOWRIPHAL. DUK. HIND. Rubus lasiocarpus. Rubus Indicus.

GOWR-GIA? PERS. Lemon grass.

GOWTUM. See Nvaya

GOW-ZABAN. GUZ. HIND PERS. Hart's ear, literally, Cow's tongue

GOYOSOO. JAPANESE, a Custom-house or Town-hall: where all foreigners transact business and see Japanese officials.

GRA See Bodo.

GRACEMOUNT, in Lat. 30° 27' 6; N. and L. 78° 3'·0 E, in Garhwal, near the sanitarium of Massuri, at the cistern of General Sir Andrew Waugh's barometer is 6,590 feet, above the sea, and at the cistern of the barometer at Mary Villa, near Gracemount is 6,715 feet *G. T. S. Schlagentweit.*

GRACILLARIA COFFIFOLIELLA. The larva of this mines the coffee leaves, it is very common but of no importance to the planter.

GRACILLARIA LICHENOIDES. *Greville.*

Fucus lichenoides, TURNER.	Gigartina lichenoides, LAMOUROUX.
„ amylaceus O'SHAUGH.	Sphærococcus lichenoides, AGARDH.
Ceylon Moss, ENG.	Plocaria Candida, NEES,
Edible Sea weed, „	Mousse de Ceylon, FR.

A small and delicate fucus, well known for the amylaceous properties it possesses, and the large proportion of true starch it furnishes. The fronds are filiform; the filaments much branched, and of a light purple color. It grows abundantly in the large lake or back-water which extends between Putlam and Calpentyn, Ceylon. It is collected by the natives principally during the south-west monsoon, when it becomes separated by the agitation of the water. The moss is spread on mats and dried in the sun for two or three days. It is then washed several times in fresh water, and again exposed to the sun, which bleaches it, after which it is collected in heaps for exportation. 100 grains weight yielded the following proportions:—

Vegetable jelly,	51·50	Gum,	4·00
True starch,	15 00	Sulphate and phosphate of lime,	1·08
Ligneous fibre,	18 00		
Sulphate and muriate of soda,	6·50	Total.	99·00

—with a trace of wax and iron. For a decoction of Ceylon moss, take Ceylon moss ground to fine powder two drachms, water one quart, boil for twenty minutes, strain through muslin. By increasing the proportion of the ground moss to half an ounce, the filtered solution on cooling becomes a firm jelly, which when flavoured by cinnamon or lemon peel, sugar and a little wine, is an excellent article of light food for sick children, and convalescents. The whole thallus of this one of the Algæ is sometimes imported from Ceylon and the East Indies and used in Britain for dressing silk goods.—*Beng. Phar.* p. 276. See Plocaria, Ceylon Moss, Fucus, Edible Sea-Weed.

GRACILLARIA TENAX.

Fucus spinosus, LINN.	Gigartina tenax
„ tenax. TURNER.	Gracillaria spinosa.
Eucheuma spinosa,	
Agar-Agar, MALAY.	Bulung, JAV.
Karang, „	Dongi Dongi, MACASSAR.
Sajor-karang, „	

Gracillaria tenax one of the Algæ, of the Order Rhodymeniaceæ seems to have as synonims, Gigartina spinosa also Gracillaria tenax also Fucus tenax of Turner. Mr. Williams and the Honorable Mr. Morrison say of the Gigartina tenax, that the Chinese people collect this sea-weed on the coast to a great extent, using it for food, and also in the arts, affording an excellent material for glues and varnishes. It is boiled and

the transparent glue obtained is brushed upon a porous kind of paper called "shachi" which it renders nearly transparent. It is also used as a size for stiffening silks and gauze, and extensively employed in the manufacture of lanterns and in the preparation of paper for lattices and windows. This and other kinds of fuci are boiled down to a jelly by the islanders on the south and extensively used for food, (*Williams*, p. 275.) The Honorable Mr. Morrison says Gracillaria tenax is the Fucus tenax of Turner: about 27,000 lbs. are annually imported into Canton, from the provinces of Fokien and Tchi-Kiang, and sold for 6*d*. to 8*d*. the pound. The Chinese make it the basis of an excellent glue and varnish, and employ it chiefly in the manufacture of lanterns, to strengthen or varnish the paper and sometimes to thicken or give a gloss to silks or gauze. Mr. Neill thinks that the gummy substance called Chin-chou, or hai-tsai, in China and Japan may be composed of this substance. Windows made of slips of bamboos and crossed diagonally, have frequently their interstices wholly filled with the transparent hai-tsai glue. *Mr. Niell, Williams, Middle Kingdom* p. 275, *Hon'ble Mr. Morrison's Compendious Summary*. See Algæ, Agar-Agar, Eucheuma; Glue; Fucus; Plocaria.

GRACULA. A genus of birds of the sub-family Graculinæ of which there are four species, the G. religiosa *Linn*, being that best known from its facility in learning to speak.

GRACULA RELIGIOSA. Linn.

Mina,	Hind.	Mancho,	Jav.
Beo,	Jav.	Teeong,	Sumat.

Found in Java, Sumatra and the Great Eastern Islands. It is easily domesticated, and learns to whistle and talk and imitate human speech with greater facility than any other bird. *Eng. Cyc.* See Birds.

GRACULINÆ. A Sub-family of birds containing 10 gen. 27 sp. viz., 4 Gracula, 1 Ampeliceps, 3 Acridotheres, 4 Sturnus, 1 Psaroglossa; 9 Sturnia, 2 Calornis; 1 Pastoz; 1 Enodes; 1 Mina. See Birds.

GRACULUS, a genus of birds of the *Fam.* Pelicanidæ, in which family are 5 gen. 12 sp. viz., 2 Phæton, 2 Sula, 3 Pelecanus, 4 Graculus, 1 Plotus.

GRADUL. Duk. Entada pusætha, D. C.

GRÆCO-BACTRIANS. See Khutri. Rajpoots. Greeks in Asia.

GRAEN or Grane, also Quade, the Gerra of Pliny, in lat. 29° 23' N., long. 47° 58' E., is inhabited by Arabs. It is on the west side of the Persian Gulf, and carries on trade with the Red Sea, Sind, Guzerat and the west coast of India.—*Horsburgh.*

GRAHA. Sans. The planets. A moveable point in the heavens. In hindu astronomy the planets have each a great number of names, or epithets; many of which are to this day unknown to Europeans. The following, however, are known to every Indian, because they serve to give a name to the seven days of the week; Ravi, or Surya, the Sun. Chandra, or Soma, the Moon. Mangala, or Cuja, Mars. Budha, Mercury. Cura, or Vrihaspati, Jupiter. Sucra, or Bhrigu, Venus. Sani, or Saturn. Besides these, the hindu astronomers consider Rahu, the Moon's ascending and Ketu her descending Nodes, as obscure planets, which occasion the Eclipses of the Sun and Moon. Graha, when the terms Madhya and Sphuta are prefixed to it, signifies the mean, and apparent place of the planet in the hindu sidereal, or fixed zodiac. Graha laghava is the name of a treatise on Astronomy, written about the 4657th year of the Cali yug (A. D. 1555). The Graha, or planets of the hindus are sometimes worshipped together, and at others separately; Surya or Ravi, the sun; Soma or Chandra, the moon, Mungula, Budh, Vrihaspati, Sukra, Shuni or Sani, Rahu, and Ketu.—*Cole. Myth. Hind. p.* 38. *Kala Sanhita Warren.*

GRAHAM, Dr. Robert, a botanist, who described Dr. Wallich's Leguminosæ. Author of a Catalogue of the plants growing in Bombay and its vicinity, published in 1830, but it has unfortunately been of little use, owing to the absence of descriptions rendering it impossible to identify in a satisfactory manner the species referred to. He died at an early age in India, and is buried at Candallah, in the Deccan.—*Hooker f. et Th.*

GRAHA PARIVRITHI. Sans. An account of time used by the inhabitants of the Southern Provinces of the Peninsula of India. It consists of a cycle of 90 Solar Sidereal years of 365d. 15g. 31v. 30p. Indian, or 365d. 6h. 12' 36" European time. Its epoch is A. A. C. 24, and it is constructed of the sum of the products of revolutions of Mars (15) Mercury (22) Jupiter (11) Venus (5) Saturn (9) and Sun (1).

GRAHAST-ASRAMAM. See Hindu.

GRAHILOTE or Gehlote, a rajput tribe of the Sooryavansi, the chief of which is the rana, Lord of Cheetore. By universal consent, as well as by the gotra of this race, its princes are admitted to be the direct descendants of Rama, of the solar line. A pedigree is deduced from him, and connected with Soomitra, the last prince mentioned in the genealogy of the Pooranas. —*Tod's Rajasthan*, Vol. I, p. 82.

GRAINE, a kind of harpoon in use on board of ships for striking the larger fish.

GRAINE DE NAVETTE. Fr. Rape seed.

GRAINES DE ANIS. Fr. Aniseed

GRAIN-PITS or trenches for storing grains are selected in elevated dry spots. Their size being according to the nature of the soil. All the preparation they undergo is the incineration of certain vegetable substances, and lining the sides and bottom with wheat and barley stubble. The grain is then deposited in the pit, covered over with straw, and a terrace of earth about eighteen inches in height, and projecting in front beyond the orifice of the pit, is raised over it. This is secured with a coating of clay and cow-dung, which resists the ordinary rains, but is renewed as the torrents injure it. Grain can be kept in these for years without injury.

GRAINS OF PARADISE, are small fruits produced by species of Amomum, the Amomum Grana Paradisi *Linnæus*, and Agrandiflorum, *Smith*. *Eng. Cyc.*

GRALLATORES or Waders, an order of birds as under:

a. Tribe, Pressirostres.

Fam. Otidæ, Otis and 3 sub-gen, 4 sp. viz. 1 Houbara; 1 Eupodotis; 2 Sypheotides.

b. Incertæ sedes.

Fam. Glareolidæ, 1 gen. 2 sp. viz. 2 Glareola orientalis, lactea.

Fam. Charadriadæ.

Sub-fam. Cursoriinæ, 2 gen. 2 sp. viz. 1 Cursorius Coromandelicus, 1 Macrotarsius bitorquatus.

Sub-fam. Esacinæ, 2 gen. 2 sp. viz. 1 Esacus; 1 Œdicnemus.

Sub-fam. Vanellinæ, 4 gen. 6 sp. viz. 1 Hoplopterus; 1 Sarciophorus; 3 Lobivanellus.

Sub-fam. Charadrinæ, 2 gen. 2 sub-gen. 10 sp. 1 Squatarola; 2 Charadrius; 1 Eudromias, 6 Hiaticula.

Fam. Chionidæ, 1 gen. 1 sp. 1 Hæmatopus ostralegus.

Fam. Recurvirostridæ, 2 gen. 3 sp. 2 Himantopus; 1 Recurvirostra avocetta.

Fam. Scolopacidæ, 16 gen. 32 sp. viz. Ibidorhynchus; 4 Totanus; 3 Actitis; 6 Tringa; 1 Terekia; 2 Limosa, 2 Numenius; 1 Eurinorhynchus; 1 Calidris; 1 Philomachus; 1 Strepsilas; 1 Phalaropus; 1 Scolopax; 1 Macrorhamphus; 6 Gallinago; 1 Rhynchæa.

Fam. Palamedeidæ.

Sub-fam. Parrinæ, 2 gen. 2 sp. viz. 1 Metopidius; 1 Hydrophasianus.

Fam. Gruidæ, 1 gen. 1 sub-gen. 3 sp. viz. 2 Grus; 1 Anthropoides.

c. Cultirostres.

Fam. Ardeadæ.

Sub-fam. Tantalinæ; 6 gen. 7 sp. viz. 1 Falcinellus; 1 Geronticus; 1 Threskiornis; 2 Tantalus; 1 Platalea; 1 Anastomus.

d. Incertæ Sedes.

1 Gen. Dromas ardeola.

Sub-fam. Ciconinæ; 3 gen. 6 sp. viz., Mycteria; Ciconia; 2 Leptoptilos.

Sub-fam. Ardeinæ, 1 gen. 7 sub gen. 19 sp 4 Ardea; 6 Herodia, 1 Butorides; 1 Ardeola; 1 Nycticorax; 1 Tigrisoma; 1 Botaurus; 4 Ardetta.

e. Tribe Macrodactylæ.

Fam. Rallidæ, 7 gen. 15 sp. viz. 1 Porphyrio; 1 Gallicrex; 8 Porzana; 1 Ortygometra; 3 Rallus; 1 Gallinula; 1 Fulica

Many of these are migratory and come annually into India across the Himalaya. Mr. Hodgson says the Grallatorial and Natatorial birds begin to arrive in Nepaul from the North, towards the close of August, and continue arriving till the middle of September. The first to appear are the common snipe, and jack snipe, and Rhynchœa; next, the Scolopaceous waders (except the woodcock;) next, the great birds of the heron and stork, and crane families; then, the Natatores; and lastly, the wood-cocks, which do not reach Nepaul till November. The time of the re-appearance of these birds, from the South is the beginning of March; and they go on arriving till the middle of May. The first which thus return to Nepaul are the snipes; then come the teal and ducks; then the large Natatores; and lastly, the great cranes and storks. The Grallatores which visit Nepaul, or pass over it, are much more numerous than the Natatores; the wild swan was only once seen in Nepaul in the mid winter of 1828, when the apparition suggested a new version of the well known hexameter.—

'Rara avis in terris, *alboque* simillima cygno.'

None of the Natatores stay in Nepaul beyond a week or two, in autumn, (when the rice fields tempt them) or beyond a few days, in spring, except the teal, the widgeon, and the coot, which remain for the whole season, upon some few tanks whose sanctity precludes all molestation of them. There are cormorants throughout the season upon the larger rivers within the mountains; but none ever halt in the valley, beyond a day or two: for so long, however, both they and pelicans may be seen, occasionally, on the banks just mentioned.

The Larus and Sterna are birds which usually affect the high seas,—but Mr. Hodgson had killed both the red-legged Gull, and a genuine pelagic Tern, in the valley of Nepaul. But so had he fishing Eagles; and in truth he adds, who shall limit the wanderings of these long-winged birds of the etherial expanse? See Migration of birds.

GRAMA PERAVERTICUM. TAM. A village senate or council which ruled the village republics of India prior to the introduction of the present system.

GRAMINACEÆ, of Lindley's Nat. System, or the grass tribe of plants, is the Panicaceæ of other authors, a very important natural order of Endogenous plants the Indian species of which are arranged as under—

A. *Phalareæ*, Gen. 2 Phalaris; 2 Holcus; 1 Hierochloa.

B. *Paniceæ*. Gen. 2 Paspalum; 6 Holopus; 1 Coridoachloa; 1 Urochlo; 85 Panicum; 5 Oplismenus; 1 Stenotaphrum; 1 Trachys; 2 Penicillaria; 2 Pennisetum; 2 Cenchrus; 1 Setaria; 1 Ratzeburgiæ.

C. *Saccharee*; 4 Sorghum; 2 Chrysopogon; 1 Imperata; 10 Saccharum; 1 Batratherum; 1 Lipeocercis; 1 Heteropogon; 3 Spodiopogon; 1 Vossia; 18 Andropogon; 4 Anthisteria; 2 Apluda.

D. *Rottbolleæ*; 2 Ischæmum; 1 Hemarthria; 1 Thyridostachyium; 2 Ophiurus; 2 Rottbollia; 2 Peltophorus; 1 Oropetium; 1 Zoysia.

G. *Olyreæ*; 1 Zea; 6 Coix; 3 Phleum; 1 Hygroryza; 1 Perotis; 1 Chætarus; 2 Polypogon; 2 Sporobolus; 1 Gastridium; 2 Agrostis.

H. *Stipeæ*; 1 Chætaria.

I. *Oryzeæ*; 1 Oryza; 1 Potamochloa.

K. *Pappophoreæ*; 1 Pommereulla; 1 Chloris; 2 Cynodon; 1 Microchloa; 1 Dactyloctenium; 1 Arachne; 4 Eleusine; 1 Leptochloa.

M. *Aveneæ*; 1 Coryuephorus; 1 Deschampsia; 2 Aria; 1 Lagurus; 1 Trisetum; 4 Avena.

N. *Arundineæ*; 1 Donax; 5 Amphidonax.

O. *Triticeæ*; 5 Hordeum; 1 Lolium; 3 Triticum; 2 Ægilops; 1 Secale; 2 Elymus.

P. Festuceæ; 20 Poa; 4 Briza; 1 Melica; 1 Dactylis; 1 Lamarckia; 1 Cynosurus; 1 Brachypodium; 3 Vulpia; 3 Festuca; 6 Bromus; 1 Veesha; 3 Dendrocalamus; 4 Bambusa; 1 Contotheca.

The Graminaceæ also styled the Gramineæ, also the Panicaceæ, comprehend many of the most valuable pasture plants, all those which yield corn, such as wheat, barley, and maize, the sugar-cane, which yields sugar and the most fragrant of all plants in the form of Andropogons. Their structure is among the most simple of the perfect forms of vegetation; a stem clothed with alternate leaves whose stalks are universally thin, and constituting as many sheaths to guard the young and rapidly growing shoots, a few rudimentary leaves collected at the ends of the branches of inflorescence, and constituting flowers, a very small number of stamens, and a single seed enclosed in a thin pericarp, are all that nature provides to enable these plants to preserve their race and to distinguish their numerous kinds from one another. Yet with such a simple apparatus, many thousand species are so precisely characterised that the natural order of grasses is perhaps, one of the easiest to study and arrange, provided the task be commenced upon right principles. The floral leaves, called glumes, paleæ, and scales, offer a prodigious number of different appearances, according to the manner in which they are combined or modified; and the inflorescence, the number of stamens, the texture of the parts, or the relation of the sexes to each other, afford additional means by which the distinctive characters are varied. This is, no doubt, one of the wise provisions of Providence by which man is enabled to distinguish the useful from the useless, the profitable from the unprofitable. For in no class of plants is it more necessary than in grasses to know how to choose between different species. For instance, most grasses are saccharine and nutritious to cattle, but the species of Holcus, Bromus, &c., are as frequently worthless. There is a great difference between the value of grasses for pasture; certain kinds suit the meadows, others marshes, others upland fields, and others bleak and sterile hills, where they furnish valuable food for sheep; these kinds will not grow indiscriminately, or are not equally suitable for different soils and situations, and it is therefore essential for the husbandman that he should be capable of discriminating between them. Some indicate the quality of soil: the species of Dactylis, Holcus, and Bromus are inhabitants of sterile land; the Festucæ and Alopecuri of better soil: while various Poæ and Cynosurus are found only in pasture-land of excellent quality. The distribution of cultivated grasses is however, determined not merely by climate but depends on the civilisation, industry, and traffic of the people, and often on historical events. Within the northern polar circle agriculture is found only in a few places. In Siberia grain reaches at the utmost only to 60°, in the eastern parts scarcely above 55°, and in Kamtschatka there is no agriculture even in the most southern parts (51°). The polar limit of agriculture on the north-west coast of America appears to be somewhat higher, for in the more southern possessions lately ceded by Russia to the United States, (57° to 52°) barley and rye come to maturity. Only in Europe, namely in Lapland, does the polar limit reach an unusually high latitude. Beyond this, dried fish, and here and there potatoes, supply the place of grain. The grains which extend farthest to the north in Europe are barley and oats. These, which in the milder climates are not used for bread, afford to the inhabitants of the

northern parts of Norway and Sweden, of a part of Siberia and Scotland, their chief vegetable nourishment. Rye is the next which comes associated with these. This is the prevailing grain in a great part of the northern temperate zone, namely in the south of Sweden and Norway, Denmark, and in all the lands bordering on the Baltic, and the north of Germany. In the latter another very nutritious grain, buckwheat, is very frequently cultivated. In the zone where rye prevails wheat is generally to be found, barley being here chiefly cultivated for the manufacture of beer, and oats supplying food for the horses. To these there follows a zone in Europe and Western Asia where rye disappears, and wheat almost exclusively furnishes bread. The middle and the south of France, England, part of Scotland, a part of Germany, Hungary, the Crimea and Caucasus, also the lands of middle Asia, where agriculture is followed, belong to this zone. Here the vine is also found, wine supplants the use of beer, and barley is consequently less raised. Next comes a district where wheat still abounds, but no longer exclusively furnishes bread, rice and maize becoming frequent. To this zone belong Portugal, Spain, part of France on the Mediterranean, Italy and Greece, further, the countries of the East, Persia, Northern India, Arabia, Egypt, Nubia, Barbary, and the Canary Islands; in these latter countries however the culture of maize or rice towards the south is always more considerable, and in some of them several kinds of Sorghum (Doura) and Poa abyssinica come to be added. In both these regions of heat, rye only occurs at a considerable elevation, oats however more seldom, and at last entirely disappear, barley affording food for horses and mules. Wheat is cultivated to great heights in the Himalaya, it being one of the chief crops up to 9,500 feet on the Chenab, and occurring to 1,500 feet on the Sutlej, good to 11,500 feet, and grown to 13,000 feet in Ladak. Zeamays grows up to 7,500, and 8,000 feet on the Chenab and Ravi; Eleusine corocana is frequent up to 6,000 and 7,000 feet, Hordeum is cultivated on the Sutlej to 13,600 feet and 15,000 feet, ond on the Chenab, and in Ladak and Lahoul at 8,000 and 14,500 feet. But even rice is abundantly grown throughout the Siwalak tract and up the valleys at an elevation in places of 6,000 or even nearly 7,000 feet. Paspalum at 6,000 feet; and on the plains of India, many of these, wheat, sorghum, barley, are cold weather crops. In the eastern parts of the temperate zone of the old continent, in China and

Japan, northern kinds of grain are very unfrequent, and rice is found to predominate. The cause of this difference between the east and the west of the old continent appears to be in the manners and peculiarities of the people. In North America, wheat and rye grow as in Europe, but more sparingly. Maize is more reared in the western than in the old continent, and rice predominates in the southern provinces of the United States. In the torrid zone, maize predominates in America, rice in Asia; and both these grains in nearly equal quantity in Africa. The cause of this distribution is, without doubt, historical, for Asia is the native country of rice, and America of maize. In some situations, especially in the neighbourhood of the tropics, wheat is also met with, but always subordinate to these other kinds of grain. Besides rice and maize there are in the torrid zone several kinds of grain as well as other plants which supply the inhabitants with food, either used along with them or entirely occupying their place.

Such are, in the new continent, Yams (Dioscorea alata), the Manihot (Jatropha manihot), and the Batatas (Convolvulus batatas), the root of which and the fruit of the Pisang (Banana musa, furnish universal articles of food; in the same zone in Africa, Doura Sorghum, Pisang, Manihot, Yams, and Arachis hypogæa; in the East Indies and on the Indian Islands, Eleusine coracana, E. stricta, Panicum frumentaceum, several Palms, and Cycadaceæ which produce the Sago, Pisang, Yams, Batatas, and the Bread Fruit (Artocarpus incisa. In the islands of the South Sea, grain of every kind disappears, its place being supplied by the breadfruit tree, the Pisang, and Tacca pinnatifida. In the tropical parts of Australia there is no agriculture, the inhabitants living on the produce of the sago, of various palms, and some species of Arum. In the high lands of South America, there is a distribution similar to that of the degrees of latitude. Maize indeed grows to the height of 7,200 feet above the level of the sea, but only predominates between 3,000 and 6,000 feet of elevation. Below 3,000 feet it is associated with the pisang and the above mentioned vegetables, while from 6,000 to 9,260 feet the European grains abound: wheat in the lower regions, rye and barley in the higher, along with which Chenopodium quino as a nutritious plant must also be enumerated. Potatoes alone are cultivated from 9,260 to 12,300 feet. To the south of the tropic of Capricorn, wherever agriculture is practised, considerable resemblance with the northern temperate zone may be observed. In the southern parts

of Brazil, in Buenos Ayres, in Chili, at the Cape of Good Hope, and in the temperate zone of Australia, wheat predominates; barley, however, and rye make their appearance in the southernmost parts of these countries and in Van Diemen's Land. In New Zealand the culture of wheat is said to have been tried with success, but the inhabitants avail themselves of the Acrostichum furcatum as the main article of sustenance. Hence it appears that in respect of the predominating kinds of grain, the earth may be divided into five grand divisions, or kingdoms —the kingdom of rice, of maize, of wheat, of rye, and lastly, of barley and oats. The first three are the most extensive; the maize has the greatest range of temperature, but rice may be said to support the greatest number of the human race. (*Schouw, in Jameson's Edinburgh Philosophical Journal April* 1825.)

The number of the Indian species are eitimated by Voigt at 1,300. The abundance of wholesome fæcula contained in the seeds of some species renders them peculiarly well adapted for the sustenance of man; and if wheat, barley, rye, oats, maize, rice, and guinea corn, are the kinds of cereal grasses more commonly employed, it is because of the large size of their grain compared with that of other grasses; for the few which are unwholesome in their natural state are Lolium temulentum, a common weed in many parts of England, the effects of which are undoubtedly injurious; Bromus purgans and catharticus are said to be emetic and purgative; Bromus mollis is also unwholesome, Festuca quadridentata is said to be poisonous; Molinia varia is injurious to cattle: and some other species are supposed to affect the milk of cows which graze upon them. Among corn-plants of India not generally known may be mentioned Eleusine coracana, called natchnee on the Coromandel coast, and Nagla Ragee, or Mand, elsewhere in India; Setaria germanica, yielding German millet; and Panicum frumentaceum. The tropical grasses differ from the extra tropical ones by their greater size, some like the bamboos, being fifty to sixty feet high; by their larger leaves; by their frequently separate sexes, and by their softer, more downy and elegant flowers. The value of grasses as fodder for cattle is hardly less than that of corn for human food. The best fodder-grasses of Europe are usually dwarf species, or at least such as do not rise above four or five feet from the ground. The most esteemed are Lolium perenne, Phleum and Festuca pratensis; Cynosurus cristatus and various species of Poa and dwarf Festuca. The fodder-

grasses of Brazil are of far more gigantic stature, and perfectly tender and delicate. In Australia the favourite is Anthistiria australis, or Kangaroo Grass; in India, A. ciliata is also in request; but the most common Indian fodder-grass is Doorba, Doorwa, or Hurryalee (Cynodon dactylon). Gama Grass (Tripsacum dactyloides) has a great reputation as fodder in Mexico; and attention has lately been directed to the Tussac Grass of the Falklands (Festuca flabellata), a species forming tufts five or six feet high, and said to be unrivalled for its excellence as food for cattle and horses. Sugar is a general product of grasses. It exists in great quantities in the Sugar-Cane (Saccharum officinarum). Maize so abounds in sugar, that its cultivation has been proposed in lieu of the sugar-cane. (*Eng. Cyc.*)

Among the grasses there are both land and water, but no marine plants, and their limit is the utmost range of the vegetable kingdom; Indian species are as under:

Botanical.	*Hindustani.*
Paspalum scrobiculatum.	Kodu.
Panicum miliaceum,	Chena-ghas.
miliare,	Kungoo.
commutatum.	
halopus,	Jalgantee.
setigerum,	Buragalgantee.
colonum,	Shama.
frumentaceum,	Damra-shama.
ciliare,	Makur-jalee.
hirsutum.	
Pencillaria spicata,	Bajra.
Sorghum vulgare,	Joear.
„ saccharatum,	
Chrysopodon acicularis.	
Saccharum spontaneum.	Kash.
ipeocircis serrata.	
Andropogon martini.	
Anthistiria ciliata.	
Rottbollia glabra,	Buksa.
Cynodon dactylon	Hurryallee. Durva.
Dactyloctenium Ægyptiacum.	
Eleusine Indica,	Aragum pillay, Tam.
„ Egyptiaca.	
Phalaris arundinacea.	
Chloris barbata.	
Perotis latifolia, (*Cleghorn.*)	

Pasture grasses of India.—In the provinces, besides grain, Camels and Elephants are fed upon the leaves of various trees. The goats, sheep, and cattle, are pastured upon what are called the waste land, or the jungles of the villages; the last are fed also upon chopped straw, and the stalks of the joar (Sorghum vulgare), cut into small pieces; while horses, besides pulses, are fed upon grass brought in by men called grass-cutters, but who rather scrape off the ground the creeping stems and young leaves of the grass called Doob or Dhoorba or Hurryallee (the Cynodon dactylon of Botanists),

This grows throughout the year, is fortunately the most common species throughout India, and succeeds particularly well in the Northern parts where lawns and pastures of moderate extent are made by planting pieces of its creeping stems. It is also much used for forming a covering for the banks of rivers, ramparts, and esplanades. The high lands of the Ballaghaut also possess a grass of which cattle are amazingly fond, and which has so strong an aromatic and pungent taste, that the flesh of the animals, as well as their milk and butter, become scented with it. This species is allied to the Lemon grass, and is very abundantly diffused towards the North-west of India. There are, however, numerous other grasses common in India which cattle delight in; but the greater number of these flourish most in the rainy season. Their rapid growth, and the great height they attain, as well as their withered and dry nature towards the close of the year, soon however unfit them for pasture grasses. The inhabitants of many parts of India remedy this, by burning down the old and dried up grass, when the young blade shoots up and affords excellent pasturage. India being at one season deluged with rain, and at another parched up with heat, with only a few months of temperate climate, cannot be expected to possess any pasture grasses similar to those of European countries. But as grasses are among the most universally diffused of plants, we find some suited to every season, indigenous in all parts of India, and affording food for its various herbivorous animals. For the purpose of pasturing improved breeds of sheep, the hills and tableland, from Coimbatore to Kandeish, and the frontier provinces from Gujarat to Hurriana and Saharunpore seem alone suited. But the Himalaya, enjoying a temperate climate and a European-like vegetation have also abundant and excellent pasturage. During the rainy season, when the temperature is moist but equable, the Himalaya have many grasses resembling those in the plains. These are associated with others belonging to European genera, which are able to withstand the winter's cold: so that throughout the year, nearly, there is abundant pasturage in the neighbourhood of the Himalayan villages. Of this the inhabitants avail themselves, by driving their herds of cattle, and flocks of goats and of sheep, to different ranges and elevations, according to the season of the year. The sward upon these mountains is short and thick, and very closely resembles that which is met with on the mountains of Scotland and Wales; while the sheep are as much esteemed for their mutton as those fed in the plains upon grain. Dr. Royle, in his illustrations of the Botany of the Himalayan mountains, has stated that these grasses belong to such genera as Agrostis, Fox-tail grass, Cat's-tail, Meadow-grass, Fescue, Cock's-food, Bent-grass, Oat-grass, and others. Also, that many of the same species which are accounted the best pasture grasses in England are among those found in the Himalaya, as Cock's-foot grass; Annual, Narrow-leaved, and smooth-stalked Meadow-grass; Cat's-tail or Timothy-grass, Purple Fescue-grass, which from its greater produce is considered preferable to that specially called Sheep's Fescue-grass. In the climate where these grow naturally, nothing would be easier than the introduction of any other of the superior pasture grasses of Great Britain; but this is hardly necessary where the natural pasturage is so good. Certain of the pasture lands were so much valued by the Native Governments, that some of the pasture of the sandstone-hills, south of the Kistnah river, where the lemon-grass is found, were reserved for their own cavalry, or the right to cut and sell it was rented to the highest bidders. To improve the pastures or increase the quantity of fodder in the warm and moist parts of the plains of India, it will be necessary to have recourse to the grasses of other climates, as to those of the West Indies and South America. The Guinea-grass and the Sott's-grass of Jamaica are both highly esteemed in that island, while some of the pasture grasses of Brazil and of the banks of the Amazon, are described as being of a gigantic size, and at the same time perfectly tender and delicate. Closely connected with the subject of the pasture grasses is of that of providing green food for horses, camels, and elephants, and one to which little attention has been paid, though the supply has much diminished in the neighbourhood of towns and large stations. To this Dr. Wallich called attention in his evidence before the Committee of the House of Commons in 1832, stating, that for any number of animals, either for conveyance or for consumption, any quantity of food might be produced in the utmost possible abundance in India, but suggested that a more ready and plentiful supply of food for elephants and camels should be provided by planting those trees (such as particular Indian fig-trees) which form the staff of life for them, and which are extremely easily cultivated. In the Madras Presidency, considerable exertions were made about the year 1796, in every where planting what was called the Bastard Cedar (Gua-

zuma ulmifolia) as green food for cattle.—*Royle's Productive Resources of India.* The need for care on this point increases with the extending cultivation, Rye grass and clover grow well in upland districts in India, and when sown fresh have been found to answer admirably on the Shervaroy, Pulney, Baba-Boodun and Neilgherry Hills. In Guzerat, the cultivators feed their cattle on the sweet stalks of the joari and bajri — *Spry's Suggestions* p. 46.

Guinea Grass.—Has been cultivated to a considerable extent in India and Ceylon with more or less success according to the care and attention bestowed on it. When well manured and kept clear of weeds it grows more luxuriantly and admits of being cut every six weeks or two months. A small patch, near Colombo, which, beginning with about three quarters of an acre, gradually extended to above an acre and a half, for seven or eight years supplied 3 or 4 milch cows and from 5 to 7 horses continually with all the grass required for their consumption and latterly left a surplus which was dried for bedding and hay. When first planted it frequently attains a height of even 9 feet and a stalk taken promiscuously from a small patch planted about the year 1857, in Combaconum measured 10 feet 4½ in. in length, but when cut two or three times it grows thicker but not so high. It is exceedingly excellent feeding for horses and cattle, and is generally preferred by them to the ordinary country grass, though horses which are hard worked seem to prefer the grass roots supplied by the grass cutters. It should not be given to cattle fresh, but the supply for one day should be cut the day previous, and it should not be cut too close to the ground but the stalk ought to be left 7 to 9 inches high. It is a good plan to move the ground between the roots every time the grass is cut and the ground should be heavily manured after every three or four cuttings. It is very hardy and may be easily propagated. It requires abundant moisture but will not live in a soil which is at all marshy. It answers best planted in small tufts 1 ft. 2 in. to 2 ft. apart, which rapidly spread into stools from 6 in. to 1 ft. in diameter. (*Mr. Caldwell in Literis* M.S.S.) Lucerne has been successfully acclimated in the Dekhan, and has long been largely cultivated by natives for sale to Europeans and for their own cattle.—*Spry's Suggest,* p. 63. The Prangos Hay plant grass of Mr. Moorcroft, of Tibet, was found by him to be employed as winter fodder for sheep and goats, and frequently for neat cattle. Moorcroft, writing from the neighbourhood of Droz describes the Prangos Hay plant as producing fatness in a space of time singularly short, and likewise as being destructive to the River Fluke; he therefore justly concluded that it would be an invaluable acquisition to any country, to the climate of which it was suited, as its highly nutritious qualities, its vast yield, its easy culture, its great duration, its capability of flourishing on lands of the most inferior quality and wholly unadapted to tillage, impart to it a general character of probable utility unrivalled in the history of agricultural productions. When once in the possession of the ground, for which the preparation is easy, it requires no subsequent ploughing, weeding, manuring, or other operation, save that of cutting and of converting the foliage into hay."—(*Moorcroft in a letter to W. Butterworth Bayley, Esq., formerly Chairman of the Court of Directors also Travels p.* 179.)

Various attempts have been made to introduce the Prangos Hay plant into Great Britain, but hitherto unsuccessfully; and it is probable it will only succeed and be valuable in a climate similar to that where it is found indigenous. The Prangos is highly valued in the cold and arid region of Tibet, where it is indigenous, and which Mr. Moorcroft (*Tr.* p. 179) thought would be valuable as fodder for sheep and cattle in European countries. It is found in Tibet, and also most abundantly on Ahatoong, a low trap hill in the valley of Cashmere; but there it was not so vigorous as in its Tibetan habitat. Though abundant in various directions, the Cashmerians do not esteem it of any value, and Dr. Falconer is of opinion that its importance has been much over-estimated, in consequence of its being the only food in many of the bleak and barren tracts of Tibet. In Cashmere, where, far from a deficiency of herbage, there is actually a superabundance of pasture grasses, it is necessarily much less esteemed. The Prangos will, therefore, most probably be a valuable acquisition only in countries devoid of good natural pasturage, and of which the climate is favourable to its growth. (*Royle. Pro. Res.*)

Joint Grass, says Mr. Bonynge, is not generally known in India. I never, he says, met with it in the South, N. West, or in Bengal. It grows in the Tartar country; generally in the margins of forests, where there may not be too much shade; a forest being partially cleared, it springs up in places where it perhaps never existed before, or if it did, not for centuries past. The grass will run to a length of some fifteen feet, and will rise, if there be any support, five or six feet; if not, will grow up some three or four feet by its own support.

It is not a wiry grass: the joints are some six or eight inches long; with four or five blades of grass about the same length growing out from each joint. The joints near the ground are harder and brittle; those near the top, soft and juicy—with a luxuriant termination of soft blades, similar to those from each joint, but softer and thicker. On my arrival in the country I found there were no cows, goats, or sheep. These I introduced, and at the same time a quantity of gram, upon which sheep are fattened in East India. After the arrival of the cattle they declined the gram, and I found on inquiry that they had been browsing on this grass, and upon which they continued to feed. They all became as fat as if fed on the gram, (a kind of pulse,) which remained on hand, there being no use for it.—*Bonyage, America*, p. 159. The principal of the Indian grasses, and perhaps the most generally diffused, is the Doob-grass (Cynodon dactylon), a creeping plant possessing much nourishing property in its long stems, no less than in its leaves. This endures the greatest elevation of temperature, as its roots penetrate far below the surface, and although during the dry monsoon giving no sign of life, it puts forth its tender leaves on the first approach of the rains.

A very nourishing grass, possessing a powerful aromatic odour, is met with on the elevated lands above the Ghauts of the south, as well as in the north-west provinces. So strong are its aroma and flavour, that the flesh, milk, and butter of the animals feeding upon it become in time sensibly affected both in taste and smell.

Upon the many slopes of the Himalaya there are found abundance of good nourishing pastures, admirably adapted to the requirements of cattle and sheep, and upon which many herds and flocks are reared when the dry season forces them from the plains below. Throughout the flat countries, and spread over vast tracts of indifferent soil, we meet with grasses, or rather herbage, in sufficient abundance, but generally either coarse and poor, or rank and distasteful to animals. In swampy or sterile plains these reedy grasses often fail to tempt even the coarse-feeding buffalo and rhinoceros; and it is a common practice amongst all the Indian villagers, at the end of the dry season to set fire to these tracts, on which the long withered herbage readily ignites, and after the first monsoon showers furnishes a rapid and abundant supply of young sweet blades. In some parts of India, especially at the larger towns, it is customary to cut grass for hay, as fodder for horses during the excessively dry months, but latterly artificial grasses have been introduced for this purpose. The Guinea-grass and Mauritius-grass are both admirably adapted for feeding cattle. Some grasses are twisted into bands; others are employed for thatching, and some for platting, screen and mat-making, in the form of pulp and used for paper making. Many grasses might be converted into half-stuff for paper-makers and have the great advantage of affording large quantities of a cheap material. The grasses abound in India; in the plains are numerous species of genera little known in Europe; maize, joar, and many millets are cultivated in the rainy season; and in the cold weather, wheat, barley, oats, and millet; In the Himalaya many of the pasture-grasses are the same as in Europe, and the cereals are cultivated in the spring and summer, with some rice in the rains. Several indigenous grasses are employed for making mats, baskets, ropes, sacks, nets and sails. The Moonja of the natives (Saccharum munja) is collected after the rainy season and kept for use, as it is employed in tying up their cattle at night and for ropes for their Persian wheels. It is said also to be one of the grasses employed for making tow-ropes by the boatmen about Benares. The Shur or sara of Bengal (Saccharum sara), or the Pen reed grass, is employed by the boatmen about Allahabad and Mirzapore, and esteemed as a tow-line for its strength and durability, even when exposed to the action of water. It is said to be beaten into a rude fibre and then twisted into a rope. The sacred grass of the hindoos, the dab or koosha of the brahmins (Poa cynosuroides), is also made into rope in North-West India. Other species of Saccharum are used for thatching and for screens, and some for making writing-pens and for arrows. The fibres of the Khuskhus or Vetiveyr are more remarkable for agreeable odour than for their tenacity, while the Bamboo, the most gigantic of grasses, might be enumerated with timbers rather than with fibres, though its split stems are often employed for making mats in India, and the young shoots for paper making by the Chinese. The Nul or Nar of Bengal is employed for making the mats known by the name of Durma which are formed of the stalks split open. In Sindh the grass called Sar, which perhaps is Arundo karka, has its culms, surjo kanee, made into chairs, and its flower-stalks beaten, to form the fibres called moonyah, are made into string or twine (moonyah jo naree), and into ropes (moonyah jo russa). The boatmen of the Indus universally employed the Moonja (probably Saccharum moonja) as a towing rope

and for the rigging of their vessels, in all places above Sukkur. Two-inch ropes, often fifty fathoms in length, made of Munja fibres, are sufficient for dragging their largest or 1,200-maund boats up the Indus, against the full force of the stream. The rope is also light, so advantageous for rigging, and bears without injury, alternate exposure to wet and to subsequent drying; both qualities being essential for a tow-rope. The upper leaves, about a foot or so in length, are preferred, are collected into bundles and kept for use. (*Royle Ind. Fibres*, p. 30.)

Dr. Griffith collected nearly one hundred different grasses in the Tenasserim Provinces, but Mr. Mason is not aware that the description of a single species has ever been published. Throughout India, the pasture lands are everywhere left to nature; there is generally a right of common pasturage; and there is nothing to prevent the village cattle from roaming at discretion. The first step, therefore, towards the improvement of grass lands must be the establishing and keeping up a strong and sufficient fence.

Laying down Grass.—After the erection of a good fence, the next step to be taken in laying down pasture land, is to prepare, pulverize and clean it, and having brought the ground into good condition to apply manure.

Manure.—With respect to the manure best adapted for increasing grass crops, perhaps stable sweepings and the vegetable mould of decayed leaves mixed half and half, is the most serviceable. It is obvious that where there are mounted corps there can always be at command a large quantity of stable sweepings for pasture lands, and if care were taken to collect urine, and other drainage of stables and dung hills, this would be found even more efficient than solid manure. The urine should be preserved in tanks, which might be formed at a short distance, and the fluid conveyed in pipes would be found a most useful top-dressing; the tanks should be covered to prevent evaporation, and by applying them towards the end of the rains would be washed in without being carried away. If, however, fertilizers of this description are not procurable in sufficient quantities, recourse must be had to other manures; and the alluvial soil which forms the upper layer at the bottom of tanks will be found to answer well. The best season for the application of manure is just before or during the rains.

Foreign Grasses.—The next question that presents itself is that of the introduction of foreign grasses. After consulting all the

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available records of agricultural experience on this matter; it appears that the best way to obtain good fodder at a moderate cost is to pay attention to the indigenous grasses of the country, which, by irrigation and judicious manuring, may be greatly improved —such grasses being always chosen as are suitable to the soil. The Durva or Hurryallee grass (Cynodon dactylon), unquestionably the best species which India possesses for forage, was cultivated with great success at Vellore by Major Ottley, R. In upland districts rye grass and clover grow, and both these exotics, when sown fresh, have been found to answer exceedingly well on the Shervaroy, Pulney, Neilgherry, and Bababoodin Hills. The Guinea grass has been strongly recommended in Bengal and S. India.

Inoculating Grass.—In poor soils such as that of the Carnatic, grass seeds do not take so well as in rich land; and there is great difficulty in procuring a good sward. In this case recourse must be had to planting, or, as some call it inoculating grass. This is done by taking pieces of turf from the banks of river or tank, and spreading them over the land to be laid down after it has been prepared in the same manner as it would have been to receive the seed. The turf should be taken up in little square pieces, and spread over the surface of the ground, leaving small interspaces between each piece. A stone roller or a wooden beater should then be employed to press them into the ground. In a few days the interspaces will be found to be filled up, and a complete carpet of turf to be formed.

Paring and burning the surface of poor soils.—Before putting down the turf, poor stiff lands should be divided by ditches, ploughed in deep furrows, and exposed as much as possible to the wind and sun. Such soils may with careful culture and irrigation become permanent meadow land, but it is essential to get them into a sound state by most carefully clearing them of nuth-grass and weeds before laying down grass seeds, and subsequently by keeping the land free of coarse grass by hand weeding. Paring and burning the surface have been found useful, and if beneficial in the first instance, the operation may be repeated with advantage. The Cynodon dactylon or Hurryalee Grass, of India, is considered the best for horses. Root creeping through the loose sand, with strong fibres at the nodes. Stem rarely exceeding six inches in height, creeping to a considerable extent, matted, very smooth. Florets, all on one side of the spike-stalk, awnless, purplish, and ranged in two close alternate rows. All the stems which lie near the

ground take root, and by this means, though an annual plant, it increases and spreads very wide. It yields abundance of seed, of which small birds are very fond. It has been found a successful plan to allow the seed to ripen before the hay is cut, as it then propagates itself by the seeds, in addition to the runners. This grass is also found in Great Britain, but in that country its produce and nutritive properties are comparatively insignificant, while here it constitutes ¾ of the pasture. Respecting this grass Sir W. Jones observes (As. Res. Vol. 4 p. 242.) that it is the sweetest and most nutritious pasture for cattle; and its usefulness, added to its beauty, induced the hindoos, in their earliest ages, to believe that it was the mansion of a benevolent nymph. Even the Veda celebrates it, as in the following text of the A't'harvana: "My Durva, which rose from the water of life, which has a hundred roots and a hundred stems, efface a hundred of my sins, and prolong my existence on earth a hundred years."—*Dr. Cleghorn, Grasses.*

GRAM, or Gramma. HIND. A village.

GRAM. ANGLO-INDIAN. The name given to two pulses, in use in India as food for cattle, rarely eaten by man; one is the Dolichos uniflorus called horse gram, or Madras gram, or culty, which is boiled, the other is Cicer arietinum, the Bengal gram or Chenna, which is bruised and soaked and is deemed the more nourishing. The term, Cicer, is derived through the Italian Cece, and from the French name Chicker, comes the English name "Chick-pea." The term, "arietinum" is derived from the resemblance of the seed to a ram's head. The word used by Europeans in India, is gram, of which the origin has been much disputed, and it is believed, is quite unknown. The chenna has been tried in England, but not successfully. The analyses of gram show as under:—

Composition.	Bombay Bazaar.	Bombay Bazaar.	Gram husked Madras.	White variety Gram Saharunpoor.
Moisture... ...	9·25	10·80	11 30	12·20
Nitrogenous... ...	20·64	21·23	21·04	20·13
Starchy ...	63 62	60·30	60·45	60 24
Oily or Fatty ...	4·11	4·77	4 31	4·63
Mineral.	2·38	2·90	2·90	2·80

Sir H. Elliot. Dr. F. Watson.

GRANA CHERMES. IT. Kermes.

GRANADAS. SP. Garnet? Pomegranate.

GRANADILLA. Passiflora quadrangularis. This luxuriant exotic from the Jamaica passion flowers, flourishes well on the Tenasserim Coast, and is very prolific. The smooth, oblong fruit grows nearly as large as a cucumber, and contains a succulent pulp, which makes a cooling delicious dish, and when prepared in tarts, can scarcely be distinguished from green apple. The Rev. Mr. Bennett of Tavoy, introduced it among the Karens, by whom it is highly esteemed, and much sought for. It will no doubt soon be generally diffused through the Provinces, as it possesses all the attractive qualities of fine fruit, handsome fragrant blossoms, and when trailed over an arbor, a rich pleasing shade. —*Mason.*

GRANAFINA. A fine kind of cochineal. See Coccus.

GRANA-KERMES. SP. Kermes.

GRANA ORIENTIS. Syn. Cocculus indicus.

GRANA PONCIANA—? See Dyes.

GRANA SYLVESTRA. Wild cochineal See Coccus.

GRANAT-APFEL. GER. Pomegranate.

GRANATE. IT. Granaten also Granatstein. GER. Granati. LAT. Garnet.

GRANATI. IT. Pomegranate.

GRANA TILLI—? Croton tiglium.

GRANATI RADIX. LAT. Punica granatum root.

GRANATNOI-KAMEN. RUS. Garnet.

GRANCA. PORT. Madder.

GRANDI TAGARAPU CHETTU. TEL. Tabernæmontana coronaria.—*R. Brown.*

GRAND KHAN. A name applied to Kablai Khan.

GRAND LAMA. A name applied to the chief lama, a priest of budd'ha, in Tibet, who is supposed to be a Bodhisativa who abstains from accepting Budd'ha-hood and is re-born again and again for the benefit of mankind. See Buddha, Lama, Sakya.

GRANGEA MADERASPATANA. POIR.

Grangea adansonia, *Cass.*
Artamisia Maderaspatana. *Willde, Linn. Roxb.*

Namuti,	BENG.	Mashiputri,	TAM.
Nelam pata,	MALEAL.	Mustaru,	TEL.

Grows in Bengal and peninsular India: its leaves are used in medicine. *Wight's Icones.*

GRANGEA ADANSONII. CASS. Syn. of Grangea maderaspatana, *Poir.*

GRANITE, a metamorphic rock, occurring in most part of the world. Granite and syenite seem the chief up-lifting rocks of India; they burst through upraised sandstones, clay-slate, mica-slate, chlorite-slate, and lime-stones. This feature of granite and syenite disturbing stratified rocks can

be traced from near Ceylon northwards, at intervals, through the table-lands of the interior; through Mysore, the Ceded Districts, Hyderabad, Berar and across the Nerbudda into Central India, where the granite for a time disappears. Volcanic trap is visible, however, in the bed of the Jumna, near Allahabad, in latitude 25° north, and in the ascent to Mussoorie by Kuerkoolee, the granite re-appears and makes a great eruption at the Chur mountain on the southern slopes of the Himalaya. But near Gungotree, at the source of the Ganges, is described as the grand granitic axis of the Himalaya, one of the greatest and most magnificent outbursts of granite in the world. It traverses these mountains in numerous veins—westwards towards the Borenda pass, and eastwards towards Kamet, Nandadevi and Nandakot, upraising the metamorphic schists which form the highest peaks of the snowy range. Granite is often liable to decay, various causes lead to this change, its felspar is acted upon by moisture and by alternations of temperature; mica is acted upon by moisture; quartz by lime in solution, the silicic acid of the quartz having a great tendency to combine with the lime, carbonic acid generated in the earth or taken down by rain assists materially in dissolving the lime contained in the felspar, and other portions of crystalline lime that are frequently associated with granites. The frequent changes in the electric condition of the atmosphere and of the earth act upon all the constituents of granite, but more particularly upon the hornblende which contains the oxide of iron in considerable proportion: this and the alumina of both the felspar and hornblende swell with moisture and contract on drying, but the most extraordinary change that occurs in old granites and which has not yet been accounted for, is quartz passing into an opaque soft pulverulent mass. Sir Charles Lyell and others attempt to explain it by the evolution of carbonic acid gas from under ground, but it appears to be more probably due to the electricity of the earth. Felspar in decaying forms kaolin or porcelain earth. Quartz is little liable to decay, but occasionally passes into a substance resembling tripoli, Mica decays into a yellow, brown, or green soapy earth, and hornblende into a brownish powdery loam. Many of the temples of Southern India are constructed of granite. Its preservation, and the sharpness of its carvings, testify to its great durability and the absence of wear and decay makes it difficult to determine, from appearances, the age of many oriental buildings made of it. The best granite quarries are at Bangalore, Sadras, Cuddapah, Vizagapatam, and Bellary; it is quarried by the action of fire, by wedges, or by gunpowder, &c. Ornamental granites of bright colors occur in several localities, those of Salem, Chittoor and Seringapatam are flesh colored, red, green, yellow and grey. Those of Arcot and Goodoowanchiryare pure white. The Bellary and Bangalore sienites, are red, grey, and white, with the colors blended in about equal proportions. The two last may perhaps be considered the most durable in India, some of the pale-grey granites and pegmatites or binary granites of Southern India contain a large proportion of felspar which leads to their decay. The carvings at Conjeveram, Tricheadoonum, Sadras and Chellumbrum, have lost a good deal of their sharpness from this cause, while those at Tarputree, Woontimitta, Hera Toombal, and other places in the Ceded Districts are nearly as sharp as when first executed. In a few temples and mahomedan tombs, the most richly cut pillars and ornaments are hewn out of basalt, augite, or basaltic hornblende. The best specimens of this kind of carving are at Vellore, Seerah, Tinnevelly, Humpee, Adony, Dummul, and Anagherry. The carvings have often a polished surface resembling black marble, but they are so hard as to strike fire with steel.—*M. E. J. R.*

GRANO FORMENTO, It. Wheat.

GRANOS, Sp. Corn.

GRANO TURCO-O-SICILIANO. It. Maize.

GRANT, Sir Hope, K. C. B., a British military officer who distinguished himself in China and in the rebellion of 1857: for a few years Commander-in-Chief in Madras.

GRANT, Dr. John, a Bengal Medical Officer who retired from the service as Superintending Surgeon of Agra.

GRANT, Sir Patrick, G.C.B., a Bengal military officer, Commander-in-Chief of Madras, afterwards Governor of Malta.

GRANT'H, means book; Adi Grant'h, First book, is a name given to the first religious book of the Sikh religionists, to distinguish it from the Dasama Padshah-ha Grant'h, or 'Book of the Tenth King,' composed by guru Govind. *History of the Punjaub*, Vol. I p. 91. See Grunt'h.

GRANTHIKA. Sans. also Pippalimula. Sans. Pepper root.

GRANUM MOLUCCUM. The seeds of Croton pavana. *Ham*: of Ava.

GRANZA. Sp. also Rubia, Sp. Madder.

GRAOS. Port. Corn.

GRAPE OIL. Oil of Vitis vinifera seed.

GRAPES, Eng.

Anub,	Ar.	Uvas,	Port.
Angur, Duk. Hind.	Pers.	Dracha,	Sans.
Raisins,	Fr.	Ubas;	Sp.
Trauben,	Ger.	Racimos,	
Darakh,	Guz.	Kodimundri pallam	
Dak'h,	Hind.	Dracha pallam,	Tam.
Grappi; Grappoli,	It.	Dracha pandu,	Tel.
Uvæ,	Lat.		
Buwah-angur,	Malay.		

Grapes, the fruit of the vine, are grown in Europe, America, Asia, most part of British India and in China. There are 87 species of the genera Vitis, Cissus and Ampelopsis, but the Vitis vinifera is the only one known as the grape vine. The Vitis indica, the Amclouka of the Indian Peninsula, Bengal and Himalaya, produces beautiful clusters of round purple berries and a large grape which is very fair eating: it is not the common vine of Europe which nevertheless is probably from this Himalayan plant, the Vitis indica. The origin of the common grape being unknown, it becomes a curious question to decide whether the Himalayan Vitis Indica is the wild state of that plant: a hypothesis strengthened by the fact of Bacchus, &c., having come from the East. The wild grapes of Isaiah v, 2. are a species of Solanum. In China, grapes are plenty and tolerably good, but the Chinese do not make wine. (*Hooker, Him.* Vol. II p. 187.) Grapes dried before being ripe and pounded are used in Kabul as a pickle. Wherever the grape is grown, many varieties occur; about 1,000 varieties exist but many of them are worthless. In the Punjab several varieties of grapes are recognized. "Kandahari," a purple grape; "kishmishi," a small seedless grape, producing what are called in England "Sultana raisins", these are of the varieties called "sahibi surkh" and "sahibi ablak;" the Khatan grapes produce the large common raisins, called "munakka;" "Gholab dan," a white grape; "Husaini" grapes come to Lahore from Kabul, in round boxes packed in cotton wool; "Sahibi," a superior (white); grape "Fakhri," sometimes called "askari," a black grape; "Munakka" and "Abjosh munakka," are grapes dried in the sun; to make "Abjosh" grapes they are plunged into boiling water, and then dried in the shade; "Rish baba;" "Dida-i-gau," a white grape, with some spots on the skin, which are said to resemble a cow's eye; hence its name; pious hindús refuse to eat this grape on this account.

"Karghani" (white), called from the name of a place; "Angur Jalalabadi," called also "Khatta Angur," grown at Charbagh, a few miles from Jalalabad; "Chatangur," grown also at Jalalabad. There is a fruit which is called angur, but is not a grape really, it is properly called "Khaya ghulama." The common sort of grapes, are "rocha-i-surkh" and "rocha-i-safed," also "toran." Green grapes are sold in the plains, in the winter time are the "hosaini," or "shaikh kalli" varieties; they are of large size, pale green color, and of delicate flavor, they are picked before being quite ripe, and packed between layers of cotton wool, in round boxes, made of white poplar wood, and tied up with a string of goat's hair; these are exported in thousands and called "Angur khatti," There is yet another, the "akta" grape, which produces bloom raisins, called "dagh," or more properly "kishmish-i-daghi," which are prepared by dipping the ripe bunches of fruit into a boiling solution of quick-lime and potash (hence called abjosh, lit. infused in water) before drying in the shade.

In the Indian Peninsula, there are several varieties but the common leek-green is the most esteemed, though many persons like the Habshi grape. In the arid regions of Rajputanah, where they depend entirely on the heavens for water, and where they calculate on a famine every seventh year, nothing that can administer to the wants of man is lost. The seeds of the wild grapes, as the bhoorut, buroo, herraro, sewun, are collected, and, mixed with bijra-flour, enter much into the food of the poorer classes. They also store up great quantities of the wild ber, khyr, and kharil berries; and the long pods of the karjra, astringent and bitter as they are; are dried and formed into a flour. Nothing is lost in these regions which can be converted into food;—*Ans. Mat. Med.* p. 10. *Powell's Hand Book, Punjab Products, Voigt, Cal. Hort. Suburb*, p. 27. *Williams, Middle Kingdom*, Vol. IV p. 45. *Fortune's Wanderings*, pp. 22, 63. *Hooker's Himalayan Journal.* Vol. II p. 187. *Tod's Rajasthan*, Vol. II p. 200

GRAPHIC SLATE. A slate that "soils and writes," as Dr. McClelland described it, is found east of Tavoy, and another and softer variety is found in Maulmain. They may be justly regarded as varieties of graphic slate. —*Mason.*

GRAPHITE.

Black lead, | Plumbago, Eng.

Occurs in Travancore, Ceylon, Vizianagrum, at Gurjolee, and at Almorah. See Blacklead, Carbon, Plumbago.

GRAPPI. It. Grapes.

GRAPSUS STRIGOSUS. One of the Crustaceæ. See Crabs, Crustacea.

GRAPTOPHYLLUM HORTENSE. *Nees.*

Justicia picta—*Roxb.*

Gnwæ-ban, Sa-lat nee, BURM. | Judi mara, MALEAL.

A flowering plant, with large crimson flowers, native of Java, commonly cultivated in gardens.

Var. b. G. lurido-sanguineum, the Salat.-nee of the Burmese is larger and has dark blood colored leaves.—*Voigt.* 488.

GRASSA. SP. also Aceite-de-pescado. Sp. Blubber.

GRASS CLOTH, or China Grass Cloth, is fabricated from the fibre of the Urtica nivea of Linnæus, the Boehmeria nivea of Gaudichaud. Though this beautiful fabric has long been known, it is only in comparatively recent times that it has been ascertained to be manufactured from the fibres of the Boehmeria nivea. It is met with bleached and unbleached. It is extensively used by the Chinese, being woven into narrow pieces and into handkerchiefs; the export being chiefly to India and the United States, many handkerchiefs being sent to the latter country. Clothes are sent from the Chinese market to South America, made from grass cloth and nankeen. No account of the quantity has been kept. See Bœhmeria.

GRAS, the griffin of Rajputanah. The Naguni, is half serpent, half woman. At Barolli, the Gras and Naguni are represented in a highly finished sculpture.—*Tod's Rajasthan*, Vol, II, p. 716.

GRASSES.

Myek. Desha, PIN. BURM HEB. | Ghas, HIND.

Is extensively cultivated in the South of China, for weaving floor matting of various degrees of fineness, the coarser kinds of which are used also to construct sheds to screen workmen when building houses and even the walls of the huts tenanted by the poor; the best comes from Lientan, west of Canton. No grasses are cultivated in China for food for animals, but the country produces many species fitted for rearing flocks and herds. Drs. Hooker and Thomson estimate the grasses of India at one-thirtieth of the entire flora of India. A great deal of Coix (Job's tears) is cultivated in the Khassia Hills about Moflong: it is of a dull greenish purple, and though planted in drills, and carefully hoed and weeded, is a very ragged crop. The shell of the cultivated sort is soft, and the kernel is sweet; whereas the wild Coix is so hard that it cannot be broken by the teeth. Each plant branches two or three times from the base, and from seven to nine plants grew in each square yard of soil: the produce is small, not above thirty or forty fold. In India, grass is rarely cultivated for grazing purposes as it is in Europe, and it is but seldom cut and stacked as hay; but in the Rakhs of the Punjab, and in the "bar" tracts, during the rains, the whole surface of the plain is covered with grass. Sseveral sorts—no less than thirty—each with its distinctive name, were collected in the rainy season near Lahore. Dr. Hooker tells us that at 4,000 to 5,000 feet elevation in the Khasia, he has collected upwards of fifty species of Gramineæ alone, in an eight miles' walk, and twenty to thirty Orchideæ; but these are quite exceptional cases. Their rapid growth and subsequent dryness render many Indian grasses unfit for pasture at the end of the year. Grass-cutters, who provide horses, usually search for and collect the dubh grass (Cynodon dactylon). Dr. Royle mentions that the grasses of Hariana (Sirsa and Rohtak)—and indeed it is true of the Rakhs generally, consist of species of Panicum, Pennisetum, Cenchrus, Chætaria, Vilfa, Dactyloleniun, Chloris, Eleusine, Achrachne, Poa, Eragrostis, and Andropogon: and, to these, species of Saccharum, and Rottböllia should be added. Besides various grasses, other fodders are employed: in one place a clover or lucerne, "Shotal," is grown; also Sinji, but this principally by Europeans for their horses and other cattle. Cattle are usually fed (besides grass) on bhusa, or as it is called in Punjabi "turi," the chopped straws of wheat and barley, besides which they get "Karbi," the dried stalks of jawar (H. sorghum); this latter when green and fresh is called "Charri." Chopped leaves of the ber (both Z. vulgaris and Z. nummularia), called "mulla," are much used, and are said to be fattening. Dr. Henderson mentions that in Shahpur and one or two other districts, turnips are grown very extensively for feeding cattle during the cold weather and they often attain a larger size than in Europe. A few of these are used in times of famine for food, as the "markan" grass, the wild Sawank, and "Phog," the seed of Calligonum polygonum, is used as human food in the Punjab in times of famine. Dhaman or anjan (Pennisetum cenchroides) is considered the best grass for cattle, rapidly improving their condition and increasing their produce in milk. Jhang is a scented grass, probably Andropogon schœnanthus, and the root of A. muricatum forms the Khaskhas used in matting tatties and screens for cooling purposes.—*Powell Hand Book Econ. Prod. Punjab*, pp. 244 and 245. *Royle Ill.*

Him. Botany p. 421. *Mason's Tenasserim. William' Middle Kingdom*, p. 277. *Hooker's Himalayan Journal*, Vol. II, p. 289. See Food. Graminaceæ: Rushes.

GRASS CUTTER, in India, generally, two servants are attached to each horse, a groom and a grass-cutter. The latter gene rally brings in the roots of the hariali or d'hub grass.

GRASS FERN. Pteris graminifolia. See Ferns.

GRASS HOPPER. One of this tribe, a species of Decticus, is kept by the Chinese in cages for fighting.

GRASS-HOPPER WARBLER. Locustella raya.

GRASIA, Hind. Garasio' Guzerat. In western India, a military chief. The term is derived from Grass, a Sanscrit word, which signifies a mouthful, and has been metaphorically applied to designate the small share of the produce of a country, which these land-owners claim. *Malcolm's Central India*, Vol. I, p. 508. See Kattyawar

GRASS OIL OF NEMAUR. Roosa-katel. Hind. This valuable oil was first brought to notice by Dr. Maxwell in 1824, and was further described by Dr. Forsyth in 1826. The oil is obtained from the Andropogon calamus aromaticus by distillation; 250 to 300 small bundles of the grass are placed in a boiler, covered with water, and distilled. About a seer of oil is obtained in the receiver. Dr. Forsyth describes it as volatile, extremely pungent, of a light straw colour, very transparent, with a peculiar, rich and agreeable odour. Dr. Forsyth adds, that it is very highly esteemed by the wealthy natives for the cure of rheumatism, especially that of the chronic kind; two drachms of the diluted oil are rubbed over the pained part in the heat of the sun or before a fire twice daily. It causes a strong sensation of heat or pricking, lasting for two hours or longer. The natives also regard it as an efficacious remedy in slight colds. They anoint the soles of the feet with the oil and it is stated that slight diaphoresis is thus produced. Other grasses furnished fragrant oils, as the lemon grass oil, or essence of verbena, ginger grass oil, citronelle. *Trans. Med. and Phys. Soc.* iii. p. 219.—*O'Sh.* p. 639.

GRASU-GADA. Tel. Batatas edulis.

GRATIOLA MONNIERA L. & G. Portulacea. Weinm. syns. of Herpestes monniera.—*Ham. Bch: Kunth.*

GRATIOLA SERRATA.

Notched Hyssop, Eng. | Bhoomia-neem, Hind.

Grows wild during the rains, used as a bitter by the poor. *Genl. Med, Top.* p. 173.

GRAUWERK. Ger. Calabar skins.

GRAUCALIDÆ. A family of birds comprising 3 gen. 5 sp. viz. 1 Graucalus; 3 Campephaga; 1 Lalage.

GRAVET. A term in Ceylon applied to the space outside the principal forts in Ceylon, The Singhalese word, Cadawetta, describes the enclosure or boundary of a temple or city, or a royal chase. It was adopted by the Portuguese, after the erection of these fortresses, to define the limits of the lands they had been permitted by the native princes to appropriate, and the word Garvetta is still used in the patois of the Portuguese descendents. When the Dutch seized the forts the word passed into Gravette, which appears on their records, and from the British, in turn, took the present term Gravets. *Tennent's Christianity in Ceylon*, p. 291.

GREASE FOR RAILWAYS. The mixture used by the East Indian Railway for axle-grease is this.

Tallow,	... 50 lb.	Castor oil,	... 30 lb.
Country soap,	20 ,,	Water about	10 Gals.

Melt the tallow in a large vessel, cut the soap in slices and put into the water when the latter is warm. When the soap is fully dissolved pour the water containing it into the tallow after which add the castor oil; immediately after the latter is added, take the mixture off the fire, and while it is cooling let it be stirred constantly till cool. The mixture may require a little more or less water according to the temperature of the weather.

GREAT ASIATIC BANK. The depth of water on these banks averages about 30 fathoms, deepening rapidly as the edge is approached, and shoaling gradually towards the land. And, where the earth has not risen above the waters surface, great submarine banks are to be traced from one island to another.

GREAT BASSES. See Basses.

GREAT CONSTANTINE. See India, p. 313.

GREAT CROWNED PIGEON. See Columbidæ.

GREATER GALANGAL, Eng. Alpnia galanga *Sw.*

GREAT INDIAN PENINSULAR RAILWAY, was the first in India, was commenced from Bombay, in 1851; twenty-one miles to Tannah, were opened on the 16th April 1853. It was ultimately extended across the Western Ghauts to the cotton districts of the interior.

GREAT KING, also Saviour, Soter, the title assumed by the Arsacidæ. See Bactria.

GREAT KING; Sri Nara. See Inscriptions p. 386.

GREAT MILLET. Eng. Sorghum vulgare.—*Pers.*

GREAT MOGUL. A designation employed by the nations of Europe as the title of the emperors of Delhi, most of whom were descendents of the moghul Baber.

GREAT NICOBAR ISLANDS, one of the Nicobar group. See India; Nicobar Islands.

GREAT PULO LAUT. See Pulo Laut.

GREAT THIBET. See Lhasa.

GREBE. A water bird with semi-palmate feet known, in India, as a diver. See Birds, Colymbidæ, Podiceps.

GREAT PIPE-FISH. One of the Syngnathidæ; See Fishes.

GRECO-BACTRIANS. See Greeks of Asia. Inscriptions. p. 372.

GRECIAN MYTHOLOGY is largely mixed up with the mythology of India,—the Ceres of Greece, has the Lakshmi and Sri of India, Eros of Greece, is the Indian Kama, Yama or Dharmarajah is the Grecian Pluto—the Grecian Dionysius is the Indian Rama; Vaitarini in the hindu pantheon has its supposed analogue in the river Styx and Cerberus has corresponding dogs.

Durga, is the analogue of Juno.
Narada, god of music = Mercury.
Krishna = Apollo.
Bhawani = Venus.
Kali or Durga = Proserpine.
Agni = Vulcan, fire, ignis.
Swaha, wife of Agni = Vesta.
Aswini-Kumara = Castor and Pollux.
Aruna = Aurora.
Atadeva = Diana.
Kuvera = Plutus, god of riches.
Indra = Jupiter, god of the firmament.
Varuna = Neptune, god of the water.
Prithivi = Cybele, goddess of earth.
Viswakarma = Vulcan, architect of the gods.
Kartikeya or Skanda = Mars, god of war.
Kama = Cupid, Eros, god of love.
Surya or Arka = Sol, the sun.
Hanuman, the monkey god, son of Pavana = Pan.
Rama, god of wine = Bacchus.
Heracula, an Indian deity = Hercules.
Aswiculapa = Esculapius = Genii.
Vaya = Æolus.
Sri = Ceres.
Anna-Purna = Anna perenna.

The religions of the ancient Greeks, though forming collectively one vast polytheistic system, were exceedingly numerous, and dissimilar in their character. Greece and Asia Minor seem to have been parcelled out among a number of deities, each of whom was the paternal god of some city or race, having not only separate rites, but a form of worship widely different. Each deity had his favourite abode, and local attachment to some valley, or grove, or town, to which the power and presence of the divinity especially belonged, and hence in Bœotian Thrace, we trace the orgies of Bacchus; in northern Thessaly, the worship of Apollo; on the Corinthian shores, the rites of Neptune; in Argos, the temples of Juno; and in Ephesus, the worship of Diana. Though acknowledged to be divine out of their own peculiar domains, yet their worshippers were rather averse to proselytism, fearing lest, by an extended communication, the local influence of the deity should be weakened. The sacred object of Ephesian worship, was carefully preserved, from the period of its first formation, through the ages which intervened, till the demolition of pagan temples, which followed upon the rise of christianity. The image consisted of a large block of wood, of beech or elm, but, according to some, of ebony or vine, shaped into a likeness of the goddess, and evidencing its remote antiquity by the rudeness of its workmanship. The first statues were unshaped blocks and stones; and, hence, the word column, was generally used by the Greeks, to denote a statue. Greeks worshipped Baal. They identified Baal with Zeus as they did Astarte with Venus. The heaven-fallen idol of Ephesus was not a representation of the elegant huntress of classic fable, but an Egyptian hieroglyphic, a personification of nature. In this character she was pictured as a woman, having a number of breasts, to denote, according to Jerome, that, as nature, she was "the nurse, the supporter and life of all living creatures."—*Milner's Seven Churches of Asia*, p. 83. *Sir W. Jones.* See Deo. Gruma deva.

GREDA. Sp. Chalk.

GREEKS OF ASIA. Alexander the Great in his advance towards the Indus, formed military stations in Bactria, and after his demise, when the generals of his armies set up for independence, Bactria was carved into a kingdom, which, with varying limits, lasted from B. C. 256 to A. D. 207.

Professor Lassen supposes the existence of four Greek kingdoms, viz., *first*, that of Bactria. A *second* eastern, under Menander and Apollodotus, comprehending the Punjab and valley of the Indus, with Kabul, and Arachotia or Kandahar, added in times of its prosperity. A *third*, western, at Herat and in Seistan. A *fourth*, central, of the Paropamisus, which

latter region Mr. Prinsep is inclined to give to Bactria, because of the bilingual as well as the pure Greek coins of Heliocles and Antimachus, kings of Bactria. Mr. Thomas, in Prinsep's Antiquities, gives Major Cunningham's Table. The countries over which the Greeks ruled were seemingly Bactria, Sogdiana; Margiana; Paropamisadæ; Nysa; Aria-Dranga; Arachosia; Gandharitis, Peukelaotis, Taxila, Patalene, Syrastrene and Larice, but their limits were incessantly varying, the dynasties in Asia, founded after the death of Alexander the Great, by his generals, &c., were as under:

I *Syria.*.

B. C.

334 Alexander the Great; born 356, died 323.

312	Seleucus	I,	Nicator.
280	Antiochus	I,	Soter.
261	Antiochus	II,	Theos.
246	Seleucus	II,	Callinicus.
226	Seleucus	III,	Ceraunus.
223	Antiochus	III,	Magnus (Achæus.)
187	Seleucus	IV,	Philopator.
175	Antiochus	IV,	Epiphanes.
164	Antiochus	V,	Eupator.
162	Demetrius	I,	Soter.
150	Alexander	I,	Bala.
147	Demetrius	II,	Nicator.
144	Antiochus	VI,	Theos.
142	Tryphon		
137	Antiochus	VII,	Sidetes.
128	Alexander	II,	Zebina.
125	Seleucus	V,	
125	Antiochus	VIII,	Grypus.
112	Antiochus	IX,	Cyzicenus.
96	Seleucus	VI,	Epiphanes.
95	Antiochus	X,	Eusebes.
	Antiochus Philip and	XI,	Epiphenes.
94	Demetrius	III,	Eucærus.
88	Antiochus	XII,	Dionysius of Josephus.

83 Tigranes, of Armenia.

69 Antiochus XIII, Asiaticus.

65 Syria became a Roman Province.

Antiochus Soter succeeded Seleucus Nicator, and in the reign of his successor, Antiochus Theos, Arsaces, a Scythian, who came from the north of the Sea of Azoff, induced the Persians to throw off the Greek yoke, founded the Parthian empire, and made Rhages his capital. This was likewise the period of the foundation of the Bactrian kingdom by Theodotus the governor of it, who, finding himself cut off from Syria by the Persian revolution, declared his independence. Arsaces is called Asteh by Eastern writers, and is said to have been a descendant of the ancient Persian kings. When he gained the kingdom it is said he promised to exact no tribute and merely to consider himself as the head of a confederacy of princes united for the double object of maintaining their independence and freeing Persia from a foreign yoke. This is the commencement of that era of Persian history called by Eastern writers, Mulook-ut-Tuaif, or commonwealth of tribes.

In A. D. 906, Rhages was taken by Ismail, founder of the Samani dynasty. It ceased now to be a seat of empire, and in A. D. 967, became the capital of the house of Shemgur, a race of petty princes who maintained a kind of independence, while the dynasties of Saman and Dilemee divided the empire of Persia. In A. D. 1027, Rhages was the last conquest of Mahmood of Ghazni.

II *Bactria.*

The sole evidence of the long line of Bactrian kings, exists in the emanations from their mints, exhumed from time to time in and around their ancient seats of government. In the almost total absence of annals, whether occidental or oriental, their coins furnish nearly all the testimony at present available with which to reconstruct the story of the survival, re-institution and extinction of the dominant Hellenic element, on the site of Alexanders furthest conquest in the East, and of those potentates who swayed the destinies of these lands for upwards of two centuries. Professor Wilson gives a list of them from Theodotus I., B. C. 256 to Pantaleon B. C. 120. Then of Barbaric kings Su Hermæus, Kadaphes and Kadphises; from B. C. 100 to B. C. 50. Of an Indo-Parthian dynasty: The Indo-Scythian princes of Kabul: and a classification of their cotemporaries. Mr. Thomas, in Prinsep's Antiquities, quotes Major Cunningham's table.

B. C.

256 Diodatus I } Bactriana (including Sogdia-
243 ,, II } na, Bactria and Margiana).

247 Agathocles } Paropamisidæ and Nysa.
227 Pantaleon }

220 Euthydemus—Bactriana, Ariana (including Aria, Drangia, Arachosia and Paropamisidæ), Nysa and subsequently Gandharitis, Peukelaotis, and Taxila.

196 Demetrius, ditto, ditto, and later in his reign, Patalene, Syrastrene, Larice.

190 Heliocles—Bactriana and Paropamisidæ.

190 Antimachus Theos.—Nysa, Gandharitis; Peukelaotis and Taxila.

185 Eucratides—Bactriana, Ariana, besides Patalene, Syrastrene and Larice, as well as Nysa, Gandharitis; Peukelaotis and Taxila.

173 Antimachus Nikephoros—Mysa, Gand., Peuk., and Taxila, contemporarily with Eucratides' retention of the rest of his dominions.

165 Philoxenes succeeds to Antimachus Nikephoros' kingdom.
Nicias'—ditto, with the exception of Taxila.

165 Apollodotus succeeds Eucratides in Ariana, as well as Pata., Syr., Larice.
Zoilus, Diomedes, Dionysius } follow Apollodotus in Ariana alone.

159 Lysias succeeds these in Paropamisidæ, and obtains Nicias' dominion of Nysa, Gand. Peuk; while Mithridates I., possesses himself of Ariana, having previously gained Margiana from Eucratides.

Antialcidas succeeds to Lysias' kingdom.
Amyntas.
Archebius follows Antialcidas.

161-140 Menander reigns in Paropamisadæ Nysa, Gand., Peuk., Taxila, Por. Reg., Cath., Patalene, Syr. Larice.

135 Strato—succeeds, with the exception of the countries of Pata., Syr., Larice. which fall to Manas.
Xippostratus, Telephus } follow Strato.

Of all the kings who followed Eukratides, Menander and Apollodotus alone are mentioned by classical authorities.

The history of the country of the Kophones river, i. e. Bactria, Aria and Kabul, is obtained from coins, many of which have bilingual inscriptions, the one Greek, on the obverse, some of excellent workmanship but often of very barbarous forms, the other on the reverse in that called Arian, Arianian, Bactrian and Kabulian. According to the prevalent authority, of Lassen, James Prinsep, Professor Wilson and others, this language is said to be Sanscrit, but Dr. Moore asserts it is Hebrew. It is written from right to left. Colonel Tod says the Aswa or Asi was one of the four tribes which overturned the Greek kingdom of Bactria. The ancient hindu cosmographers claim the Aswa as a grand branch of their early family, and doubtless the Indo Scythic people, from the Oxus to the Ganges, were one race.—*Barbaric kings.*

. BC.

126 Hermæus—rules over Parop.—Nysa, Gand. Peuk. (The Su-sakarace obtain Aria, Drangia and Arach, from the Parthians.)
Manas—has Taxila, Por. Reg. Cath. Patalene, Syrastrene, Larice.

105 Kadphises—(*Yuchi*) takes possession of Hermæus' kingdom, and Taxila from Manas (Kozola Kadaphes).
Vonones, Spalygis, Spalirises } Paropamisadæ.

110 Azas—succeeds Manas obtaining also in 90 B. C. Nysa, Gand., and Peuk.

80 Azilas—succeeds Azas in the three latter,—adding Taxila and the Paropamisadæ.

80 The Soter Megas obtains the dominions of Azas, and subsequently those of Azilas.

60 The Yuchi again possess Paro, Nysa and Taxila etc.

26 Gondophares, reigns in Ariana. Abdagasses (and Sinnakes or Addinigaus) ditto in ditto, less the Parop.

A. D.

44 Arsaces (Ornospades or Orthomasdes) ditto ditto.

107 Pakores Monnesses—ditto ditto (Hiatheleh) in Bactriana.

207 Artemon—in Aria, Drangia, Arachosia.

iii *Parthia.*

B. C.		A. D.	
255	Arsaces I	13	Artabanus III
253	Tiridates I		(Tiridates) III
216	Artabanus I		(Cinnamus)
196	Phraapatius		(Artabanus) III
181	Phrahates I	42	Bardanes
173	Mithradates I	45	Gotarzes
136	Phrahates II	50	(Meherdates)
126	Artabanus II	51	Vonones II
123	Mithradates II	51	Vologeses I
37	Mnaskires	62	(Artabanus) IV
77	Sinatroces	77	Pacorus
70	Phrahates III	108	Chosroes
60	Mithradates III	115	(Parthamaspates)
54	Orodes I	116	Chosroes
37	Phrahates IV	121	Vologeses) II
	(Tiridates) II	148	Vologeses III
	(Phrahates) IV	192	(Vologeses) IV
A.D.		209	(Vologeses) V
4	Phrahates		Artabanus V
5	Orodes II	235	Artaxerxes, king of Persia, 1st of the Sassanidæ
5	Vonones I		

(*Smith's Bio. Dic. Ferrier's Journal* p. 55-68. *Malcolm's Hist. of Persia. Prinsep's Antiquities by Thomas*, Vol. II, p. 176, &c.)

The family name Arsaces was that applied to all the kings of Parthia, hence called the Arsacidæ. There were military colonies of Macedonians established at Alexandriad, Caucasum, Arigæum, and Bazira, and garrisons at Nysa, Ora, Massaga, Peucelaotis and at Aornis, a mountain range, supposed to be the mountains of Mahaban

in the Pir Panjal or Mid Himalayan range. (See Kafir.) It would appear that the Greek colonists in the Punjab had first been placed under Philip, while the civil administration of the country remained in the hands of its native princes, Taxiles and Porus. Afterwards, on the murder of Philip by the mercenary soldiers, Alexander (Anabasis vi, 2, vii) directed Eudemos and Taxiles to govern the country until he should send another deputy. It is probable, however, that they continued to retain the charge; for after Alexander's death in B. C. 323, Eudemos, contrived by his general Eumenes to make himself master of the country by the treacherous assassination of king Porus. (Diodorus xix, 5). Some few years later, in B. C. 317, he marched to the assistance of Eumenes, with 3,000 infantry and 5,000 cavalry, and no less than 120 elephants. With this force he performed good service at the battle of Gabiene. But his continued absence gave the Indians an opportunity not to be neglected; and their liberty was fully asserted by the expulsion of the Greek troops and the slaughter of their chiefs,—Justin xv, 4.—"Præfactos ejus occiderat": again "Molienti deinde bellum adversus præfactos Alexandri." Chandra Gupta was present when Porus was murdered, and he became the leader of the national movement, which ended in his own elevation to the sovereignty of the Punjab. Justin attributes his success to the assistance of banditti; Justin xv, 4.—"Contractis latronibus Indos ad novitatem regni solicitavit." But in this, Colonel Cunningham thinks he has been misled by a very natural mistake; for the Aratta, who were the dominant people of the Eastern Punjab, are never mentioned in the Mahabharata without being called robbers. (Lassen, Pentapot. Indica.) "Aratti profecto latrones," and "Bahici latrones." The Sanscrit name is Arashtra, the "kingless," which is preserved in the Adraistæ of Arrian, who places them on the Ravi. They were the republican defenders of Sangala, or Sakala, a fact which points to their Sanskrit name of Arashtra, or "kingless." But though their power was then confined to the eastern Punjab, the people themselves had once spread over the whole country.—"Ubi fluvii illi quini * * * ibi sedes sunt Arattorum." (Lassen, Pentapot Indica, from the Mahabharat.) They were known by the several names of Bahika, Jarttika, and Takka; of which the last would appear to have been their true appellation; for their old capital of Taxila or Takka-sita, was known to the Greeks of Alexander; and the people themselves still

exist in considerable numbers in the Punjab hills. The ancient extent of their power is proved by the present prevalence of their alphabetical characters, which, under the name of Takri, or Takni, are now used by all the hindus of Kashmir and the northern mountains, from Simla and Sabuthu to Kabul and Bamiyan. On these grounds Major Cunningham identifies the banditti of Justin, with the Takka, or original inhabitants of the Punjab, and assigns to them the honour of delivering their native land from the thraldom of a foreign yoke. This event occurred most probably about 316 B. C., or shortly after the march of Eudemos to the assistance of Eumenes. It was followed immediately by the conquest of Gangetic India, Justin. xv. iv., and in 316 B. C., the rule of Chandra Gupta was acknowledged over the whole northern peninsula, from the Indus to the mouths of the Ganges. According to Col. Tod, the Yavan, or Greek princes, who apparently continued to rule within the Indus, after the Christian era, were either the remains of the Bactrian dynasty, or the independent kingdom of Demetrius or Apollodotus, who ruled in the Punjab, having, as their capital, Sagala, changed by Demetrius to Euthymedia. Beyer says, in his Hist. Reg. Bact, p. 84: that according to Claudius Ptolemy, there was a city within the Hydaspes yet nearer the Indus, called Sagala, also Euthymedia; but he scarcely doubts that Demetrius called it Euthydemia, from his father, after his death and that of Menander. Demetrius was deprived of his patrimony A U. C. 562. Sagala is conjectured by Col. Tod to be the Salbhanpoora of the Yadoo when driven from Zabulisthan, and that of the Yuchi or Yuti, who were fixed there from Central Asia in the fifth century, and, if so early as the second century, when Ptolemy wrote, may have originated the change to Yuti-media, the 'Central Yuti.' Numerous medals chiefly found within the probable limits of the Greek kingdom of Sagala, either belong to these princes or the Parthian kings of Minagara on the Indus. The legends are in Greek on one side, and in the Sassanian character on the reverse. The names of Apollodotus and Menander have been decyphered, and the titles of 'Great King,' 'Saviour,' and other epithets adopted by the Arsacidæ, are perfectly legible. The devices, however, resemble the Parthian. These Greeks and Parthians must have gradually merged into the hindu population. Recent travellers, Burnes, Masson, and Ferrier, met with tribes who claim a Grecian

descent. According to Burnes, the Mir of Badakhshan, the chief of Darwaz in the valley of the Oxus, and the chiefs eastward of Darwaz who occupy the provinces of Kulab, Shaughnan, and Wakhan north of the Oxus; also the hill states of Chitral, Gilgit and Iskardo, are all held by chiefs who claim a Grecian origin.

According to Ferrier, however, the whole of the princes who claim descent from Alexander are Tajik who inhabited the country before it was overrun by Turki or Tartar tribes. The Tajik, now mahomedans, regard Alexander as a prophet. The Badakshan family are fair but present nothing in form or feature resembling the Greek. They are not unlike the modern Persian, and there is a decided contrast between them, the Turk and Uzbek.—*Tod's Rajasthan*, Vol. I, p. 232. *Prinsep's Antiquities by Thomas*, Vol. II, p. 176. *Smith's Biographical Dictionary. Ed. Ferrier's Journal*, p. 55 68. See Alexander Affghan, pp. 37, 38; Hindoo; India; Infanticide; Inscriptions; Javan; Kabul; Kama; Kandahar; Kasr; Kelat; Kol; Krishna; Kurumbar; Lakshmi; Magadha; Osiris; Pandiyon; Polyandry, Sakti, Sanscrit; Serpent; Siva; Surya; Varaha; Vindasara; Visvakarama; Yavana.

GREEN COPPERAS, or Green Vitriol.

Sulphate of Iron	Eng.	Ferri sulphas, Ferri vitriolatum sal-	
Sulfate de fer,	Fr.	martis,	Lat.
Schwefelsaures eisen,	Ger.		
Heracussis,	Guz. Hind.	Taroosee,	Mal.
Hera-tootia,	„ „	Zunkur madnee,	Pers.
		Tootiya-subz,	„
Solfato di ferro,	It.	Anna bugdie,	Tam.

Green copperas called also green vitriol is a principal ingredient in dyeing, in the manufacture of ink, and of Prussian blue; it is also used in tanning, painting, medicine, &c.—*McCulloch. Faulkner.*

GREEN-DYE PLANTS. See Dyes.

GREEN-DYE RHAMNUS. See Rhamnus.

GREEN GALLS. See Galls.

GREEN GARNET. See Garnet.

GREEN GRAM. or black gram. Eng. Phaseolus mungo.—*Linn.*

GREEN SHANK. The Indian Greenshank, has been separated from Totanus glottis by the name T. glottoides; and the latter name is adopted by Mr. Gould for the Greenshank of Australia. Upon comparison of fine specimens from Scotland and Norway with others obtained in the Calcutta provision bazaar, no difference whatever can be discerned. The alleged T. glottoides is simply the bird in its winter plumage, in which it is less known in Britain than in its summer garb.

GREEN STANDARD The troops of the Green Standard are divided into 1202 ying, battalions or cantonments, of which there are but five in Peking, under the command of the Captain-general of the Gendarmery. These ying vary widely in strength; and a number of them, also differing in different places, composes a piau of which there are 43, or a "chinpiau" of which there are 72, in the eighteen provinces. M. Huc speaks of these (Vol. I, p. 404) as estimated at 500,000 strong.

GREENS. Vegetables used for food, called in Hindi "baji."

GREENSTONE. A volcanic rock common in the Peninsula of India. It is exceedingly hard and difficult to work, but it takes a most beautiful and durable polish, as in the magnificent mausoleums of Golcondah, the tombs of Hyder Ali and Tippoo Sultan at Seringapatam, and in many of the sculptures of the Carnatic pagodas.

A stone much used for building and ornamental purposes in Madras; it occurs in many parts of Southern India and is known under the names of freestone and grey granite. It is hard and durable but more expensive than the granites, from the greater labor of quarrying and cutting the blocks; at Madras the cost of this stone is from Rs. 1-4-0 per ton. This material is used in buildings and in religious sculptures, the natives also occasionally make domestic articles of it, such as round mill-stones, pestles and mortars, door-posts, lintels, &c. *Carter's Geological Papers on Western India.*, p. 9.

GREEN TOURMALINE. See Schorl. Tourmaline.

GREEN TURTLES. See Chelonia.

GREEN VITRIOL. Sulphate of iron. See Green copperas.

GREIN SCHARLAKENBESSEN. Dut. Kermes.

GREISHER. See Kelat, p. 489.

GRENADES. Fr. Pomegranate.

GRENAT. Fr. Garnet.

GRENDI. Sans. also Tagarum. Sans. Ruellia strepens.

GREWIA. A genus of plants, of the Natural order Tiliaceæ, the Linden tribe, fifty-three species of Grewia have been discovered in the East Indies the principal of which are

abutilifolia.	microstemma.	sapida.
asiatica.	microcos.	sclerophylla.
columnaris.	occidentalis.	sepiaria.
denticulata.	oppositifolia.	trichodes.
floribunda.	paniculata.	tiliæfolia
humilis.	populifolia.	ulmifolia.
elastica.	rotundifolia	umbellata.
hirsuta.	pilosa.	vimiuea.
lœvigata.	polygama.	villosa.

GREWIA ASIATICA.

Grewia oppositifolia is employed in the Himalaya for making ropes, and G. elastica, Dhamnoo of the natives, is valued for the strength and elasticity of its wood. Cattle are fed on the leaves of some species, G. didyma, grows at moderate elevations in the Himalaya. The pleasant-tasted sub-acid fruit of several species is eaten by the natives of India, but principally used for making sherbet. Asiatica, or phalsa, is cultivated in gardens.

The species of Grewia are of frequent occurrence in the peninsula of India, and perhaps there is no tree more generally diffused throughout the Tenasserim Provinces than a species of Grewia, whose terminal bunches of flowers may be seen on almost every knoll in the country. At Tavoy, when vessels require spars, they are usually furnished from a small tree which grows on the sea-board, belonging to this genus.

The Mai-va of the Burmese in Tavoy and the Tha-ran of the Burmese of Moulmein are two species of Grewia. The wood of a species of the Madras Provinces makes good walking sticks.—*M. E. J. R. Eng. Cyc. Mason. Voigt. Roxb.*

GREWIA ASIATICA, *Linn. Roxb. W. & A.*

Falsa,	Beng. Hine. Tam.	Dowaniya,	Singh.
Pharaho,	Sind.	Putiki,	Tel.

Grows in the peninsula of India, in Bengal, northern India and the Punjab and is a large tree of Pegu, like G. floribunda, but not so plentiful. Commonly cultivated in the plains of the Punjab for its pleasant, sub-acid, small berry-like fruit, eaten and used for making sherbet. A spirit is said to be distilled from it and the fruit is much prized by mahomedans, who prescribe it to cool the body in fevers. Cultivated at Ajmeer, both large tree and small bush varieties, the large tree is very beautiful when in new foliage. The shrub is generally cultivted in most fruit gardens; it bears a dark purple berry, when ripe, containing one or two small stones. The fruit is generally made into sherbet by pouring boiling water on it, and when cool, adding sugar to the taste. The plants grown readily from the seed are generally cut down almost to the ground in November, and even the leaves are burnt round the stalks, after which the roots are opened and manured, and watered occasionally, when new shoots spring out, and the fruit is borne near the axilla of each leaf; when of a dark purple, they are ripe and fit for use. The appearance of its leaves has caused Europeans to mistake it for the hazel. The leaves and buds are officinal.

GREWIA MICROCOS.

Grewia asiatica and G. tiliæfolia both yield a useful bast. Wood, white colour and adapted for every purpose of house building.—*Drs McClelland. J. L. Stewart, Ainslie*, p. 225. *Irvine. Riddell. Cleghorn Punjab Rep. Kullu and Kangra*, p. 82.

GREWIA BETULÆFOLIA. Juss.

Gangi,	Tr. Ind.	Khircha,	Tr. Ind.
Inzare,	„	Ganger	Sutlej.

A small shrub growing North West from Delhi, on the hills beyond the Indus and up to 3000 feet as the Salt Range. Its small tasteless fruit is eaten by the natives.—*Dr. J. L. Stewart.*

GREWIA ELASTICA Royle.

Dhamun,	Hind.	Farri,	Punjab.
Dhamono,	„		

A tree, fifteen to twenty feet high, found in the Sutlej valley between Rampur and Sungnam at an elevation of 4,000 feet; common in the Himalaya at moderate elevations, and grows in Kimmedy, Ganjam and Gumsur. It affords timber which is highly valued for its strength and elasticity and much used for bows, buggy shafts, and bangy sticks. Its fruit is used to make sherbet. In the N. W. Himalaya, the branches are periodically cut in winter time as provender for the cattle.—*Cleghorn Punjab Report*, p. 64. *Royles Ill. Him. Bot.*, p. 104.

GREWIA FLORIBUNDA, *Wall.*

Myat ya,	Burm.	Ta-yáu,	Burm.
Mya ya gyee,	„		

A very common tree, throughout the Rangoon, Pegu and Tounghoo districts, but scarce in the Prome and Tharawaddy districts. It is a good serviceable timber for all ordinary purposes of house-building. The bark affords a coarse strong fibre, not much employed, however, by the Burmese.—*Dr. McClelland Cal. Cat. Ex.* 1862.

GREWIA HIRSUTA. Javelliki. Tam. A shrubby plant; fruit hairy, common in the jungles.—*Jaffrey.*

GREWIA HOOKERII, *McClelland.*

Phet woon. Burm.

Very plentiful in Pegu. It attains a girth of about 3 to 4 feet, and grows up tall and remarkably straight. It is found with teak in the forests of Pegu and Tounghoo. Wood white coloured and adapted for every purpose of house-building.—*Dr. McClelland.*

GREWIA MICROCOS. Linn.

Grewia ulmifolia, Roxb. Wight.		Microcos mala,	Ham.
Grewia affinis,	Lindl.	Microcos stauntoniana,	G. Don.
Microcos paniculata,	L.	Arsis rugosa.	Loud.
Mya-ya	Burm.		

A shrub in the Peninsula of India, and found as a small tree on elevated ground of

British Burmah. Wood not used. A cubic foot weighs lbs. 51. In a full grown tree on good soil the average length of the trunk to the first branch is 10 feet and average girth measured at 6 feet from the ground is 4 feet.—*Dr. Brandis, Cal. Cat. Ex.* 1862.

GREWIA OBLIQUA.

Darsook mara, CAM. | Damun, MAHR.

A tree of Canara and Sunda, found mostly below, seldom grows large. Wood used in agriculture, house posts, &c.—*Dr. Gibson.*

GREWIA OPPOSITIFOLIA. BUCH.

Daman, HIND. | Bihull, SINDI PANJ.

Grows in the Kheree Pass, and in the Dhera Dhoon, is found in the Sutlej valley between Rampur and Sungnam at an elevation of 5,000 feet. The branches are periodically cut in winter time as provender for the cattle. Its inner bark is employed in the Himalaya for making ropes, is used for cordage and coarse cloth and to make into a kind of paper.—*Royle Ill. Cleghorn Punjab Rep. Kullu and Kangra*, p. 82.

GREWIA PANICULATA. ROXB. ?

Microcos tomentosa, SM. | Hunu-kirille, SINGH.

According to Mr. Mendis, a tree, of the southern province of Ceylon, where its wood is used in house-building. A cubic foot weighs 44 lbs. and it is esteemed to last 25 years. But Voigt calls it a shrub, and it is possible that Mr. Mendis' botanical name requires attention.

GREWIA ROTHI.—*D. C. W. & A.*

Bather; bekhar; nikki,	PANJ.	Siri Jana,	TEL.
Kolupu,	TEL.	Jibilika chettu,	"
G. salvifolia,	ROXB.	Tadika chuvva,	"

A tree of the Punjab, Circars, and of the Cuddapah Nalla Mallai; has a light, ash-colored wood, with a straight grain, hard and strong, is much used and very serviceable. Wood very hard and much used in the Circars, makes good walking sticks.—*Capt. Beddome. Mr. Latham. Madras Hort. Gard.*, 44.

GREWIA ROTUNDIFOLIA. OONOO. a wood of moderate strength.

GREWIA SPECTABILIS. ?

Phet-woon, BURM,

Very plentiful; attains a girth of about three to four feet and grows up tall and remarkably straight. They are found with teak in the forests of Pegu and Tonghoo. Wood white colored and adapted for every purpose of house building.—*Dr. McClelland.*

GREWIA TILIÆFOLIA.—*Vahl., W.. Ic. Roxb.*

G. arborea, *Roxb. in E. I. C. Mus.*
G. variabilis, *Wall.*

Damun,	MAHR.	Tharra,	TEL..
Chadachy maram,	TAM.	Dhamono,	URIA ?
Sadachoo "	"	Karkana,	" ?
Talathi "	"		

In Coimbatore, a considerable tree and the wood is soft and easily worked. It is useful for inferior building and common purposes: but is said to be unfit for cabinet purposes, for which, in appearance, it seems well adapted, on account of its hygrometric properties, which cause it to contract and expand, however well seasoned, with every change of the weather. It is a common forest tree in the Bombay coast jungles; rare inland, and there the wood is not deemed of any value for household purposes, agricultural implements, or cabinet work. The wood is used for the same purposes as the Benteak, for which it is often sold at Calicut. It grows very large on the mountains of the Circars, and is there a valuable timber, much used for handles of axes, pellet-bows, cowars, and walking sticks. In Ganjam and Gumsur, the Dhamono (Grewia tiliæfolia) is of extreme height 35 feet, circumference 3 feet, height from ground to the intersection of the first branch, 20 feet. It is used for cot frames and bandy wheels; the handles of axes, knives, spears, mamoties, pickaxes, and carpenters' tools are made of this wood, which is also burnt for firewood, being tolerably plentiful. Grewia tiliæfolia (or Grewia elastica) is said to yield the Damonu or Karkana of the Parla Kimedy jungles, from which many hundred poles could be obtained. It closely resembles lancewood or hickory. It is procurable in the bazaars eight inches broad, and is used for house posts, gig shafts, dhooli poles, spear handles and fishing rods. It seems eminently suited for purposes where strength, lightness and elasticity are required. The bark should be allowed to remain, and the poles should be steeped in water and then rubbed with oil. The bark gives a strong rope. (*Note*—It would seem from these remarks either that the quality of the timber of this tree varies in different localities, or that the timbers of two trees have been brought for examination.)—*Roxb. Voigt. Drs. Wight and Gibson. Captains Beddome and Macdonald. McIvor. M. E. J. R.*

GREWIA ULMIFOLIA. ROXB. WIGHT. Syn. of Grewia microcos.—*Linn.*

GREY, Sir William, K. C. S. I., a Bengal Civil Servant. He entered the service about the year 1840, and held the offices of Private Secretary to Sir Herbert Maddock; Junior Secretary in the Bengal Office; Under Secretary in the Foreign Department;

Secretary to The Bank of Bengal; Secretary to the Bengal Government; Director General of Post Offices; Home Secretary; Member of Council, and Lieut. Governor of Bengal. He possessed a calm judgment, a critical form of mind, brief, almost Socratic in method, and a man of progress. He improved postal communication, telegraphs, railway, police, education and jails; and he was a sound financier and economist. In 1865 he urged on the Indian Government the need for retrenchment.

GREY ANTIMONY. ENG. Sulphuret of Antimony.

GREY or Annulated Ipecacuana, also Grey also Red, Ipecachuana. Cephaelis ipecacuana.

GRIAS CAULIFLORA. The stem flowering anchovy pear of Jamaica. It might be introduced into India.

GRIESWORZEL. GER. Pareira brava.

GRIFFITH, William, a medical officer of the Madras Army, famed for his extensive knowledge of Indian Botany. Author of numerous works on this branch of science; he accompanied the army which marched in 1838-39 from Sind, through Quetta and Kandahar to Ghazni and Kabul. From Kabul he crossed the chain of the Hindu Kush to Bamian and Singhan, and spent some time in the Kuner valley. His collections there, though formed under circumstances of great difficulty, are very good, amounting probably to about 1,000 species, many of which are deposited in the Royal Herbarium at Kew, his posthumous notes and journals, were published in Calcutta edited by Dr. McClelland, under the auspices of the Indian Government; and his collections, from Malacca, Tenasserim, the Khasia mountains, and the whole Assam valley, Mishmi and Naga hills and upper Irawadi, Calcutta, Bhotan, Simla, Sind, and Afghanistan, are probably not under 9,000 species which is by far the largest number ever obtained by individual exertions. He also made a collection of birds in Affghanistan.

A mural tablet erected to his memory in the Cathedral of Madras says he was born at Ham, in the county of Surrey, March 1810. He had attained to the highest eminence in the scientific world: and was one of the most distinguished botanists of the age. He acquired his knowledge by personal investigation in the different provinces of British India and in the neighbouring kingdoms, from the banks of the Helmund and Oxus to the Straits of Malacca, where, in the capacity of Civil Assistant Surgeon, he died 9th February 1845, in the 35th year of his age, and the 13th year of his public service in India. His early death is deeply deplored by numerous private friends; and his loss to the cause of science elicited a public and emphatic expression of regret from the Governor General of India. This tablet is erected as an humble tribute to his memory, by a few of his medical brethern of the Madras service. *Hooker f. et Thomson.*

GRIHA SENA. See Inscriptions p. 376, 389.

GRIHA KUTUMBINE, literally, the head of the house or of the family.

GRINDING of grain in India is still done by the hand mill as in Isaiah. xlvii 12. Matt. xxiv. 41.

GRIHASTHA. A hindu married householder. SANS. from griha, a house, and st'ha, to remain.

GRIHAST'HA-DHARMA. SANS. From ghrihast'ha, situated in a house, and dharma, religion.

GRIMUGRIM. HIND. Hordeum cæleste.

GRINDSTONES. The Natives of India prepare a grindstone composed of shell lac as its basis, and corundum powder or other hard mineral as the grinding material. In Coimbatore persons of the barber caste are the manufacturers of these. The process is sufficiently rude. The stone being pounded and reduced to the form of fine grained gunpowder is heated in a chatty. The lac is then added and the two stirred together until the mass is of the consistence of dough when it is turned out and beat and kneaded into the required shape. There are only two articles used in its construction, but not using a mould, the operation is tedions and the finished article when completed, and not by any means of first rate excellence. The principal objection to them seems to be the extreme hardness which renders them less effective than if the lac by a small admixture of a softer substance were rendered somewhat more yielding. Upon the whole, as made there, it is a rather rude but durable machine. It was stated that at the Hoonsoor farm, where pearl barley is prepared, English grind-stones for making it required frequent renewal, but that one of this description has now been in use 5 years. The stone used in Coimbatore is powdered coarse garnet sand, found in the beds of the neighbouring hill streams. The Corundum stones met with for sale in the bazaars are usually small, generally more rounded and water worn on the edges, as if collected in the beds of mountain streams from among the pebbles they bring down. In making a lac grindstone simply of Gum Lac, and finely pulverized corundum stone, these are heated separately to facilitate their more perfect ad-

mixture and combination. They are then thrown into a mould and strongly beaten and kneaded to give compactness and expel all air bubbles.—*M. C.*

The native carpenters, blacksmiths, and shoemakers, have long been acquainted with the good qualities of the grindstones of Southern India, and give good prices for some of them. European workmen also use country stones for sharpening their tools.

The best coarse grindstones are those from Verdachellum in South Arcot, Triputty, and Ootramaloor in Chingleput, Kurse Mungalum near Vellore, Woontimetta and Chellamacoor in the Cuddapah District, and Podelay and Woodiagherry in Nellore. A soft sandstone suited for filters occurs at Rajahmundry, and hard gritty kinds, like the Bhurrstone of France, in the Peddaredapully Talook of Nellore and near Ghooty. Some of the sandstones of the Guntoor, Bellary, Madura and Mysore Districts are very similar to those used as grindstones and flour mill-stones in England. The best dry whetstones are those of Nuggur, Matoor Hill in Guntoor, Triputty, Arnee and Needacheria in Bellary.

Fine grained sandstones of a sharp cutting quality occur at Gootomokoda and Dyda in Guntoor, at Chellumacoor and Chettywarreepully in Cuddapah and in the Pedelay Talook and Woodingherry Hill in Nellore.

A stone resembling the Ayrstone, or Snakestone, occurs at Koopookonda, 8 miles west of Vinacondah in Guntoor.

Good substitutes for Turkey stone, occur at Cuddapah, Woontimetta, Chellumacoor and Humpsagur, and varieties of green and gray granular felspar, at Seringapatam, Nellore, and on the banks of the Godavery. The latter are well suited for putting a fine edge on razors and gravers.

Soft sandstones resembling Bathstone and Tripoli abound near Nellore, Bellary, Cuddapah and Hurryhur.

Very fine silicious and magnesian earths, such as Rottenstone, Alkaline Loam and Armenian Bole, occur near Soondoor, Bangalore and Cuddapah.

Hones, silicious and slaty limestones of every quality accompany the extensive beds of lithographic marble near Kurnool, Guntoor, Bellary, Datchapilly and Gooty.

Chert or hornstone suited for paving Flint and Porcelain Mills, occurs in large quantities at Baulapilly near Arcot, Naggery and Woodiagherry Hill in Nellore.

Corundum and emery are valuable on account of their hardness which approaches that of the diamond, and are very abundant in the Madras Presidency, occurring in about 28 different localities. The best qualities are the moderate sized picked crystals from Guntoor, Hyderabad, Coimbatore, Nuggur, and Salem. Some varieties, particularly the tabular shaped crystals, appear to be much associated with lime and fibrolite, and are frequently accompanied in those localities by more valuable minerals, as the ruby, sapphire, spinel, beryl and garnet. Emery frequently accompanies the corundum, the best samples are from Salem, Nuggur and Nellore, and fine tabular emery at Caligherry Hill, Nellore.

Corundum is found at Guntoor, Hyderabad, Salem, Mysore, Gram (45 Miles N. W. of Seringapatam) Nuggur, French Rocks, Burkunemilly and Yedkunkal, Kulkaire in the Division of Churajapatam, Norluk in Narsipoor, Deysam, Carbunpully, Appianhully, Nullapardy, Mundium in Astragam, Cuddor; in Salem at Namaul, Viralamoodoo, Cholasigammy, Carasel, Aupore, Mallapollye, Gopaul Chetty polliam, Teclanegerry, Coundapaddy and with rubies at Salem.

Naggery Hills, clove brown with iron garnets and cochineal red garnets, Yalanegery and Coundepaddy in Salem. It is also found at Travancore, of a green color, and accompanied by Aquamarine.

Sandstones occur of different qualities, from the coarsest soft grit, to the hardest freestone, the most compact snakestone, and the toughest chert. The sandstones appear to be the most universally diffused rocks in Southern India; occurring in sixteen different Districts, and often in beds or strata of enormous extent, as in the South Arcot, Nellore, Cuddapah, Bellary, Mysore and Nagpore Districts.

At the Madras Exhibition of 1855, a large and complete series of grinding, sharpening, and polishing materials, was exhibited by Surgeon E. G. Balfour, from the Museum, along with a voluminous printed Report prepared for distribution amongst the Ordnance, Commissariat and Engineer Officers. The Jury considered many of the substances of excellent quality, that several of them might be judiciously introduced as substitutes for similar articles now procured from Europe, and that a large and remunerative trade in some of them might be carried on. The Jury recommended a First Class Medal for this series under the heads of Sandstones, Hones, and Polishing substances.

GRINDSTONES.

Sharpening stones used by native saddlers, shoemakers, horse-shoers, cutlers, &c.

Basalt. Called Sanakal from Chelput, five days journey from Madras near Trinamullay, used by shoemakars. Also from near Streepermatoor, used by saddlers for sharpening awls and knives.

Hornblende Rock. (Greenstone) used by horse-shoers as a whet for sharpening the large Hoof Cutter.

Green Quartzose sandstone. From Vellore, used formerly by horse-shoers but now re-placed by sills of Corundum and Lac.

Red Quartzose sandstone. Ditto. ditto.

Yellow Quartzose sandstone. From Woodiagherry used formerly for giving a first edge to swords, daggers and implements, hard and rough, and well suited for grindstones.

Hones. Purchased in the bazaar, probably from Nellore, Cuddapah or Guntoor. Black Turkey oil-stones, containing much lime, fine grained ditto. from Tarputry.

Rolled masses of granites are sold in the bazaars as Corundum and Emery, and irregularly crystallized granites are sold as Emery; said to be procurable at Calastry, near Naggery, Naglapoorum and the surrounding Hills.

Materials suited for grinding, polishing and sharpening.

GRINDSTONES.

North Arcot. From Kurse Mungalum near Vellore, a stone called Muddy Sagapoo Culloo, Brown Steatititic sandstone.

From Baulapilly near Arcot, Grey Chert for paving Porcelain Mills. From Chumbaukum-droog, Qartzose Rock suited for paving Porcelain Mills. Emlore grit, a nodular, bluish gritty limestone from the bed of the Pulicat Marine Lagoon. From Trichoor brownish sandstone. From Muddoor, Arnee, bluish grey sandstone suited for Grindstones. From Triputty and Kurkumbady, Yellow red and purplish sandstones.

South Arcot. From Verdachellum and Sadras, sandstones of good quality.

Bellary. From Nedacherla, sharp grained and fine grained sandstone. From river near Bellary, silicious sandstones. From Hospet Chetty-warrepully and Humpsagur, Hones of various qualities.

Chingleput. Cootharam pallum near Conjeveram, Coarse Grit. From Ootramaloor, Red Grit.

Sandstones suited for Grinding purposes.

Cuddapah. From Chellamacoor, Greyish brown schistose granular sandstone. From near Cuddapah, Bluish grey compact Magnesian lime, suited for fine sharpening stones, From Woontimitta a fine grained schistose sandstone, suited for a Ragstone.

Ganjam. From Chitterpoor and Nengaum, liver brown granular sandstones. These are very sharp in the grain. From Ganjam, reddish white granular sandstones.

Guntoor. From Palnaud, purple and lilac slaty sandstones fine in grain. Honestones, black limestones, lithographic marbles. From Gootemookoola and Dyda, hones: from Koopookoonda 8 miles west of Vinacondah, below the signal pond, rough sandstone glistening with Mica. From Matoor Hill, schistose ragstone.

Hyderabad. From Ellichpoor and Kotah, sandstones with Fossils

Kurnool. Sandstones, Hones and Lithographic marble, abundant, and of every quality and size.

Madura. From Vurdeputty and Passumallee, Granitic, coarse grained grindstones.

GRISLEA TOMENTOSA.

Moulmein. From Tan-goon-gee, Thum-litandan (Mountain), Gungo and Amherst Hills, yellowish sandstones fit for Grindstones.

Mysore. From Nugger good grindstones called Sanekul and finer whetstones.

Nagpore. From 10 miles west of Kamptee, soft sandstones suited for dry whetstones. From 6 miles east of Kamptee, finer grained varieties.

Nellore. From the Podelay, Panoor and Pedda Redda-pully talooks, red, yellow, purple, brown and grey sandstones. From Pullaybootoo, fine grained standstones.

Rajahmundry. Soft sandstones suited for filters and grindstones.

Singapore. From the mouth of the river, a good sandstone. *Surgeon Balfour in Madras Museum Report: Madras Exh. Jur. Rep.*

GRINJANAM. SANS. TEL. Allium ascalonicum.—*Roxb.* the shallot, is extensively cultivated in Hindustan under the names of Gandhina or Gadhina which is probably a Prakrit form of the Sanscrit name.—*Speede's Hand Book*, p. 159. *Elliot.*

GRIOT MARASQUIN. FR. Cerasus caproniana.

GRISLEA TOMENTOSA.—*Roxb.*

Lythrum fruticosum.—*Linn.*

Dye-phul,	ANGLO-BENG.	Dhai also Dhan,	HIND.
Dhæ-phul,	,,	Tawi,	,,
Dhub,	,,	Jave,	PUSHTU.
Dhanga-phul,	,,	Agni-jwala,	SANS.
Dhaiti of	BOMBAY.	Dhatri-pooshpika,	,,
Dhauen	,,	Dhataki Kusumamu,	TEL.
Downy Grislea,	ENG.	Gadda-pisinka,	,,
Woolly ,,	,,	Gaji, Godari,	,,
Dhawn,	HIND.	Rayyi pappu,	JAJI.
Chota Dhaon,		Jateko,	URYA.

This tree is found in the islands of the Indian Ocean, in China, and in every part of the continent of India, especially in the jungly tracts at the foot of its several ranges of mountains. It grows in the N. W. Himalaya up to 4,000 feet, and it is common in exposed places, in the Maturatte and Oova districts of Ceylon up to an elevation of 4,000 feet. It is a rare tree in Ajmeer, but is very common in the Prome district. It is not found in Tounghoo district. Its bright red calyx retains its colour till the seeds are ripe, gives the whole plant a very showy appearance, and points it out to the collectors of its flowers, which form an article of commerce, and are used for a red dye. In the bazaars of Bengal they are found in a dry state, under the name of Datoke. It is a very ornamental tree both in foliage and blossom, and would do well in compounds. This is very distinct from the Dhan, which is the common firewood of Ajmeer. The petals are officinal at Lahore, where they are used as a dye, as well as a medicine. The red petals, contain much tannic acid. These scarlet flowers generally come to Ajmere, from Kotah and Harowtie: are considered stimulating and given to women in labour. One seer costs

in Ajmir four annas, its leaves are used in infusion as tea, but both the red flowers and leaves are use for dyeing purposes. In the Northern Circars, the leaves are employed in dyeing leather. Sheep-skins, steeped in an infusion of the dried leaves take on a fine red, of which native slippers are made. The dried flowers are employed in Northern India, under the name of Dhauri, in dyeing with Morinda bark; but perhaps more for their astringent than for their tintorial properties. Dr. Gibson states that in Kandesh the flowers form a considerable article of commerce, inland, as a dye. It grows abundantly in the hilly tracts of the Northern Circars. The gum called dhaura or dhau-ka-gond, is brought from Mewar and Harowtee, and is abundant, white in colour, like the katira and tragacanth gums, swells in water; in dyeing cloth it is applied to those parts that the dye is not wished to touch; it is eaten in "luddoo;" one maund costs ten rupees. Its wood is used for fuel and by the abkar, or liquor distillers, for fermenting liquor: its leaves are used in infusion as tea. *Irvine. Gen. Med. Top.*, p. 133. *O'Shaughnessy Bengal Dispensatory. McClelland. Dr. J. L. Stewart. Cleghorn Punjab Report Kullu and Kangra*, p. 82. *Thw. En. pl. Zeyl* II, 122.

GRIS PEQUENO. Sp. Calabar skins.

GRISSEE, in lat. 7° 10' S. and long. 112° 42¼' E, in the north of Java, is a noted trading place.—*Horsburgh.*

GRISSIK. See Sourabaya.

GRITACHEE. Sans. in hindu mythology a heavenly courtezan, from ghrita, clarified butter, and anch, to worship.

GRITTHUM. Sans. Ghi.

GROBAGAN, here, at the centre, on the limestone district, is a mud volcano, 16 feet in diameter. The black mud every two to five seconds bubbles up and subsides; it rises to a height of 20 to 30 feet, then explodes with a dull noise, scattering a shower of warm black mud in every direction, round about are warm brine springs from which salt is extracted. Its eruptions are most frequent in the rainy season. It is called "kuwu," "the place of abode," and an old legend is that it is the residence of a monster snake whose writhings cause the eruptions. *Oldham in Yules Embassy.*

GROSE. Author of Voyage to the East Indies.

GROSNAM. See Kunawer.

GROSSULARIACEÆ, the currant worts, or currant tribe, is the Grossulaceæ of Lindley. They are unarmed, or thorny shrubs, arranged in five genera, one of which, the genus Ribes, occurs in India R. grossularia L, is the gooseberry: R. rubrum, L, is the red currant and R. nigrum L, is the black currant. Dr. Royle regards the Himalayan Ribes as a distinct species and names it R. himalense.—*Voigt.*

GROUHONEE. Uria? Kubaree. Uria?

A tree of Ganjam and Gumsur, extreme height 80 feet, circumference 6 feet, and height from the ground to the intersection of the first branch, 12 feet. The platform of the cars used at the Juggurnauth festival is often made of this wood, but it is chiefly used for firewood, being tolerably common. The bark is said to be used medecinally in diarrhœa.—*Captain Macdonald.*

GROUND CHUMPA. Kæmpferia.

GROUND-FISH. The Bora chung, of Bhootan, inhabits the jheels and slow running streams near the hills, but lives principally in the banks, into which they penetrate from one to five or six feet and are found generally two in each chamber, coiled concentrically like snakes; the entrance to these retreats leading from the river into the bank is generally a few inches below the surface, so that the fish can return to the water at pleasure. The mode of catching them is by introducing the hand into these holes. It is not believed that they bore their own burrows, but that they take possession of those made by land-crabs. Dr. Campbell says they are not more capable than other fish of moving on dry ground. The bora-chung would appear to be an Ophiocephalus, probably the O. barka described by Buchanan, as inhabiting holes in the banks of rivers tributary to the Ganges.—*Tennent's Sketches of Nat. Hist. of Ceylon*, pp. 367-8.

GROUND NUTS. Earth nut.

Bhooi Moong,	Beng.	Bhoysing,	Guz. Hind.
Moong Phoolli,	,,	Mani-manoti,	Sp.
Japan pulse,	Eng.	Cacahuete,	,,
China pulse,	,,	Ver Kadale,	Tam.
Pindar nut,	,,	Vera Shanagalu,	Tel.

The ground-nut is the fruit of the Arachis hypogœa, or hypocarpogea. The plant has somewhat the appearance of the dwarf garden-pea, though more bushy. It is cultivated in the South of Europe, largely in America, Africa, Asia, Australia and the Archipelago. From the circumstance of its introducing its fruit or pod into the earth, for the purpose of ripening its seed, the Arachis, or earth-nut, has obtained its name. The flowers, leaves and stems, are produced in the ordinary manner seen in the pea tribe. When the yellow flower has withered and the seed fertilised, there is nothing left but the bare stem which had supported it. This stem, in which is the germ of the future fruit and pod, now grows

rapidly in a curved manner, with a tendency to arrive shortly on the surface of the ground, into which the now naked stem penetrates several inches into the earth. In this obscure position the fruit takes its ripened form, and is either gathered from its hiding place or left to the future season, when its time of rising into new existence calls it from its natural position. When mature, it is of a pale yellow color, wrinkled, and forms an oblong pod, sometimes contracted in the middle; it contains generally two seeds, a valable article of food in the tropical parts of Africa, America and Asia. They are sweetish and almond-like, and yield an oil, when pressed, not inferior in quality to that obtained from the olive. The leaf resembes that of clover, and, like it, affords excellent food for cattle. The cake, after the oil is expressed, forms an excellent manure. The Arachis seeds are usually sown in the dry, warm weather, from May to June, and are placed at the distance of eighteen inches from each other. Insects are fond of them; and if the season is cold and unfavourable to them, or the growth retarded, they become musty and bad, or are eaten by insects. The mode of obtaining the oil is nearly the same as for other pulse or seeds; and under favorable circumstances the Arachis will produce half its weight of oil. When heated and pressed the quantity is very considerably increased. This oil is good for every purpose for which olive or almond oil is used. For domestic purposes it is esteemed, and it does not become rancid so quickly as other oils. In lamps the brilliancy of its light is superior to that of olive oil, and its durability is seven minutes per hour beyond the combustion of the best olive oil, with the additional advantage of scarcely any smoke. Under the term Ground Nut or Manilla oil there was exported from the Madras Presidency, in the four years 1852-53 to 1855-56 chiefly to the United Kingdom, Bombay, and the Indian French ports, to the amount of 334,024 gallons valued at Rupees 2,12,896. It is extensively cultivated in Southern Asia. It thrives well on a light sandy soil, and is very prolific. In some parts of America it yields from 30 to 80 bushels of nuts per acre. On the Western Coast of Africa it is planted to a great extent. In South Carolina the seed is roasted and used as chocolate. The leaves are used medicinally, it is greedily devoured in the green state by cattle. Two varieties are grown in Malacca, the white seed and the brown seed, and also in Java, in the vicinity of sugar plantations, the oil cake being used as manure. It is there known as katiang. The seeds are consumed as a cheap popular luxury, being half roasted, and then eaten with salt. The oil is calculated to serve as an efficient and very cheap substitute for olive oil, for pharmaceutical purposes. It burns with little smoke, with a clear flame, and affords a very full bright light, answering perfectly in Argand lamps. The oil cake affords also an excellent food for cattle. *Eng. Cyc. Ed. Phil Mag. Simmonds. Jury. Rep. Mad, Ex. Useful Plants. O'Shaughnessy.*

GROUND NUT OIL.

Manilla nut oil,	ENG.	Katsjang meniak,	MALAY.
Willayeti-mung-ki-		Ver-kaddalai yennai,	TAM
Phulli-ka-tel,	HIND.	Manilla nuna,	TEL.
Booi-sing ka tel,	„	Vera Shanaga nuna,	TEL

This valuable oil is obtained by expression from the ground nut, the fruit of the Arachis hypogœa, which is grown largely in tropical America, the West Coast of Africa, Australia, East Indies and the Archipelago. In the year 1848-49—37,000 gallons were shipped from madras, but in the two following years the exports exceeded 1,00,000 gallons but fell to 57,207 gallons in 1852-53. In form, the nut, is a long, light shell, containing two kernels covered with a brown rind, when shelled they are white in appearance. The pod is woody and dry, containing the peas, or nuts, as they are called, hence the common names, ground-nut or pea-nut. It is a low creeping plant, with yellow flowers, and after these drop off, and the pod begins to form, the tendrils put out from the plant and take root in the earth, where the nut is produced and ripened. The fruit is picked from the ground by hand, and the vines are a favorite food for horses, mules, and cattle. From 30 to 80 bushels are produced on an acre. The seeds contain about 44 per cent. of a clear pale yellow fixed oil, which is largely used in India for lamps, 1,950 parts of seed, separated from their coverings and blanched, give 1,405 of kernels, from which, by cold pressure 703 parts of oil are procured. It is capable of being refined so as to answer the purpose of a salad oil and supersede those of the olive and the almond, which are but precarious in their crops, and this oil is so very useful to machinery that the naval steam cruisers on the African coast have adopted it. Price of ground nuts from the River Gambia and from Siera Leone per ton at £10 per ton sell in London at £11. Nearly all these nuts are transhipped to France, where they command a ready sale; are there converted into oil, and thence find their way over the world in the shape of olive oil,—the skill of the French chemists

enabling them to imitate the real Lucca and Florence oils, so as to deceive the nicest judges. Indeed, the oil from the pea nuts possesses a sweetness and delicacy that cannot be surpassed. It does not seem to be consumed to any large extent in India, although the nut itself is much eaten by the poorer classes. It is said to be used for adulterating gingely oil in North Arcot, where it costs from Rs. 1-8, to 2-12, per maund. In the Nellore District, the seeds are procurable at Rs. 1-8, per maund and in Tanjore about 200 acres are cultivated producing annually 75 candies of oil at Rs. 2-6 per maund. Its value in London in January 1855 was £47-10 per ton. *Madras Tariff, Tanjore Local Committee, Lieut. Hawkes, Simmonds, Commercial products.*

GROUND PARAKEETS, belong to the sub-family Platycercinæ, of the family Psittacidæ and order Scansores or climbers, which may be thus shown.

ORDER I.—Scansores or climbers.

FAM. Psittacidæ.

Sub-Fam. Cacatuinæ, 2 gen. 5 spec. viz., 1 Calyptorhyncus, 4 Cacatua.

Sub-Fam. Psittacinæ, Parrots, 3 gen. 13 sp. viz., 1 Coracopsis, 2 Tanygnathus, 10 Palæornis.

Sub-Fam. Platycercinæ, Ground Parakeets, 2 gen 2 sp. viz. 1. Aprosmictus : 1 Platycercus.

Sub-Fam. Loriinæ, Lories, 4 gen. 1 sub-gen. and 13 sp. viz.

Section i. tongue not filamented.

2. Electus, 3 Loriculus.

Section ii, tongue filamented.

3. Lorius, 4 Eos. 1 Trichoglossus.

GROUND RATANS. The excellent walking sticks known to the British under this name, are made from the Rhapis flabelliformis which grows in Lin-kin and Southern China. See Marsh Date. Calamus.

GROVES of trees were planted by the ancient Egyptians within the court yards of their temples, but the laws of Moses, (Deut. xvi, 21,) forbad the Hebrews to plant any tree near the altar of the Lord, though the Alexandrian Jews, in later times, planted groves near their synagogues. Individual trees, throughout India, are regarded as habitations of spirits both good and bad, and noon day is the particular period at which their evil influence is exercised. In the Fiji islands a fine grove exists in the Rew-a district, near the Mission Station of Mataisuva, and at a point of the coast termed Na Vadra Tolu (the three screw-pines), probably from three Pandanus odoratissimus trees, still a common plant in that locality, having stood there. Leaving the Mission premises, and keeping along the sandy beach, an enormous yevuyevu tree (Hernandia sonora, *Linn.*) presents itself, forming a complete bower, which leads to a curious group of vegetable giants. A venerable vuturakaraka (Barringtonia speciosa, *Linn.*) more than sixty feet high, has thrown out several huge branches, two of which form, in connexion with the stem, bold arches. Yesi (Afzelia bijuga, *A. Gray*) and Baka (Ficus) seem to have been those principally selected. The vesi furnished the best timber of the islands, and may, as the most valued tree, have been thought the fit residence of a god, as there is nothing in its appearance that is extraordinary,—the beech most nearly resembling it in look. These sacred groves and trees are not worshipped as gods, but as in the Odin religion are looked upon as places where certain gods had taken up their abode.—*Fiji Islands.*

GRUB, a term familiar to coffee planters in Ceylon and the Peninsula of India, applied to insects which injure the coffee plant and coffee berry. Mr. Nietner's list of the enemies of the Coffee tree holds good in general for the entire coffee region of Ceylon. He tells us, however, that the brown and white bug and the black and white grub, are the only important enemines of the coffee tree, and that the destruction caused by Arhines, Limacodes, Zenzera, Phymatea, Strachia and the Coffee rat, appear to be of a more local and occasional nature and are therefore of less importance. There are three pests which are chief—the white bug, the brown bug and the black bug.

Bug.—The appearance and disappearance of the coffee bug he tells us is most capricious. It comes and goes—now rapidly spreading over a whole estate, now confining itself to a single tree amongst thousands ;—here, leaving an estate in the course of a twelve-month, there, remaining permanently. Sometimes spreading over a whole estate, sometimes attacking a single field, then leaving it for another and another. But the white bug prefers dry, and the brown damp, localities, the latter being found more plentiful in close ravines and amongst heavy rotting timbers than on open hill sides, and it is probably to this predilection, that the shifting of the insect is attributable. The bug, of course, seeks out the softest and most sheltered parts of the tree,—the young shoots, the under sides of the leaves and the clusters of berries.

The injury done by the white bug seems more severe than that from the brown, but not being so plentiful as the latter, it is of less general importance. The white bug is especially fond of congregating amongst the clusters of berries, which drop off from the injury they receive, and trees often lose their entire crop in this manner. The injury

produced by the brown bug is the weakening of the tree and is thus more general, but the crop does not drop off altogether nor so suddenly. With white bugs on an estate the crop can hardly be estimated; with brown bugs it can.

White grub.—Under this name are included the larvæ of various Melolonthidæ, the cock-chafers of Ceylon, which do much harm to coffee plantations, young and old, by eating the roots of the trees. Mr. J. L. Gordon of Rambodde considers the white grub to be by far the greatest enemy of the coffee trees which the planter has to contend with, as he never knew a single tree recover after their attack, and he adds that they had destroyed, at Rambodde, in two years, between eight and ten thousand trees of fine old coffee. Mr. Gordon used to dig up the soil at the foot of the trees and take out such grubs as he could find.

Black grub.—The larvæ of the moth called Agrostis segetum, is the very destructive "black grub." This pest is about an inch long and is most abundant from August to October. The caterpillar lives in the ground but comes out at night to feed, and is very common and injurious. They attack not only coffee trees, but all sorts of vegetables and flowers and are very destructive to gardens and in the field, as they eat every thing that is artificially raised, despising grass and weeds. They generally appear only on certain fields and will not go over an estate. The insect is not confined to Ceylon; its ravages are well known in India, at the Cape of Good Hope, and Europe where it injures the grain and beet root crops. In Ceylon it only attacks young coffee trees, gnawing off the bark round the stem just above the ground. Where the trees are very small, they are bitten right off and the tops sometimes partially dragged under the ground, where the grubs may easily be discovered and dislodged. The damage which they inflict on plantations may be estimated when it is mentioned that Mr. Nietner lost by them in one season, in certain fields, as many as twenty-five per cent. of the young trees he had put down.—*Nietner on the Enmies of the Coffee Plant.* See *Bug;* Coffee.

GRUHAPRAVESAM. See Hindu.

GRUHA-PATU. Sans. from graha, a planet, and pati a lord.

GRUNSPAN. Ger. Verdigris.

GRUNTH. The grunth is the name of the book of the Sikh religionists written in the Goomoocki character modified Nagari." This book is placed in the holy temple of Umritsir and is greatly reverenced by the Sikh sect.

The founder, Nanak, was the son of a grain-factor at Talwundee, in the neighbourhood of Lahore. He was born in the year 1469, and in early life deserted the humble shop of his father to seek in study and retirement a more genial occupation for a naturally reflective mind. The tenets of the hindu and mahomedan of that day alike dissatisfied him; and he came forward as a reformer of his country's faith. For the gross polytheism of hindu mythology he substituted what maybe defined a high philosophic deism, and succeeded in collecting together a large body of followers, whom he called Sikh, or "disciples;" and these he organised under a theocratic form of polity, being himself recognised as their Gooroo, or "teacher." For many years this rapidly increasing body of converts continued to lead a peaceful meditative life, absorbed in the study of their holy book, the "Grunth," which contained all the recorded dogmas of their founder. They gradually spread over other parts of India, a college of them existed so far south as Patna probably founded by Gooroo Tegh Bahadur. An interesting account of this college is given in an early number of the Asiatic Society's Journal, from the pen of C. Wilkins, Esq., dated March 17, 1781. But in the beginning of the seventeenth century, Govind Singh, the tenth gooroo, gave a new character to this religious community. He was a man of a naturally warlike spirit and ambitious views, and thirsting to be revenged for domestic wrongs, soon converted the hitherto contemplative Sikhs into a band of warriors. These were the men who a century afterwards formed the flower of Runjeet Singh's army, and whose rampant fanaticism presented so formidable an array on the different battle-fields during the Sutlej and Punjab campaign. Of the Sikh religionists, the highest class are the Bedi. Like the Syud race, who claim a priority over all mahomedans, as being lineal descendants of Mahomed, these Bedi rank first among the Sikh, as being descended from Gooroo Nanuk, the founder of their sect. They form by virtue of their descent, the heridatary priesthood. They are to be found in greater or less numbers in all parts of the Punjab: in the districts lying at the base of the Kangra hills, at Goojranwalla in the middle of the Rechna Doab, at Gogaira on the Ravi, and at Shahpur, on the Jeelum, and a few at Rawul Pindi; they are also occasionally to be met with to the south of the Sutlej. But their home and stronghold is at a town named after their founder, Derah Baleæ Nanuk, on the Ravi, near Buttalla. So

notorious has been the crime of infanticide among them, that a Bedi was generally known by the opprobrious title of Kori Mar, or "daughter-slayer."

The Bedi, adopted as their patronimic the name of the tribe to which their ancestor, Nanuk, belonged. But there are Bedi still of that original tribe, who are not descendants of the Gooroo, nor, indeed, Sikhs at all. With these men pride, and pride alone, prompted to the crime. The fear of poverty arising from marriage expenditure would have little weight with them, as, unlike the impoverished Rajpoots, they were generally men of wealth and affluence; they held fertile Jagheers and their priestly coffers were well filled with the offerings and dues of their race. But in defence of the unnatural custom, which they did not attempt to deny, they, like the Rajpoot races, were ready with a traditionary obligation laid upon them by an indignant ancestor. The story is thus given by Major Herbert. Edwards When a bridegroom and his party were departing, the two sons of Dhurm Chund, accompanied them to give them rooksat. The weather was hot, the party out of temper and they took a malicious pleasure in taking the young Bedi further than etiquette required. When the lads returned home footsore, Dhurm Chund asked if the Khutra had not bid them to turn back sooner? The boys said 'No,' and it was then that the old man, indignant at all the insults which the bridal of his daughter had brought down upon him from an inferior class, laid the inhuman injunction on his descendants, that in future 'no Bedi should let a daughter live.' The boys were horror-stricken at so unnatural a law, and with clasped hands represented to their father that to take the life of a child was one of the greatest sins in the Shastras. But Dhurm Chund replied, 'that if the Bedi remained true to their faith, and abstained from lies and strong drink, Providence would reward them with none but male children, but, at any rate let the burden of the crime be upon his neck, and no one else's. And from that time forth Dhurm Chund's head fell forward upon his chest, and he evermore walked as one who bore an awful weight upon his shoulders. "With consciences thus relieved, the race of Bedi continued for three hundred years to murder their infant daughters, and if any Bedi, out of natural feeling, preserved a girl, he was excommunicated by the rest and treated as a common sweeper. Through the mists of this story it seems clear that religious pride, and horror of giving a daughter to an inferior caste, and not pecuniary considerations, first led the Bedi to adopt the custom of female infanticide. *McGregor's History of the Sikhs*, Vol. I, p 44.

Major H. Edwardes's Jullundhar Report on Infanticide.—Browne's Indian Infanticide, pp. 115, 116, 117.

GRUNT'HEE. Sans, From grantha, a book, one who is learned in the Granth.

GRUS. A genus of birds belonging to the family Gruidæ in which are the genera Grus and Anthropoides. Grus antigone, the Saras, breeds south of the Himalaya: and specimens too young to fly are occasionally brought for sale even to Calcutta. Turner, describing the lake "Ramtchoo," as frequented by great abundance of water-fowl, wild-geese, ducks, teal, and storks, which on the approach of winter, take their flight to milder regions, says prodigious numbers of the Saras, the largest species of the crane kind, are seen here at certain seasons of the year, and they say, that any quantity of eggs may there be collected: they are found deposited near the banks. "I had, he adds, several of them, given to me when I was at Tassisudon, during the rains; they were as large as a turkey's egg, and I remember being told that they came from this place; but whether or not they were those of the Saras, I cannot venture to pronounce." Instances are known of the Saras breeding in captivity, a pair was allowed the range of a large walled garden (protected from jackals) containing shallow inundated enclosures for the growth of rice: their nest was commenced under water, and raised for some inches above the surface; the eggs are two in number, about $3\frac{3}{4}$ inches long by $2\frac{1}{2}$ inches broad, of a bluish-white, with a few distantly placed rufous specks and blotches. Major Cunningham, in his 'Ladak,' &c., remarks that "the water fowl swarm on the lakes and on the still waters of the Upper Indus. I have, he says, shot the wild goose, on the Thogji, Chanmo and Chomoriri lakes at 15,000 feet; and Col. Bates and I shot three teal on the Suraj Dal, a small lake at the head of the Bhaga river, at an elevation of upwards of 16,000 feet."

Grus Australasiana, Gould, is the 'Native Companion' of the Australian Colonist and until recently, was supposed to be identical with Gr. antigone, (L.), or the Indian Saras or Surhuns. The Australian crane has much more of the aspect of Gr. vulgaris, *Pallas;* but is considerably larger.

Grus cinerea the European or common Crane. Europe, Asia, N. Africa: migratory; now rare in Britain: common in India during the cold season. As described by Major Lloyd

observed by himself in Scandinavia, it " usually breeds in extended morasses, far away from the haunts of men. It makes its nest, consisting of stalks of plants and the like, on a tussock, and often amongst willow and other bushes. The female lays two eggs," &c. The words 'Crane,' Grus, Geranos, with the Hindustani Saras, Kakarra, Karrach, &c., all have reference to the loud trumpeting voices of the birds in question, which form a very distinct group by themselves, that should be confounded with no other. The so-called 'Gigantic Crane,' or 'Adjutant' can merely clatter its mandibles together. The 'Indian Field' says theyknow of no 'black variety of Crane' inhabiting Asia: the word Crane is often used so vaguely that it may mean any large wader; and the term 'black' is employed somewhat vaguely. Black individuals of the variable common bear may well occur, 'Black Squirrels' in the Altai are evidently the common grey or ash-coloured squirrel of all North Asia; the skins of which are familiar to Europeans in the shape of muffs and tippets, *Indian Field See Birds; Cranes.*

GRUSTU. Hind. Viburnum fœtens.

GRYLLUS MIGRATORIUS, the common locust. There are however other locusts, one of them, of a red colour.

GSER. Hind. Pronounced Ser, Thibetan, gold.

GUA. Beng. Areca catechu—*Linn. Roxb.*

GUAB. Sans. Diospyros glutinosa.

GUAH. Hind. Pavia indica, Indian horse chesnut. See Juah, Kulu.

GUAIACUM OFFICINALE.

Lignum vitæ,	Eng.	Guajaco,	It.
Gayac, Bois-saint,	Fr.	Guaicum: Lignum vitæ,	Lat.
Pockhaln,	Ger.	Guagaco,	Sp.

This shrub has been introduced into the Madras Gardens, and found to thrive remarkably well, readily flowering and fruiting. Its chief value is for medicinal purposes, but the wood, about 4 inches in diameter, is very hard and close grained, suited for turning. It is a native of Jamaica and Hispaniola. Both the bark and wood are used as sudorifics in the treatment of gout, rheumatism, and chronic or secondary syphilis. It is asserted that a native of St. Domingo first made known to Europeans the sudorific virtues of this tree. The wood from its extreme hardness is much used for screws, presses, blocks, and pullies. The trunk of the guaiac tree is from 60 feet upward; in temperate climates the growth is exceedingly slow, not more than one line annually. The resin is obtained either by spontaneous exudation, or by taking a billet of wood with a hole bored through its centre, lengthwise, and, setting fire to the upper end—the melted resin flows along the tube to a receiver placed beneath it. Internally taken, either wood or resin excites a sensation of warmth in the stomach, and dryness of the mouth and throat (*Duncan*). It increases the heat of the skin, accelerates the pulse, and proves diaphoretic, if the patient be kept warm, or diuretic, if the surface of the body is exposed to the air. In large doses Dr. Duncan says it acts as a purgative. Guaiac is given in cases of foul ulcers, hospital gangrene, thickened ligaments, mercurial ulcerations, and in various forms of scrofula. The wood is used in decoction, the resin in pills, emulsion, or tincture; 10 to 30 grs. may be given daily. Dr Duncan states that half an ounce of the tincture with three ounces of water is a sudorific dose for an adult, if he attend to keep himself warm. —*O'Shaughnessy McCulloch's Commercial Dictionary*, p. 609.

GUAICUM WOOD, from Guaicum officinale of *Linn.*

GUAKA. Sans. Areca catechu.—*Linn.*

GUAKU. or Nalla kakasi Tel. Randia uliginosa DC. The orthography of this name as given by Mr. Beddome, is doubtful.

GUALAMA or Singalese Devil Bird, has not yet been identified, whether it be an owl or a night hawk. Its shout is clear, resembles that of a human being and can be heard to a great distance. *Tennant.*

GUANA.

Zib,	Ar.	Biyawak; Bewak, Manawak, Manuwak,	Malay.
Iguana or Inguana Lizard,	Eng.	Ghoda-sala,	Sans.
Ghore-pore,	Hind. Duk.	Udumbu, Udumu,	Tam. Tel.

The iguana of India is generally found about old walls, and ruinous buildings; it is about two feet long; tail long, round, and tapering: back, tail, and throat are serrated; its whole surface is covered with shining scales. The flesh is eaten by the mahomedans of India, and, in the West Indies, it is salted and barrelled for exportation. In India the body of the dried Guana is made into an electuary, with a certain portion of ghee, and used as a strengthening medicine in consumptive complaints. An animal oil is obtained from it.—*Faulkner.*

GUANO, the accumulated dung of sea birds, found on manyislands. The white layer of the first year, is considered the best. A variety of guano found in the limestone caves on the Tenasserim coast, is much used as a manure by European and

Chinese planters in Pinang and Province Wellesley.

M. A. Ramonde, Professor of Natural History at Lima, was sent in 1853 by the Peruvian Government to the Chincha Islands, in order to ascertain the quantity available and he remained more than six weeks, making observations on the origin of the guano deposit and on the birds to which it owes its existence. In some places, he found the guano deposit 30 metres in depth. From the bodies of animals as well as from various manufactured articles found in it, he concluded that the deposit belongs to the present epoch of the earth's history. The birds observed during his visit were Pelecanus majus, *Molin :* Carbo Gaimardii, *Lesson ;* C. albigula, *Brandt :* Sula variegata, *Tschudi :* Spheniscus Humboldtii, *Meyen :* Plotus anhing, *Lin :* Rhyncops nigra, *Lem :* Larus modestus, *Tschudi :* Puffinaria Garnotii, *Lesson :* Sterna inca, *Lesson.* These species do not all live constantly on the islands, some of them only appear at the breeding seasons. The pelicans do not appear to produce much guano as they almost always inhabit the cliffs and their excrement falls into the ocean. The same may be said of the species of Carbo. The species of Sula contribute more to the deposit, their number being greater and their habitations being more in the interior of the islands. The species of Plotus and Rhyncops are very rare, those of Larus are more numerous, the Sterna only visit the islands to lay their eggs, but their numbers are so very great that they must contribute in a great measure to the formation of guano. The Spheniscus abounds in the southern island which is inhabited. These birds not being able to fly hollow out habitations for themselves in the guano. The birds which produce the largest quantity of guano are the Puffinaria : their number is incalculable. *L. Institut, May* 1856.—*Ed. New. Phil. Jour., November* 1856, p. 178.

GUAR. Hind. Dolichos uniflorus.

GUAR PHALLI. Hind. Cyamopsis psoraloides. Dolichos psoraloides, Lam. D. fabæformis, Willd.

GUARAPO, a drink prepared from sugar cane.

GUARDS. The accounts of the early travellers in India speak of female guards of the haram. According to Manouchi, that of Shah Jahan consisted of a hundred Tartar women, armed with a bow, a poignard, and a scimetar. The practice seems to have been originally hindu, if it was not universally Asiatic. The nobles at Hyderabad, still in 1870, retained a female guard, and the women attendants of mahomedan ladies of Madras are styled Moghulani.—*Hind. Theat.* Vol. II, p. 304.

GUAREA TRICHILIOIDES. Its bark is a violent emetic and purgative. Wight in Icones, gives G. paniculata. — *W. Ic. O'Shaughnessy*, p. 246.

GUATTERIA, a genus of plants belonging to the Anonaceæ, a tropical order of plants, chiefly inhabiting America and the East Indies. The order includes about 15 genera and 250 species, more than half of which occur in India ;

Uvaria...	42	Unona...	23
Guatteria...	17	Artobotrys...	5
Orophœa...	2	Polyalthia...	1
Miliusia...	1	Hyalostemma	1
Lobocarpus...	1	Saccopetalum	1
Pattonia...	2		

There are nine species of Guatteria known in India viz. :—

G. anonæfolia, Tavoy.	G. fasciculata ?
„ cerasoides, India.	„ longifolia, India, Java.
„ cinnamomea, Singapore.	„ sesquipedalis, Khassya
„ badajamba, Chittagong.	„ suberosa, India Khassya.
	„ villosa, Monghyr.

GUATTERIA CERASOIDES.—*Duval. W. & A. : Hook & Thom. Fl. Ind.*

Uvaria cerasoides, *Roxb., Cor.*

Hoom,	Mahr.	Duddaga. Dudduka,	Tel.
Nulœli ? maram,	Tam.	Chitta duduka,	„
Mulili ? maram,	„	Chilka ? dudugu,	„

This moderate sized tree grows in the Bengal, Madras and Bombay Presidencies. In Coimbatore, the wood, seen in a three or four years old branch, was white and close grained. It is a tree common in the Bombay coast and ghat forests ; less so inland and may be easily recognised by its great straightness, and handsome appearance. Its wood is there reddish and close grained, useful in carpentry, as well as for naval purposes, as boat-masts, small spars, &c. On the Godavery it appears to be a tolerably hard wood and does not seem to warp. The natives, on the Godavery, do not however, use it, and say that it is soft. Mr. Latham writes of it as occurring in the Nulla Mullai, as a white and tolerably hard wood. The natives, he says, use it little, but he considers it a useful wood.—*Drs. Roxb. Voigt., Wight, Gibson and Birdwood Captain Beddome. Mr. Latham.*

GUATTERIA LONGIFOLIA. — *Wall. ; W. & A.*

Uvaria longifolia,	*Roxb.*	Unona longifolia,	*Dun,*
Debdari,	Beng.	Thevatharu,	Tam.
Mast tree,	Eng.	Asoka chettu	Tel.
Asok maram,	Tam.	Asokam,	„
Deva-daru,	„		

A very handsome, erect, growing, large tree, of India and Java, but with a soft and useless wood. It is much grown in Madras, as a highly ornamental tree, and it should be planted in avenues more than it is at present: the true Jonesia asoka is rarely seen in Southern India.—*Drs. Roxb. Voigt. M. E. of* 1855.

GUAVA TREE. ENG.

Psidium pomiferum, *Linn*	P. pyriferum.	
White guava tree, ENG.	Safri am,	HIND.
Red „ „ „	Loue kiæ,	SIAM.
Jam, Jam amrood, HIND.	Coia maram,	TAM

There are two kinds of guava fruit grown in India and in the islands of the E. Archipelago,—one white within and one red. The wood is extremely close grained, tough, and compact, and is preferred for making wooden mallets, and other things required to stand hard knocks. It is also used for wood engraving. In Tenasserim, the guava is planted perhaps more extensively than any other fruit tree in the country. Loudon says "the fruit ripens freely in Britain, but is of little merit." The white guava is the species more usually cultivated but the red is not uncommon. —*Mason. Ains. Mat. Med.*, p. 211. See Psidium.

GUAZUMA. A genus of the family Sterculiaceæ; G. ulmifolia sometimes known as Bastard cedar, the Gunstock-tree, was introduced into Madras from South America and presents, between its outer bark of sapwood, a fibrous mass about half an inch in thickness, richly impregnated with mucilage, which is extracted by macerating for twelve hours, in warm water, and is greatly employed in the West Indies and in South America in clarifying sugar, as a Kydia is in India. G. tomentosa yields fibres.

GUAZUMA TOMENTOSA.—*H. B.; Kunth. W. & A.; W. Ill.*

G. ulmifolia, *Wall.*

Bubroma guazuma, *Willde, Sp.*

Bastard cedar,	ENG	Rudraksha chettu,	TEL.

A tree introduced by Dr. Anderson about the end of the 18th century from America, grows in Ceylon, common in the Dekhan, pretty common about Madras, evidently planted. The fruit is tubercled, about the size of a cherry. Its young bark abounds in mucilage and is used in the W. Indies, S. America and the Mauritius to clarify sugar.

It was largely cultivated at one time in the Madras Presidency under the name of Bastard Cedar, as fodder for cattle. The fibres of its straight, luxuriant, young branches were submitted to trial by Dr. Roxburgh, and while the sown hemp broke when dry, with 160 lbs. and 209 lbs. when wet, that of the Bastard Cedar broke with 100 lbs. when dry and 140 lbs. when wet.—*Dr. Cleghorn in M. E. J. R.; Thw., Voigt, Dr. Riddell, Dr. O'Shaughnessy*, p. 226. *Riddell. M. E. Jour. Rep. Royle Fib. Pl.*, pp. 267 and 268.

GUBAR. An unbeliever in mahomedanism, in general, but the word is more specially applied to a fire-worshipper. Meninski says "Ignicola, magus infidelis, quivis paganus." The word is more familiar to the people of Europe under the aspect of Guebret, the Parsee of Western India. A small remnant of this race existed in Persia, chiefly at Yezd, in Khorasan. Being persecuted and annoyed by the mahomedans, most of their country-men have emigrated to India, where, especially at Bombay, they flourish under the name of Parsee. *Lieut. Colonel Stuart's Journal of a Residence in Northern Persia*, p. 171. *Elliot's Supp. Gloss. See Ghabr.*

GUBBA. TEL. Round.

GUBBADARA or Surudu. Symphorema involucrata, R. ii. 262; 186—*W. Ic.*

GUBBAKAYA Lagenaria vulgaris, *Ser.*

GUBBINS. Three brothers who served in India in the Bengal Civil Service, Charles Gubbins wrote an account of the Seven Pagodas, at Mahabalipuram, Martin Gubbins wrote a history of the siege of Lucknow.

GUCHI. HIND. Coriaria Nepalensis, Viburnum continifolium, V. fœtens; Amal guch, Hind. is Prunus paddum.

GUCHCHA. SANS. Andropogon nardus? *Rottl.? Ains.*

GUCHCH'HI. HIND. of Kashmir. A kind of morel, plural guch'hian.

GUCHHE. A bundle of one hundred betel leaves.

GUDA. A race in Sindh, from intercourse between Sind'hians and Sidi women, they were equally slaves with their mothers, and could be bought or sold at will. *Postan's Sindh*, p. 359.

GUDA, also Gura. SANS. Sugar, jaggree

GUDAMA TIGE. Vitis adnata, *Wall*—Cissus adnata, *Roxb.*; 405.

GUDAL. HIND. Xanthium strumarium.

GUDARA. See Hindu; Ukhara.

GUD BATTAL. HIND. Linum trigynum.

GUDDEE, or Gaddi. HIND. A throne, or cushion. See Gadi.

GUDDEE. HIND. A sheaf of corn.

GUDDEE. A tribe resembling the G'hosi. They are now mostly mahomedans, and have a few scattered communities in several pergunnahs, such as in Gurhmooktesur and Surawa of Meerut, and in the Rampoor territory. It is not unusual to call any converted hindoo a Guddee, which is looked on by

a mahomedan as a term of reproach. *Elliot Supp. Gloss.*

GUD'DA. Tel. Calico.

GUDDEE-JAT. See Kohistan.

GUDEER. A feast celebrated by shiah mahomedans.

GUDELGU. Tel. Bear.

GUDDI MARALA. Tel. Bryonia garcini. *Willde.*

GUD'HA. Hind. an ass, a donkey.

GUDHE-KA-HUL, or Gadhe-ka-hal. Hind. literally a "Donkey's plough." Before the British domination in India, it was not uncommon to yoke donkeys in a plough and drive them over the ruins of a captured fort, as a mode of showing supreme contempt for the vanquished enemy. The furrows thus raised were levelled by the Lohe-ki-mye, or iron harrow. Horace says (Carm. I. 16).

* * Exitio gravi
Stravere, et altis urbibus ultlæ
Stetere causæ, cur perirent
Funditus imprimeretque muris
Hostile aratrum exercitus insolens.

This mode of wreaking vengeance has been in especial favor with eastern nations, and was practised by Jenghis Khan and Timoor with unrelenting severity. Hence the common expression "I shall sow barley where you now stand," as in the vaunt of the bandit minstrel Kurroglow, at p. 138 of "Popular Poetry of Persia." *Elliot Supp. Gloss.*

GUDHE-PAR-CHARHANA. Literally to seat upon a jackass. This is a punishment more commonly known by the Arabic Tushheer, publication, celebration; which is rendered by Golius, "Per urbem duci jussit sontem in exemplum; fere asino aut camelo impositum." *Elliot Supp. Gloss.*

GUDI. Tel. A temple. This may be the word, from which "pagoda" has been obtained. Pai-gudi, a devil temple.

GUDIGAR. Karn. A caste in Mysore, carvers in sandal-wood horn and ivory. *Wilson.*

GUDI KUM, also Gudia. Hind. Meconopsis aculeata.

GUDUCHI. Sans. also Amurta, Sans. Tinospora cordifolia.

GUDUMBAT. Hind. Rhus vernicifera.

GUDU MUSALI. Hind. Dubiæ: Umbelliferæ.

GUDUREA. A shepherd, also written gadaria. There are several sub-divisions of the Gadaria in Hindustan, Neek'hur: Tusselha or Puchhade, Chuck, Dhangur, Bureyea, Pyhwar and Bhyeatur. Of each of these there are also many divisions. *Ell. Supp. Gloss.*

GUEO. See Ka.

GUEST. Amongst several of the eastern nations, the duties of hospitality to a guest are still strictly regulated as in ancient times, Luke x. 7, says, 'Go not from house to house' and it would be a great offence among the hindoos, if a guest after being made welcome at a house, were to leave it, and go to another, also Luke xiv, 16., &c. 'a certain man made a great supper, and bade many.' Messengers are sent to invite the guests to a hindoo feast; when not only relations, but all persons of the same division of caste in the neighbourhood, are invited. A refusal to attend is considered as a great affront. 'And yet there is room.' On some occasions, so numerous are the guests, that there is not room for them to sit in the parterre of the person who makes the feast, and a larger yard is therefore borrowed. See Feast.

GUETTARDA SPECIOSA. Linn. *Rheede, Roxb. W. & A. W. Ic.*

Cadamba jasminiflora, Lin.	Jasminum hirsutum, Willde.
Nyctant heshirsuta, Linn.	
Pannir ka phul, Duk.	Nil-pitcha, Singh.
Rava-pu, Malbal.	Pannir maram, Tam.
Himma, Sans.	Panniru chettu, Tel

A small but very handsome tree with large white fragrant flowers, in blossom throughout the year. It grows at Caltura and near Galle in Ceylon and is cultivated in Indian gardens: amongst hindus, the tree is sacred both to Siva and Vishnoo. Flowers extremely fragrant: corals white and tube long. *Roxb.: Riddell. Ain.'s Mat. Med.* p. 158. *Thw-Enum: pl Zeyl.* II. p. 153.

GUETTARDEÆ. A section of a natural order of plants including 21 Morindæ, 2 Myrmecodia, 2 Hydnophytum, 1 Hypobathrum, 20 Mephitidia, 2 Vangueria, 7 Guettarda, 2 Timonius, 3 Hamiltonia, 1 Leptodermis, 1 Myonima.

GUEVO UPAS, or Valley of Poison, is at the side of the volcano Papandayang, in Java. It is 500 feet below the run of the old crater, which is now the Telaga-bodas or White Lake. It is a small bare place with many crevices from which carbonic acid is poured, and many dead animals, dogs, cats, squirrels, rhinoceros, tigers, birds and snakes are seen in it. *Bikmore*, p. 53.

GUFA. Hind. Antennaria contorta.

GUGAI. Hind. of Chenab, Lahaul, &c., Pavia Indica, Indian horse chesnut.

GUGAIRA. Hind. Careya arborea. *Roxb. Rheede W. & A.*

GUGAL. Hind. Dolomiæa macrocephala, also Myrsine Africana.

GUGAL. A term applied in India, to the fragrant resins of several trees, also to the trees themselves. The resin is also called Gugal-ka-gond, or the gum of the gugal tree. It is the fragrant gum resin of Balsamodendron Roxburghii, the Amyris agallocha, a

tree which is plentiful in the Ajmeer hills, and which yields a fragrant gum resin used in sacred fumigations by the brahmins; it is no doubt the Bdellium of the ancients. It has a similarity to myrrh; is used also in flatulencies taken in ghee: is one of the ingredients in the incense or "dhoop."—*Gen. Med. Top.* p. 135. See Gum. Guggilam.

GUGCHI. HIND. Brassica rapa.

GUGGAR or Gharghar. An affluent of the lower Saraswati.

GUGI. HIND. Saussurea sorocephala.

GUGIL. Juniperus communis.

GUGGILAM. TEL. Bdellium. This is the same name as the word Gugal, and in combination, when applied to a tree, indicates particular plants, as guggelam chettu, *Ægiceras fragrans*, *Kon.* Guggulu or Sala, is Vatica robusta and Guggilapu chettu, is Boswellia glabra the combinations of the word Gugal, being applied to trees yielding resins. *Elliot Fl. Andhr.*

GUGGUR. A river near Munni Majra in the Sabathoo district, running near Rajpoorah in the Umballah district.

GUGUL also GUGULA. SING. B'dellium. B'dolach.

GUHA, or Griha Sena. Griha Sridhara. Sena 2nd. See Inscriptions, p. 389.

GUHURWAR, also written gaharwar, a tribe of Rajpoots found in Dera Mungulpoor, Bithoor, Gajmow, Canouj and Bilhour in the Central Doab. The Guhurwar of K'hera Mungrore in Mirzapoor have been converted to mahomedanism and those of Mahaich in Ghazeepoor are reckoned an inferior branch. The chief of the Guharwar, resided at Bidjypoor a few miles to the west of Mirzapoor, where the liberality of the British Government enabled him to keep up some show of respectability. At the time of the first occupation of Benares by the British he was a fugitive from the tyranny and oppression of the Goutum Bhoonhar, who had expelled the Guhurwar family in A. D. 1758. The Guhurwar may be considered one of the most interesting races of the Upper Provinces yet much obscurity hangs over their origin and lineage. They are recorded among the 36 royal tribes of Rajpoots and are said to be of the same family as the Rathor with whom it is said they never intermarry. *Elliot, Supp. Gloss*

GUHWARA. HIND, A swinging cradle.

GUHYA. SANS. in hindu mythology, when the goddess Sati burst, and the gods in her womb came forth, this part of her body fell in Nepal, where, at a place called Guhyast'han, they continue to be devoutly worshipped,—*Wilford Moor*, p. 108. See Jati.

GUHYACA, servants of Cuvera, the deformed deity of riches—into such beings the dark souls of men, addicted in this world to selfish gratification, transmigrate. —*Moor*, p. 108. See Sati.

GUIA KHUTAI. A Bokharian hakim presented Dr. Honigberger with a hard, pitch-like plaster spread on a small piece of red linen which he pretended had been prepared in China, and which was capable of removing every kind of pain, simply by application. One and the same plaster serves for several cases. The form is square, three or four inches in diameter; each of them bears a Chinese seal. According to the assertion of the hakim its constituent parts are sweet oil and litharge, the latter, as an impalpable powder, is added to the former. The Bokharian doctor pretended that every pain without exception, must yield to its application. It should be applied as near as possible to the affected part; for instance, in headache, it ought to be applied on both temples or on the forehead, in ear-ache behind the ears; in carious tooth-ache a small piece should be put into the hollow of the tooth. It acts as a rubefacient, without blistering. —*Dr. Honigberger*, p. 282.

GUICOWAR, a feudatory chieftain of India who resides at Baroda, the capital of the territory left to him. The family are of the cowherd race, and formed part of the great Mahratta confederacy, to whose supremacy the British succeeded, and the Guicowar of Baroda then came under British control. See Baroda, Gackwar, Guzerat, India Kattywar.

GUIENNE. See Rhodia.

GUILANDINA BONDUC. *Linn. W. & A.*

Cæsalpinia bonduc, ROXB.		Guilandina bonducella,	FLEM.
Nata Karanja,	BENG.	Katkaranj,	HIND.
Nata,	,,	Sagargota,	MAHR.
Gachcha,	DUK.	Karetti, Kulunji,	MALEAL.
Gutchka,	,,	Puticaraja,	SANS.
Gudgega,	,,	Kubayratchie,	,,
Oval leaved Nicker Tree,	ENG.	Kirbut,	SIND.
Nata Karanja,	HIND.	Koombooroo wel,	SINGH.
Katkalija,	,,	Kalumawul ætiya,	,,
Katkaranga,	,,	Kalichi maram,	TAM.
		Gachcha chettu,	,,

A great thorny climber, with yellow flowers and with long briar-like trailing and climbing shoots. It grows in the East and West Indies; commoner in Bengal than Madras and is grown in the Archipelago.

Bonduc Nut. Kutculega. HIND. is the seed of Guilandina bonducella, an irregularly round, grey seed, the almond or kernel is white, very hard, and intensely bitter; gets a blood red colour from nitric acid. Mr. Piddington detected in the nuts, oil, starch, sugar and resin; further analysis is desira-

ble. Bonduc nut is the commonest anti-periodic in the Bazaar medicines of Bengal, and it is undoubtedly one of considerable utility, especially in convalescence from fever. If it do not stop the paroxysm the first time it seldom fails the second. The common way of exhibiting this substance is to give of the nut finely powdered, and of black pepper, each 6 to 20 grs. three times daily.

Bonduc Nut Oil. Calichi kai yennai, TAM. is mentioned by Ainslie, as useful in convulsions and palsy. *Irvine's Med. Top. of Ajmir. Ind. Ann. Med. Sci. for April* 1856, p. 192. *Roxb. Flor. Indi. Macgillivray Voyage*, Vol. I p. 105. *Drs. J. L. Stewart, M.D., Birdwood, O'Shaughnessy. Indian Annals, No.* 6.

GUIMAUVE. FR. Althæa albugas.

GUINDY. A hamlet and country seat of the governor of Madras.

GUINEA. See India, Kayaboka, New Guinea, Papuan.

GUINEA FOWL. This bird is believed to be descended from the Numida ptilorhyna of the hot arid parts of E. Africa, but it has become wild in Jamaica and St. Domingo, and has there become small with black legs.

The Guinea fowl is the Bohemian of the barn-yard. They are hardy, and prolific and are valuable in gardens, as they rarely scratch the ground, are eager in their search for insects, and, with a scraping motion of their bill, gather the seeds of grasses. *Darwin.*

GUINEA GRASS, Panicum jumentorum has been cultivated to a considerable extent in India and Ceylon, with more or less success according to the care and attention bestowed on it. When well manured and kept clear of weeds it grows luxuriantly and admits of being cut every six week or two months. A small patch, near Colombo, which, beginning with about three quarters of an acre was gradually extended to about an acre and a half, and for seven or eight years, supplied 3 or 4 milch cows, and from 5 to 7 horses continually with all the grass required for their consumption and latterly left a surplus which was dried for bedding and hay. When first planted it frequently attains a height of even 9 feet, and a stalk taken promiscuously from a small patch planted lately in Combaconum measured 10 feet 4½ inches in length, but when cut two or three times it grows thicker but not so high. It is exceedingly excellent feeding for horses and cattle, and is generally preferred by them to the ordinary country grass, though horses which are hard worked seem to prefer the dry grass roots supplied by the grass cutters. It should not be given to cattle fresh, but the supply for one day should be cut the day previous, and it should not be cut too close to the ground, but the stalk ought to be left 7 to 9 inches high. It is a good plan to move the ground between the roots every time the grass is cut, and the ground should be heavily manured after every three or four cuttings. It is very hardy and may be easily propagated. It requires abundant moisture but will not live in a soil which is at all marshy. It answers best planted in small tufts 1 foot 9 in. to 2 feet apart, which rapidly spread into stools from 6 inch to 1 foot in diameter. *Spry's Suggestions* p. 15 *Mr. Caldwell in Literis, M.S.S.* See Graminaceæ: Grasses.

GUITAR. A musical instrument similar to the Cithera, supposed to have obtained its name from the Sih-tara, the three stringed, and supposed to be the source of the word guitar.

GUIZOTIA OLEIFERA. *D. C. W. Ill.*

Guizotia abyssinica, CASS.	Jagera Abyssinica, SPR.
Polymnia Abyssinica, L.	Helianthus oleifer, WALL.
" frondosa, BRUCE.	Ramtilla oleifera, D. C
Verbesina sativa, ROXB.	Buphthalmum ramtilla, BUCH.
Parthenium luteum, SPR.	Anthemis mysorensis, HERB.
Heliopsisplatyglossa, CAS.	
Tetragonotheca Abyssinica, LEDEB.	

The Plant.

Kala-til; Ramtil, BENG. HIND.	Ulisi, Valisi, Valasalu, TEL.
Oochellu, TAM.	

The Oil.

Kala Til-ka-tel, HIND.	Valisalu nuna, TEL.

The seed of this plant in shape is like the black cummin seed, and a sweet tasted oil is manufactured from it and used for nearly the same purposes as the Sesamum. It is procurable in the Nuggur Division of Mysore at Rs. 3-8 per maund, but is considered inferior to Sesamum or gingely oil. The seeds yield about 34 per cent. of oil, which sells at about 10*d.* per gallon. It is exported under the name of Niger seed. It was first shipped to London experimentally in 1851. It is grown in very large quantities in Chota Nagpore, being a favourite crop, of easy cultivation, and giving good returns. *Mad. Exh. Jur. Report of* 1855. *Cal. Cat.* 1862.

GUJU-DUNTU. SANS. from gaja, an elephant, and danta, a tooth; the elephant toothed; a name of the hindu god Ganesh.

GUJANANA. SANS. from gaja, an elephant, and anana, the face.

GUJAR, the name of a race spread through Hindustan who are supposed to have given their name to the Gujerat dis-

trict of the Punjab and to the country of Gujarat. They are well known agriculturists in the North Western Provinces. Whether of the hindu or mahomedan faith, they, everywhere, prefer pasturage to the plough, The Gujar, are numerous, everywhere, in the Sikh territory, and the Gujuru, in Kashmir, are shepherd proprietors, said to have come from Guzerat in the Punjab. They live in log-houses, in recesses at the foot of the Punjal, and in the woods. The Gujur are a numerous tribe in the Punjab, probably of primitive antiquity. They have not lost the pastoral habits of their race, though they devote much attention to agriculture, and they are more industrious and less predatory than their brethren of Hindustan. Professor Wilson says some of them profess to descend from Rajput fathers by women of inferior castes. Sir John Malcolm says the Gujar have raised themselves to power by means not dissimilar to those used by the Jat. Almost all the thieves in Hindustan are of this tribe.—In 1857, in the Revolt, in India, the whole of the Gujar villages around Delhi, rose for plunder. The instant the strong arm of government was removed, these and other predatory races resumed their ancient habits.—*Wilson's Glossary. Malcolm's Sikhs*, p. 136. *Elliot's Supp. Glossary. Rec. of Govt. of India.*

GUJERAT, a town in lat. 32° 32' N., long. 74° 3' E., in the Jech doab of the Punjab on the Rotas road, between the Chenaub and Jhelum, at eight miles from the right bank of the Chenab. It is also the name of a district in the Punjab. Near the town the British in 1846, gained a battle over the Sikh.—*Rennell's Memoir*, p. 85.

GUJERAT, a peninsula in the N. W. corner of the peninsula of India, bounded on the south and east by the Gulf of Cambay, on the north by the Gulf of Cutch, and on the west by the Arabian Sea and North Indian Ocean. It belongs in part to the British, but has many native feudatories. The climate of Gujerat, Behar, Doab, Delhi, and Malwa resembles that of the States of North Egypt, and North Syria. Its chief towns are Ahmedabad, Cambay, Kaira, and Puttan Somnath, and a large portion of it is known as Kattyawar. The language spoken, called Gujerati, is a dialect of Hindi. The inhabitants are of very varied origin.—See Goojarat, India, Government, Mahratta, Kattyawar, Inscriptions.

GUJI. Hind. wheat and barley sown together.

GUJI. Beng. Climbing hedyotis. Hedyotis scandens.

GUJJU KANNE KOMALI. Tel. Boerhavia stellata.—*Roxb.*

GUJJU MAMIDI. Tel. also Mamidi chettu. Tel. var. of Mangifera indica—*Linn.* Dwarf mango.

GUJJU NARIKEDAM. Tel. Cocos nucifera.—*Linn.* The small variety, growing in Ceylon. Gujju in Telugn, means "short."

GUJ-PIPAR, according to Dr. Irvine, is supposed to be the root of Borassus flabelliformis, brought from Cabul: is astringent, and is given in medicine, to promote digestion: one seer costs two rupees. *Gen. Med. Top. p.* 135.

GUJ-PEEPUL or guj-pipar Beng. is the sliced dried fruit of Pothos officinalis. Potentilla officinalis. syn. of Scindapsus officinalis.—*Schott. General Med. Top.* p. 135.

GUJRA, or Soomurrun, bracelets made of coloured thread, worn at the Maharrum.

GUKKAR or Kakkar, or Ghakar, a warlike tribe in the time of Mahmud of Ghazni, inhabiting the Salt Range or Johd mountains between the Indus and the Behut (Hydaspes.) The Gukker, Gugger, and other aborigines of Hazara have most of them been mastered by Pathan invaders from beyond the Indus. The Mogul, and subsequently the Doorani, failed to master them, but the Sikh rulers, after having been frequently foiled, at length nominally accomplished their subjugation by stirring up internal faction and by the perpetration of acts of cruelty and treachery.—*Rec Govt. of India.* See Kahkar. Khyber, pp. 508, 517.

GUKER. Se Behera.

GUL. Beng. Guz. Hind. Pers. A rose, in combination, a flower, &c. hence.—

Gulab. Hind. rose-water. Rosa centifolia, R. macrophylla.

(ban) gulab. Hind. Rosa macrophylla.

Gul-abbas. Hind. Mirabilis jalapa.

Gul-abbasi. Hind. Colour of Marvel of Peru, magenta colour.

Gulabe. Hind. Trifolium Indicum.

Gulab ghurei. Hind. Rosa brunonis.

Gulabi. Hind. Crotalaria medicaginea, C. medicinalis.

Golab-i-rang, pink colour.

Gulab-i-sad-barg. Pers. Rosa centifolia.

Gulab-jam, also Gulab-jamun and Gulabi-jam. Duk. Eugenia jambos.—*Linn.*

Gulab jangli (Rosa burmanniana).

Gulab-ka-atr. Hind. Otto of Roses.

Gul-ab-ka-pani. Guz. Hind. Rose water.

Gul-ab-ka-phul. Hind. the Rose flower.

Gul-ab-pash. Rose water sprinkler, a bottle from which rose water is sprinkled.

Gulab-zira. Hind. Rosa centifolia.

Gul-i-dar-chini. Smilax China.
Gul-i-gul-ab. The Rose water rose.
Gul-i-nari. ? Hind. ? Cedrela toona?
Gulistan, a rose garden.
Gul-i-surkh. Rosa centifolia.
Gul-jafri. Hind. Pers. Tagetes patula.
Gul-khaira. Hind. Althæa rosea, also Lavatera cachemiriana.
Gulkhand. Hind. conserve of roses.
Gul-i-kivia. Pers. Pandanus odoratissimus.
Gul-i-kysu. A flower which grows in the Punjab, from which a yellow dye is produced, with which they dye the shawl wool.
Gul mukhmal. Hind. Gomphrena globosa.
Gul-nasar, kul-nashtar. Hind. Erythrina arborescens.
Gul-paighambari. Hind. Arnebia echioides.
Guli-pista. Hind. Pistacia vera.
Gul-seoti. Hind. Gul-sewati. Rosa glandulifera.
Gul-shabbo. Hind. Polianthus tuberosa.
Gul-shan. Hind. Eranthemum pulchellum
Gul shandai, Hind. Tulipa stellata.
Gul sparlie. Hind. Arnebia echioides.
Gul sutei. Hind. Matricaria chamomila.
Gultun. Hind. Cedrela toona.
Gul zer Hind. Calendula officinalis.
Gul-banu, embroidered red silk cloth.

GUL, fire-balls for the hooka, a piece of hot charcoal for lighting the pipe or hooka; also the cinder, or refuse that comes from a hooka, pipe or chilam, when smoked out.

GULA. Mal. Sugar.
GULABA-PU. Tam. Rose.
GULA BATU. Malay. Candy.
GULABATAN. Properly Kalabatun. Gold embroidery.

GULAB SING was the raja of Jamu in the time of Runjit Sing. He was a Dogra rajput, brother of raja Dhian Singh, and raja Suchit Singh. He was cruel, tyrannical and exacting, but tolerant in religious matters. After the Sutlej campaign, the treaty of Lahore, dated 9th March 1846, left the British Government in possession of the hill and plain country, between the rivers Beas and Sutlej, and of the hill country between the Beas and the Indus, including the provinces of Cashmere and Hazara. The British Government conferred on Gulab Sing, territories in the hills, and recognized his independence. Gulab Sing began life as a horseman in a troop commanded by jemadar Khooshal Sing, then the favourite chamberlain of Runjeet Sing. He soon raised himself to an independent command, in which he distinguished himself by making prisoner Agur Khan, chief of Rajaoree. For this service the principality of Jummoo was conferred on his family and Gulab Sing took up his residence in Jummoo, whence he soon extended his authority over his rajpoot neighbours, and eventually into Ladakh. He took an important part in the negotiations which followed the battle of Sobraon. A separate treaty was concluded with him at Umritsir, on 16th March 1846, which put him in possession of all the hill country and its dependencies between the Indus and the Ravee, including Chumba and excluding Lahoul, on payment of seventy-five lakhs of Rs., and in exchange for the Cis-Ravee portion of Chumba. By a subsequent arrangement, in 1847, Chumba came again entirely under the British Government. In 1857 maharajah Gulab Sing died, and was succeeded by his son Runbeer Sing to whom the right of adoption was guaranteed by sunnud, and the chief now holds sway over Cashmir, Jummu, Kishtwar, Zangskar, Ladakh and Balti. *Prinsep's Antiquities, by Thomas; Aitchesons Treaties.*

GULA-CHIN. Duk. Plumieria alba.

GULAL. Hind. a red powder formed of barley flour or rice flour, or flour of the water nut, Trapa bispinosa, tinted with sappan wood, or sanders wood, much thrown about in the Ram Nami and in the Holi festivals of the hindoos.

GUL-AMBARI Beng. Hind. A sort of bright lilac, in which the crimson and the blue are not thoroughly combined, so that there is the effect of a 'shot.'

GUL-ANAR. Hind. Flowers, Punica granatumof scarlet-color pomegranate flower.

GULANCH. Hind. Tinospora cordifolia.

GULANCHA. Beng. also Gudancha. Hind. Root and stem of Cocculus cordifolius. —*D. O.* Menispermum cordifolium. It is intensely bitter. A transverse section is very porous and radiated. A decoction is a valuable bitter tonic and alterative, dose one ounce flavoured with honey thrice daily, is the Pachana preparation of the native physician.—*O'Shaughnessy Beng. Phar.*, p. 277.

GULAR. Hind. Ficus glomerata, Kath gular. Hind. is the Ficus cunia.

GULARICH. Hind. See Gurcha.

GULATTI. Hind. Dolichos uniflorus. Horse-gram.

GUL-BADAN. Pers. A red silk cloth for ladies' trousers.

GULBAHAR. Hind. Grislea tomentosa.

GUL BAJI or Gul-abbas. Hind. and Duk. Mirabilis jalapa.

GUL-BEL. Duk. Menispermum cordifolium syn. of Cocculus cordifolius.—*D. C.*

GULBHANGA. Hind. Hemp. The flower bearing or female plant of the hemp. Gulbhanga-i-bihisht, a sweetmeat.

GULBODLA. Hind. of Hazara, Sterculia villosa.

GUL CHAND. Hind. Gardenia florida.

GOOL-CHINI, Chrysanthemum Indicum. —*Linn.* Indian chrysanthemum; Christmas-flower.

GUL-CHETUR, a famous field at Tanessur, close to the Grand Trunk Road; about 30 miles south of Umballa.

GULD. Dan. Sw. Gold.

GUL DAODI. Hind. syn. of Chrysanthemum Indicum.

GULDAR. Hind. Cedrela toona. C. serrata.

GULDAUDI Chrysanthemum Indicum.

GULDER. Hind. Staphylea emod.

GULEEZ-SHAH. A Mohurrum fuqeer.

GULERI. Hind. An iron from Gwalior used for wire drawing.

GULFS IN INDIA. The chief are the Gulfs of Cambay, S. E. of Guzerat; of Cutch, north of Guzerat: the two southern prongs of Celebes form the Gulf of Boni which stretches three degrees northward into the centre of the island. Its entrance is about 80 miles wide, but narrows to 30 miles, till at its head it again expands to 45 miles. The Great Wall of China ends at the Gulf of Lian-tung. The Gulf of Tadjoura, was described by Lieutenant Barker I. N. Bores occur in Southern Asia on several rivers, in the Gulf of Cambay, in the Ganges, the Irawaddy the Sittang and on some China rivers.

GULF WEED. Fucus natans or the Sargasso, is found in large masses between the parallels of 18° and 34° of North latitude, and its utmost eastern limit extending to 36° E. L.. It is of a greenish yellow colour, is abundant on the Florida reefs, but continues to vegetate as it floats about in the circular currents after it has been torn from its attachment. The masses give shelter to a great number of fish, mollusks and crustacean animals. Fucus natans, is the Gulf weed, which travellers to and from India, meet with in the Atlantic.

GUL-GAJUBA. Flowers of gajuba from Bombay: cooling, in various mixed prescriptions: one seer costs two and a half rupees. *Gen. Med. Top.*, p. 136.

GOOLGEEAN, Goolgooleean, or Goolgoolly, swollen rice mixed with molasses formed into balls.

GULGAZRANG Hind. Crimson brown, maroon.

GULGULA. A town near Bamian, destroyed by Changez Khan, at a comparatively modern period. Changez Khan, from some cause not now remembered, being highly exasperated with the people, came upon them suddenly, put them without mercy to the sword, and overturned and demolished the place. It is said that at a day's journey from Bamian, to the south west, were the remains of an extensive fortress, called Band-i-Berber, erected near a large lake. *Moorcroft's Travels*, Vol. II. p. from 387 to 393.

GULHAR. Hind. Nympha lotus.

GULI. Hind. Argyreia speciosa, *Swt.*

GULI. Guz. also nil, Guz. Indigo.

GULI. Hind. Dukh. Coral.

GULI. Tel. Capparis grandis. *Linn.*

GUL-I-BADAWURD. Hind. Carduus nutans.

GUL-I-BANAFSHA, violet flowers.

GUL-I-GULAB, rose-flower.

GUL-I-GULAB. A series of fortresses which have a communication with each other. They are situated near the Persian Gulf, about five fursangs from Behbehan, and the river Kheirabad, the Ab-i-Sherin or Indian River, flows close to the foot of the rock on which they are built, one fort above the other.

GUL-I-GHAFISH. Hind. Flowers of Gentiana *sp.*

GULILI. Hind. Fluggea leucopyrus.

GUL-I-IZKHAR. Hind. Andropogon iwarancusa.

GULIVINDA. Tel. Abrus precatorius. *Linn.*

GULKHAND. Guz. Hind. Conserve of Roses.

GUL-KESU, flowers of the dhak tree, Butea frondosa.

GUL KHAIRA, Malva rotundifolia.

GULKUNDAL. Hind. of Jamu; sterculia villosa.

GULLA, lit. grain or corn, money, properly Ghillah.

GULLA, GILA, GADDI. Tel. A kind of grass, not identified.

GULLI-MILNA. Hind. A form of salutation, the embracing described in Scripture, as falling on the neck.

GOOLLEE, Coral. Vide Tusbeeh.

GULLEE AFREEDEE. See Khyber, pp. 510 and 511.

GULLEM CHETTU. Tel. Capparis grandis.—*Linn.*

GULLER. Duk. Ficus racemosa.

GULLI. Duk. Coral. Red coral.

GUL-MASUFIR. Hind. Pers. Kusumbha, Carthamus tinctorius.

GUL-MEDAK. Hind. Jacynth, but generally understood to be an imitation gem of a deep orange color.

GUL MURG. See Kashmir.

GULUBAND, anything worn in any way about the neck.—Dress, properly Galliband.

GULONCHI. Hind.? A tree of Chota Nagpore, with hard, white timber.—*Cal. Cat. Ex.*, 1862.

GUL SANJUD. Hind. Elæagnus conferta.

GULPISTA. Pers. Bazgand. Guz. Hind. galls produced on the Pistachio tree (Pistacia vera), a native of the South of Europe, and of Asia. They are imported into Bombay from the Persian Gulf, and are used in medicine by the natives of India.—*Faulkner. Birdwood.*

GUL-TAKIA, or Girday, a pillow for the cheek, properly Gal-takiah.

GULUBAN, or Guluwan, from Gulu, Kashmiri, a flock, horse grazers in Kashmir, descendants of the warlike Chakh, the warriors of Kashmir who opposed the invasion of Akbar.

GULU. Hind. Cannabis sativa.

GULUNGA ?—Hemp.

GULUSU? Tel. an article of Jewellery.

GULUWAN of Kashmir. See Guluban India, p. 337.

GULWAIL. Duk. Cocculus cordifolius.

GULY MARA. Can. Rhamnus jujuba.

GUM.

Gommo,	Fr.	Gatah pulut,	Malay.
Gummi,	Ger.	Goma,	Sp.
Gond,	Guz Hind.	Pisini,	Tam.
Gomma,	It.	Banka,	Tel.
		Jigata.	„

Gums and resins, are divisible into Gums, Gum Resins and Resins.

Gums are soluble in water, but not in alcohol.

Gum Resins, being compounds of gum and resins, are partially soluble in water, partly in alcohol; the gummy matter being separated by one, and the resinous matter by the other.

Resins are soluble in spirits, from which they are, in a considerable proportion, separated by water. The resins melt on the application of heat, but not so the gums. The chief gum producing trees, &c. of Southern Asia are:

Babool gum, Tumma, Acacia arabica.
Kut or Kheir gum, ... „ catechu.
Vel-vela-pisin, ... „ ferruginea.
Dirisana gum, ... „ sirissa.
Gum arabic, ... „ speciosa.

Gum arabic, ... Acacia sundra.
Konda Tangedu jigata. Acacia xylocarpa.
Bel-gum, ... Ægle marmelos.
Mutty pal, ... Ailanthus Malabaricus
Gum Arabic ... Albizzia odoratissima.
Kalabanda jigata, ... Aloe perfoliata.
Meisakshi, ... Amyris commiphora.
Cashew gum, ... Anacardium occidentale.
Neem-gum, ... Azadirachta indica.
Myrrh (moor) ... Balsamodendron myrrha.
Bdellium (googul), ... Balsamodendron myrrha.
Elipi, ... Bassia longifolia.
Pachontee, ... „ elliptica.
Bauhinia gum ... Bauhinia parviflora.
Olibanum (saleh gond) Boswellia thurifera.
Boorooga gum ... Bombax Malabaricum.
Pulas, Modugu gum ... Butea frondosa.
Jilledu jigata, ... Calotropis gigantea.
Tangedu jigata, ... Cassia auriculata.
Gum of ... Chloroxylon swietenia.
„ ... Cordia rothii.
Katira gum ... Cochlospermum gossypium.
Gum, ... Conocarpus latifolia.
Palay, caoutchouc, ... Cryptostegia grandiflora.
Kuttimundoo, ... Euphorbia kuttimundoo.
Wood apple gum, ... Feronia elephantum.
Assafetida, ... Ferula asafetida.
Caoutchouc, ... Ficus elastica.
Marri jigata, ... Ficus indica.
Atti or medi jigata, ... Ficus racemosa.
Dekamunnee, ... Gardenia lucida.
Gamboge, ... Garcinia pictoria.
Gutta percha, ... Isonandra gutta.
Vutta thamara, ... Macaranga indica.
Mamidi jigata, ... Mangifera indica.
Pogada jigata, ... Mimusops elengi.
Moringa gum, ... Moringa pterygosperma.
Assafœtida (hing), ... Narthex asafœtida.
Oodi gum, ... Odina wodier.
Devardaru jigata, ... Phyllanthus turbinatus
Gum mastic, ... Pistacia atlantica
„ „ ... „ cabulica.
„ „ ... „ lentiscus.
Gum arabic, ... Prosopis spicigera.
„ „ ... Prunus armeniaca.
Kino, ... Pterocarpus marsupium.
Gum of ... Salix caprea.
Somida jigata, ... Swietenia febrifuga.
Neredu jigata, ... Syzygium jambolanum
Gambier, ... Uncaria gambir.
Keekur gum, ... Vachelia farnesiana.
Choar-kulli, ... Soymoda febrifuga.

Gum of.....Sterculia urens.
" .....Xanthoxylon hostile.
Yellapi,..... .....Zizyphus jujuba.

Resins and Gum Elastics.

Abies Smithiana.... ...resin.
Ammoniacum.....Ooshik.
Amber, Kahroba,.....Cutch, Assam and Kemaon.
Anime,.....Bombay from Africa.
Benzoin, Loban,... ...Straits, Sumatra.
" a kind of, ...Malabar.
Caoutchouc,... ... .Ficus elastica, Assam.
Copal, Soondroos,..... Vateria Indica, Canara
Dammer, Ral and Dhoonia,... ... .Shorea robusta, Balasore, foot of Himalaya, Canarium strictum.
Deodar Oil, Kelon-katel.....Cedrus deodara, Himalaya.
Galbanum,.....
Guggilam,.....
Gutta Percha,..... . Isonandra, Singapore.
Mastic, Mustajee,.....Bombay.
Mysakshi.....
Myrrh (Moor),.....Balsamodendron myrrha.
Bdellium (Googul),... "
Olibanum (Salehgond)Boswellia thurifera.
Turpentine,..... ... ...Pinus excelsa, resin.
Piney, Paudum, ...Vateria Indica, Canara.
Resin,.....Beerbhoom.
Theetsee,... ....Melanorrhœa usitata, Assam.
Turpentine, Gunda baroza,.....Pinus longifolia, Seharunpore.
Wood Oil, Gurjun, Dhoonatel,.....Dipterocarpus turbinatus, &c., Chittagong.

Curvaiala maram. Tam. Acacia arabica, gum well known, procurable in abundance.

Wadallee maram. Tam. Acacia catechu, gum dark coloured, sweetish tasted.

Vel-vaila maram Acacia ferruginea, gum of this tree does not seem good.

Karray vagay maram. Acacia odoratissima, the finer specimens, a fine gum, very like good gum arabic, obtainable in abundance.

Curun galli maram. Acacia sundra, very good, pleasant tasted and adhesive.

Vilva pissin. Ægle marmalos. A fine pure sweet tasted gum, much resembling and fitted to form a good substitute for gum arabic, for which it is sold in the bazaar mixed with other gums—only obtainable in small quantities.

Peru maram. Ailanthus excelsa, scarcely deserves the name of gum, it seems rather resinous than gummy.

Vapum maram. Azadirachta indica, a pretty good gum, well tasted and is mixed with other sorts and sold as gum arabic—abundant.

Ellipi maram. Bassia longifolia, a dirty gummy substance, but not fit for use, when so many better are to be had—smell heavy and disagreeable.

Catoolugoo maram. Bombax malabaricum, a white, rather pure, gum.

Avaram pissin. Cassia auriculata, a dark brown dirty looking substance, soft and demulcent, but insipid in the mouth—used as a demulcent.

Kodawah porsh. Chloroxylon swietenia. A clear transparent brownish red gum, not very soluble and bitterish taste—does not seem good.

Vellay naga maram. Conocarpus latifolia, a fine pure gum, but its qualities not otherwise known—used in common with others as gum.

Narvali maram. Cordia rothii, gum hard and tough, apparently not good as a gum.

Vullam pissin. Feronia elephantum, gum exceedingly good, a superior gum arabic, for which it is substituted.

Mah maram. Mangifera indica. The common mango tree yields a soft dark dirty looking gum, it has the softness of boiled india-rubber with little or no solubility. When first taken into the mouth, it yields a somewhat terebinthine flavour: it exhales an unpleasant smell.

Mullee vemboo. Melia azadarachta, a tolerable gum.

Murungoo pissin. Moringa pterygosperma gum not bad looking, soft, little soluble, and not adhesive.

Woody maram. Odina wodier, a pure soft sweet tasted gum.

Vunny maram. Prosopis spicigera, gum clear, looks well, is largely collected as a very good gum arabic.

Vengay maram. Pterocarpus marsupium, a hard brittle astringent secretion, much resembling kino in its sensible properties.

Choar kulli maram. (Soymida febrifuga) ?? Pretty clear transparent gum, slightly tinged with red and with a slight dash of bitter in the taste.

Vellay bootalli or pootalli maram, Sterculia urens, a curious gummy looking substance, softening in the mouth but not having the proper adhesiveness of gum. It much resembles traga-

canth, in the way it softens in the mouth, and Roxburgh states that it was sent to Europe as a substitute, but was not found to answer.

There are two leading modifications of gum, one of which is represented by Gum-arabic, and the other by Gum-tragacanth: there are many intermediate varieties, amongst which Cherry-tree gum, may be distinguished and the different kinds of gums have been classed under the generic terms of Arabine, Tragacanthine, and Cerasine, from Cerasus, a cherry-tree. Gum-arabic is the produce of several species of Acacia growing in Arabia, India, Upper Egypt, Senegal, &c., and, in India, the gums of Ægle marmelos, Feronia elephantum, Azaderachta indica, Melia Azaderachta, Odina wodier, and Prosopis spicigera, are all sold as gum-arabic. It occurs in rounded pieces, or tears, and in fragments, up to the size of a walnut, or larger; these are of irregular shape; the colour is either white, yellowish, or dark white yellow; there is scarcely any odour and the taste is mawkish and glutinous; the sp. gr. varies from 1·50 to 1·60. It breaks readily into small irregular pieces, with an uneven vitreous fracture. It dissolves almost completely in water; 100 parts of water of 212° Fahr take up 19 parts of gum. The solution is, however, purer when made with cold water, and keeps better: it is sometimes used as a glaze or varnish, and for the purpose of giving a gloss and stiffness to ribands, calico, &c. At an average of the 3 years ending, 1842, the gum-arabic entered for consumption in the United Kingdom amounted to 18,176 cwts. a year. It sells at £ 2 to £ 14 the cwt.

Gum Senegal, from the island of that name on the coast of Africa, is largely used by the calico-printers instead of gum-arabic.

Gum tragacanth is the produce of certain species of Astragalus, growing in Asia Minor, Armenia, and Northern Persia. It is usually in the form of white or yellowish semi-transparent flakes, or curled vermicular pieces, which are very tough and require, before they can be powdered, to be dried at 212°, when they lose about 10 per cent. of water, and become brittle. When steeped in water this gum swells into a bulky mucilaginous mass, which, when boiled with water, gradually acquires the appearance of a solution of ordinary gum. Gum-tragacanth is used for some of the purposes to which gum-arabic is applied. It is often sold in the shops as gum-dragon.

Cherry-tree gum, including that of peach and apricot trees, and other species of Prunus, resembles inferior gum-arabic in its external characters, but is only partially soluble in cold water.

Gum Arabic; Gum Senegal: Gum of the Cherry and other stone fruit trees; Gum Tragacanth; Gum of Bassora flow spontaneously from the branches and trunks of the trees producing them. A kind of gum is extracted from seeds and roots by boiling water. The various species of the genus Acacia yield these gums, and some of them gum-resins. The Acacia and its gum-yielding properties have been known from the remotest antiquity. The Shittah-tree, mentioned by Isaiah and also in Exodus, is supposed to have been an Acacia. Hippocrates speaks of the Egyptian Acacia and of the white Acacia, distinguished, he says, by its white bark, white-wood, and white flowers; and from this tree his "white fragrant ointment" was probably made. The exudation of gum is thus explained by DeCandolle:—"The gummy matter resides in the bark and albumen; it is the nutritive juice of the plant; and its escape, therefore, is analogous to hemorrhage in animals: hence plants in which it spontaneously occurs are always in a sickly state. The mechanical cause of the expulsion of the juice is dependent on the unequal hygrometric properties of different parts of the stem. The wood absorbs more moisture from the air than the bark, and hence it swells more. In consequence of its enlargement, it distends the bark, which, by the internal pressure of the wood, gives way, and gummy matter escapes." Dr. Pereira remarks that DeCandolle's hypothesis is quite in conformity with facts respecting gum tragacanth mentioned by Labillardiere, who states that the gum only flows in abundance during the night and a little after sunrise. A cloudy night, or a heavy dew, is, he thinks, necessary for its production, for the shepherds of Lebanon only go in search of this substance when the mountain has been covered during the night with thick clouds. The gum of the Acacia-tree flows in a liquid state from the branches and trunks, and hardens by exposure; the more sickly a tree appears, the more gum it yields, and the hotter the weather the more abundant it is. A wet winter and a cool or mild summer are unfavourable to the production of gum. According to the locality producing it, gum arabic is known as Turkey or Arabic gum, Barbary or Morocco gum, Senegal, East India, and Cape gum. Each of these varieties of gum is employed to give lustre to crapes and silks, and the mucilage of gum arabic is largely used for this purpose and for cementing into cakes the various pig-

ments used by artists in water-colours. Tragacanth gum differs from the gum of the Acacia in not being soluble in water, but swelling up when placed in water, and thus forming a mucilage. There is the flaky tragacanth and the vermiform; the former being the variety usually brought to Britain, while the latter is commonly employed on the continent. This gum is gathered about the end of June, from the Astragalus tragacantha of Crete, and surrounding islands. The chemical differences between the gum Arabic, gum Senegal, and gum tragacanth are as under:—

	Gum Arabic.	Gum Senegal.	Gum Tragacanth.
Carbon,.....	41·906	43·59	40·50
Hydrogen.....	6·788	6·23	6·61
Oxygen.....	51·306	50·07	52·89
Nitrogen... ...	a trace	0·11	0·00
	100·000	100·00	100·00

The examinations of Guerin and others have shown that these gums consist of soluble and insoluble portions. The soluble gum is called Arabin; this is soluble in both hot and cold water, but insoluble in alcohol, ether, and oils. The insoluble gum is called Bassorin, which is insoluble in both hot and cold water, but it absorbs water and swells up. The tragacanth contains most of the latter; while the Arabin is the largest constituent of the gum Arabic. Gum tragacanth is largely employed in calico-printing, and it has many uses in the Arts.

Catechu, from the Acacia catechu, is rather an extract than a gum. It is manufactured in Burma, Canara, the Western Dekhan, Behar, and in Northern India. Dr. Forbes Royle says the Kath manufacturers move to different parts of the country in different seasons, erect temporary huts in the jungles, and selecting trees fit for their purpose, cut the inner wood into small chips. These they put into small earthen pots, which are arrayed in a double row along a fire-place built of mud; water is then poured in until the whole are covered; after a considerable portion has boiled away, the clear liquor is strained into one of the neighbouring-pots, and a fresh supply of material is put into the first, and the operation repeated until the extract in the general receiver is of sufficient consistence to be poured into clay moulds, which in the Kheree Pass and Doar, where he had seen the process, are generally of a quadrangular form. This catechu is usually of a bloodred colour, and is considered there to be of the best quality. By the manufacturers it was conveyed to Seharunpore and Moradabad, whence it followed the course of commerce down the Ganges, and met that from Nepal, so that both may be exported from Calcutta. Of three varieties of catechu in the markets the Acacia catechu and the Gambir catechu are the best. Catechu has long been employed in India for tanning skins; its tanning properties are stated to be so great that skins are tanned by it in five days. It has also been used in India to give a brown dye to cotton; and catechu has lately been very extensively employed in the calico-printing works of England. The salts of copper with sal-ammoniac cause catechu to yield a bronze colour, which is very permanent. The proto-muriate of tin produces with it a yellowish brown. A fine deep bronze hue is also produced from catechu by the perchloride of tin, with an addition of nitrate of copper. Acetate of alumina gives a brown; and nitrate of iron a dark-brown, grey. For dyeing a golden coffee-brown, catechu has entirely superseded madder, one pound of it being equivalent to six pounds of that root.

Gum Kino is the juice of the Pterocarpus erinaceus, P. marsupium, Eucalyptus resinifera, &c. Kino has much the same properties as the catechu; it has been proposed to employ it in dyeing green. Although the colour of the kino is a deep red, it has the power of communicating a green colour to the salts of iron.

Gamboge, is a vegetable gum resin, the first notice of it we have is by Clusius, in 1605, who described a piece brought from China, by admiral Van Nock, in 1603. The gamboge which Europe obtains is received principally from Siam, a small quantity coming from Ceylon and the Western Coast of India. The Singalese method of collecting the gamboge is by cutting pieces of the bark completely off, about the size of the palm of the hand early in the morning. The gamboge oozes out from the pores of the wood in a semi-liquid state, but soon thickens, and is scraped off by the collectors the next morning without injury to the tree, the wounds in the bark soon healing, and becoming fit to undergo the operation again. Gamboge is much used as a pigment, and in miniature painting, it is employed to colour varnishes and lackers. Many of the mucilages, as those of quince-seed, of carrigeen moss, and the like have their uses in the arts, but they are not of sufficient importance to demand any especial detail.

Rosin or Common Resin of Europe and America is obtained as a residuary matter in the process for obtaining the

oil of turpentine, Turpentines must be regarded as an oleo-resin. In their natural state they are either solid or semifluid, the oil of turpentine being obtained by distillation of American turpentine with water. From the United States Dispensatory we learn that turpentine is procured "from the Pinus palustris, partly also from the Pinus tæda, and perhaps some other species inhabiting the southern states. In former times, large quantities were collected in New England; but the turpentine trees of that section of the Union are said to be nearly exhausted; and European commerce is almost exclusively supplied from North Carolina and the south-eastern parts of Virginia. In collecting this turpentine "a hollow is cut in the tree a few inches above the ground, and the bark removed for the space of about eighteen inches above it. The turpentine runs into this excavation from about March to October; more rapidly, of course, during the warmer months. It is tranferred from these hollows into casks." Old and concrete American turpentine is often sold as frankincense.

Canada turpentine or Canada balsam, is obtained from the Abies balsamea in Canada. Between the bark and the wood of the trunks and branches of these trees are vesicles containing the oleo-resin, which exudes when they are broken. Canada balsam is much used by varnish-makers in the manufacture of some of the most transparent varnishes. It is also extensively employed by opticians as a cement. The great value of Canada balsam for optical purposes, depends on its transparency and its refractive power, which is nearly equal to that of glass. When used to connect the pieces of an achromatic lens, it prevents the loss of light by reflection and excludes moisture and other foreign bodies from the space between the surfaces of the glasses. In Nicol-prisms (single image prisms of Iceland Spar) it serves the important purpose of transmitting the ordinary ray, and of interrupting the passage of the extraordinary one; its index of refraction being intermediate between that of Iceland spar for the ordinary ray, and that of the same substance for the extraordinary ray—(*Pereira.*)

The spirits, essence, or oil, of turpentine, for it is known by all these names, is obtained by submitting to distillation a mixture of American turpentine (which has been melted and strained) and water in proper proportions. The produce of oil of turpentine from the crude article is about from fourteen to sixteen per cent. There is a preparation sold in the shops as sweet oil of turpentine, for painting without smell; this appears to be nothing more than carefully rectified oil. The common oil contains some resin, which colours it, and renders it unfit for many of the purposes for which the superior article is required.

Camphene is the rectified oil of turpentine, and when new, it burns admirably in the camphene lamps; but by exposure to the air it becomes resinified, and is then unfit for use. The wick of the lamp carbonizes, and resin is deposited around it, causing the lamp to smoke, at the same time as the illuminating power of the flame is greatly diminished. When the camphene has thus suffered by age or exposure, it must be again rectified by distillation from carbonate of potash, or some similarly active substance, to deprive it of this. This resinification of the turpentine is due to the absorption of oxygen, which, according to the chemists, produces pinic and sylvic acids; it is also stated that formic acid is formed during the process.

Turpentine is extensively employed, as the solvent of the other resinous bodies, in the formation of varnishes; its solvent powers in this respect, renders it exceedingly valuable to the artist, and also to the manufacturer. The rectified oil of turpentine has been much used as a solvent of caoutchouc. It has been stated by Bouchardt, that the unrectified oil dissolved India-rubber with great difficulty; whereas the oil rectified without water was an excellent solvent, but that it was rendered still better when it was distilled from bricks.

The Terebinth tribe of plants produce a variety of resins and resinous oil, as the olibanum, myrrh, &c.; amongst these terebinthine products is Scio turpentine, called also Chian and Cyprus turpentine the product of the Pistacia. It is produced largely in the Island of Scio, and is obtained by cutting cross-ways with a hatchet the trunks of the largest trees; the turpentine runs down on flat stones placed to receive it, each tree yielding about eight or ten ounces.

Mastic Resin.—This is also produced in Scio, from the Pistacia lentiscus, the mastic or lentish tree. The process of collecting is in most respects similar to that employed in obtaining the other resins. That which collects on the branches of the trees is called mastic in the tear, and fetches the highest price, while that which falls to the ground constitutes the common mastic. Mastic varnish is well known from its transparency, and other valuable proper-

ties; one of which is its peculiar toughness and tenacity even when spread in the thinnest coat, on wood or on canvas. This is due to the presence of a peculiar resin, which does not possess any acid properties, and which has a composition C. 40, H. 31, O. 2,—the acid resin of mastic containing four equivalents of oxygen.

Olibanum.—This was the frankincense used by the ancients in their religious ceremonies. Moses speaks of it in Exodus, and it long formed a constituent in the preparation of incense. It is produced in India from the Boswellia thurifera but there are also African and Arabian varieties.

Myrrh.—This gum resin was an object of trade more than 3,500 years ago. It is produced in various parts of Asia and Africa, the Myrrh-tree bearing the scientific name of Balsamodendron myrrha undetermined. According to Ehrenberg it exudes, like cherry-tree gum, from the bark of the tree. Turkey myrrh is considered the finest, the East Indian being the second in quality. This gum resin has not found any extensive applications in the Arts; it is employed medicinally, as a dentifrice, and in the preparation of fumigating pastiles.

Elemi.—This gum resin is the product of a tree still undetermined; and although it is of considerable importance, and is imported in large quantities, the locality producing it is not distinctly known. Dr. Peirara took much pains to ascertain its commercial route, and he found that all the importations of it which he could trace were from Amsterdam or Hamburgh. It would appear that elemi formerly came from Ethiopia by way of the Levant; it is therefore probable that it comes through Holland from some Dutch settlement in the East, and also from Africa, some small quantity probably being received from the Brazils. This gum resin forms an essential ingredient in many of the finest varnishes.

Balm of Gilead called also Opobalsam and Balm of Mecca, is procured from the Balsamodendron Gileadense, a middle-sized tree growing in Arabia. But little of the true balm of Gilead reaches Britain. The same may be said of another of the terebinthine resins, Bdellium, which is obtained from India and from Africa.

Copal.—This important resin exudes spontaneously from two trees, Rhus copalinum, and Elœocarpus copalifer, the first being an American and West Indian, and the second an East Indian tree. Another variety of copal is obtained from the coasts of Guinea. The American species comes to Britain in flat fragments; whereas the East Indian is generally obtained in roundish masses. The latter furnishes the finest varnishes. Fresh essence of turpentine dissolves it completely, but old turpentine will not do so. It is stated that essence of turpentine, digested upon sulphur, will dissolve double its own weight without letting any fall. The oil of rosemary also dissolves copal with great readiness. An excellent varnish may be made by dissolving one part of copal and one of essence of rosemary, with from two to three parts of pure alcohol.

These are the more important of the gums and resins employed in the Arts. Their employment has been greatly facilitated by the discovery of new solvents, such as the new alcohols and ethers, naphtha, benzole, chloroform, and others. The art of the varnish-maker is an important one, and it requires, for its successful prosecution, a considerable amount of chemical knowledge, and the greatest care. Copal, mastic, and amber varnishes are much employed by the artist and by the photographer for the preservation of their works. The latter is perhaps superior to any of the other. Far less attention is paid to the peculiar properties of varnishes than could be desired. The artist employs a varnish for the purpose of securing his labours from the combined influences of light and air; but it must never be forgotten that he is employing a material which is itself constantly passing, by the absorption of oxygen, into a state of disintegration. It is known that many varnishes rapidly change colour, and that some are more liable to crack than others are. A few preliminary experiments may be made of great value. For example, if portions of various samples of varnish are spread upon a plate of glass and dried, we have the means of determining many important points. Cover one half of the varnished glass with an opaque screen, and expose the other half to sunshine day by day; by placing the glass upon a sheet of colourless paper, it will be seen whether any colour has been imparted by the action on the sunshine. After a few days, if the whole arrangement is placed in spirits of turpentine, the varying degrees of solubility may be noted; and from this may be determined the rate at which, under ordinary circumstances, oxygen is absorbed—the rate, indeed, at which the elements of destruction proceed. Thus a considerably greater degree of permanence may be secured, than when the artist, trusting only to the varnish maker, employs a preparation about which he knows nothing. *Robert Hunt, in London Art. Journal December* 1858.

Dammar is a vernacular term for the resins of various trees growing in India and in the Eastern Archipelago. In Bombay Dammar is also applied to pitch and in the ports on the Telinga coast, resin and oil are boiled together and sold under the name of keel to pay ships and boats bottoms. The Ral of Northern India and exported from the Panjab is not similar to that of the Shorea robusta and throughout India, ral and rala are terms applied to all resinous substances. The resins of Vatica robusta and of V. tambugaia form the chief part of the dammars of India. These are very brittle and like the resin of Vateria Indica are amber coloured.

The resin of the Vateria Indica is amber coloured and very tough. It is known as the Piney Dammar, the white dammar of Malabar, Indian Copal, and Indian gum anime. This resin when resin and soft, is Piney Varnish. The tree is the Elœocarpus *Retz*, the Chloroscylon dupada, *Buchanan*.

Paini maram, TAM. | Dupada Chettu, TEL.

The resin.

Kundrikam, TAM. | Vellai kundricum.

It is largely exported from the forests of Travancore and Western Ghats.

Black dammar of Malabar, is the product of Canarium strictum.

White Dammar. The Dammara Orientalis one of the pinaceæ yields the *White dammar* of Singapore. It occurs in fragments of variable size, marked with reddish streaks, transparent, amber-like, brittle, with brilliant fracture, very inflammable, inodorous, and tasteless. This resin flows from the Dammara orientalis which grows on the lofty mountains of Amboyna. It hangs from the branches, and resembles stalactites, the pieces being sometimes as large as the hand, and 4 to 8 inches long; some pieces are like anime resin. This substance, in conjunction with wood oil, makes a useful coarse varnish for doors, windows, &c. It is also sometimes employed as a pitch in dockyards; and by farriers in the preparation of certain plasters. When melted with gingelee oil, it is used for covering corks in bottles, to preserve them from the white ant.—*Ains. Mat. Med.*, p. 152.

A preparation is made by boil ng with oil and in the neighbourhood of the ports of peninsular India, is sold in thisform under the Telegu name of keel. It is also used boiled with wood oil as a varnish for house beams, doors, &c., and by painters to render oil drying.—*Rohde M. S. S.*

Dammar and wood oil are boiled to form a varnish for house beams, doors, &c., and painters add dammar to oil, to render oil drying.

Cowdie or Kaurie-gum, called also Australian dammar, and Australian dammar of N Zealand is the product of Dammara Australia.

Dammar in India supplies the place of pitch and rosin, and in the Tenasserim Provinces is the product of three different genera, belonging to the wood oil tree family—the shorea, the hopea, and the dipterocarpus.—*Mason.*

The Dammar, called Pwai-ngyet, Burm. is found in the bazaars throughout Pegu. It is yielded by the Shorea robusta, or the Saul-tree of India. This tree occurs plentifully in the forests on the Shan side of the Sitang, east of Tounghoo, and also, but to less extent, in the forests of the Prome district. Dr. McClelland did not find, however, that the dammar is obtained from these forests, as none of the trees appeared to have been perforated for it, so that the supplies of this article were probably brought down to Pegu from forests beyond the frontier.—*McClelland.*

The Dammar of China and the Eastern Archipelago, is a kind of indurated pitch flowing spontaneously from several trees in the Indian islands; there is a hard sort, and a white, softer kind. It is found in large lumps, both under the trees and on their trunks, and in large quantities. It is mixed with a softer kind which makes it less brittle; and is then used for closing seams in boats, and other wooden vessels. As it is seldom brought to China except in native vessels, there is no means of ascertaining the amount, but it is probably not very large. It can be obtained in Borneo for 50 cents per pecul.—*Compendious Description.*

The meaning of the word "dammar," in Malay and Javanese is "resin," and it is the produce of several forest trees, of which the sap exudes spontaneously, and on being exposed to the air acquires a flinty hardness from which the epithet "batu," a stone, is given to it to distinguish it from a softer substance, "kruin" or wood oil. The dammar is found either in larger masses at the foot of the trees which yield it, or floating in rivers, drifted to them by the floods of the rainy season. It is produced in such abundance, and gathered with so little labour, that its market price seldom exceeds four or five shillings a hundred weight. The natives of the country apply it to most of the uses to which tar, pitch, and resin are put and it forms an article of exportation to continental India. Most of the family of Dipterocarpeæ yield resinous balsamic juices, those of the genus

Dipterocarpus, the wood-oil, and of Vateria, indurated dammar. The natural order abounds in Sumatra, Java, and Borneo, which are the chief sources of the dammar of commerce.—*Crawfurd Dictionary*, p. 118.

Dammar of Bengal is the resin of Shorea robusta,—*Ben. Phar.* 204. *Dispensatory p.* 617.

Dammar, white, occurs in fragments of variable size, marked with reddish streaks, transparent, amber-like, brittle, with brilliant fracture, very inflammable, inodorous, and tasteless. This white dammar resin flows from the Pinus dammara, which grows on the lofty mountains of Amboyna. It hangs from the branches, and resembles stalactites, the pieces being sometimes as large as the hand, and 4 to 8 inches long; some pieces are like anime resin.—*O'Shaughnessy*, p. 617.

Dammars of N. East of the Peninsula.

Saul tree dammar is the resin of Shorea robusta and of other species. The Vatica tumbagaia grows also to a limited extent on the west coast, but yields little if any of the dammar collected there. The dammar of the Shorea robusta occurs in sticks much resembling in shape the black dammar but differing widely in colour and consistency. In colour it varies from a light yellow to a dark brown. The two colours being very frequently found in the same lump and giving it the appearance of having a regular 'grain' Friable and differs from the white dammar of the western coast in its inferior hardness, opacity and its peculiar form, and from the black dammar in its colour. There are extensive tracts of Googulam (Vatica) jungles in the Goomsur and Cuttack provinces. The Khond and Woodia races living in and near these jungle, wound trees in several places. The resin issues and is collected when sufficiently solid. The dammar collected from the decayed parts of the tree is of a dark colour: the tree is called Guggilam in Telugu and tala gotsa in Urya. The Khoond and Urya make the leaves into the plates from which they eat their food and also roll up tobacco in them to smoke like a cheroot. In time of famine the above tribes live on broth made from the fruit of this tree.

Gum Ammoniac.

Ushek, Feshuk,	Ar.	Gomma Ammoniaco,	It.
Gomme Ammoniaque,	Fr	Ammoniacum,	Lat.
Ammoniack,	Ger.	Samugh bil sherin,	Pers.
Astruck,	Guz. Hind.	Goma Ammoniaco,	Sp.

This bitter, nauseous, bad smelling gum-resin is used in medicine. The plant producing it is still doubtful, but Dorema ammoniacum; Ferula ammonifera *Fee*, F. orientalis and F. persica have all been named as its source.—*OShaughnessy*, p. 364.

GUM ARABIC.

Tolh,	Ar.	Gomma Arabica,	It.
Samagh Arabi,	,,	Kapitha,	Sans.
Gomme Arabique,	Fr.	Pisini,	Tam.
Arabische Gummi,	Ger.	Banka,	Tel.
Gond,	Hind.		

Gum Arabic, is the gum of various trees of the genus Acacia. A. vera, *Willde* of Arabia and northern Africa. A Arabica, of Arabia and India. A. seyal of Egypt and Senegambia; A. senegal *Willde* a native of Western Africa, A. tortilis, *Forsk*: A. Ehrenbergi *Hayne*, both of Arabia, and A. karoo *Hayne*, of Morocco and Bombay. In addition to these in India, the gums from A. farnesiana, A. leucophlæa, Ægle marmelos, Odina wodier, Azadirachta and others are all used under this name.

Gum Arabic is imported in immense quantities from Africa into Aden; none is collected and very little produced in Arabia. (*Malcolmson Hamilton.*) It is, also, produced in Upper Egypt and Nubia. M. Pallme describes the whole of the arid desert country as covered with Acacia trees, and the gum as being collected in Kordofan, especially in the district of Bara, in November, December and January, from ten to fourteen hundred weight being conveyed on camels from Bara to Dongola on the Nile, whence it is conveyed to Cairo, and thence distributed to Europe. Much is also conveyed to the ports of the Red Sea, and from thence to the opposite coast of Arabia, whence it is re-exported to Bombay, and from thence to Europe. This is probably yielded partly by the Acacia vera and A. arabica but chiefly by A. seyal, A. Ehrenbergii, and A. tortilis. M. Pallme says that the gum-tree of Kordofan differs materially in the shape of the tree, its leaves, and spines, from the Mimosa nilotica, that is, Acacia vera. Mr. Johnston, when near the Hawash, had given to him a lump of soft Gum Arabic, nearly a pound in weight, and of most agreeable flavour, like a green ear of corn. He mentions at the same time, that the trees were without exception the longthorned Mimosa, and tall enough to ride under. It was probably the A. tortilis or A. seyal.

Gum Senegal is exported from Portendic, Sierra Leone, and the French settlements on the Senegal, being produced chiefly in the desert country to the north of the Senegal. Acacia vera is stated by the authors of the Fl. de Senegambie to yield the pale and fine varieties, A. albida (A. Senegal, *Willd.*), and A. Adansonii the inferior reddish varieties. A. seyal, A. vera and A. arabica, being found in Senegambia,

probably also yield some of the gum exported from the western coast.

Barbary Gum is exported from Mogador on the west coast of Africa, and is produced in a similar kind of country. It is an inferior kind, and, moreover, a mixture of two or three kinds. Acacia gummifera is thought to yield some of this gum. Jackson gives "attalet" as the name of the tree which produces this gum.

East India Gum is exported to Europe chiefly from Bombay, having been previously conveyed there from the coast of Arabia; so that it is chiefly of African origin. But some of Indian origin is also exported from Calcutta by the name of Babool Gum, which is that of the Acacia arabica, and is of good quality, but gum is yielded also by Acacia serissa and Vachelia farnesiana, also by species of other genera.

Gum is also imported into Europe from the Cape of Good Hope, yielded by Acacia karroo; and A. decurrens yields gum in New Holland.

Gum Anime, a gum resin, imported to some extent into India and China. It is the product of the Hymenæa courbaril, the Courbaril locust tree, of South America, which has been introduced from South America into the Tenasserim Provinces and is easily propagated. This gum resin is of a pale brownish colour, and is met with in commerce partly in translucent and somewhat unctuous grains or tears and partly in large brittle masses. But the commercial article is doubtless the product also of the Vateria indica or Gum Copal tree, and the V. Roxburghii, which yield almost a precisely similar resin. For ordinary purposes, these may be used indifferently; but where purity is demanded, copal is almost insoluble, while anime is wholly soluble in alchol.

Gum Benjamin. See Loban.

Gum Dekamallee, is the gum of Gardenia lucida; it exudes in amber-coloured transparent drops, at the ends of young shoots, from which it is collected. It is a strong disagreeable smelling gum-resin; procurable in most Indian bazars. It is much used by native doctors as an external application, when dissolved in spirits, for cleaning foul ulcers. It is now used by some European practitioners in cases of worms in children.

At the Madras Exhibition of 1855, Dikamali resin produced by the Gardenia lucida of Roxburgh, was shown from Canara, Mysore and Guntoor. It is fragrant resin, useful in Hospitals, most useful in preventing vermin breeding in wounds, keeping away flies from sores, on account of its strong aroma, and it is an article in the materia medica of the village farrier. It deserves more attention.

Dekamallee from Gardenia gummifera is stated by Dr. Gibson to be produced within the Bombay Presidency, its effects in preventing the access of flies to festering wounds and running sores is remarkable.—*Royle Productive Resources, Eng. Cyc. Hamilton's Senai, Hedjaz*, pp. 278-9. *Roxb. Cor. pl.* ii. 149. *Hon'ble Mr. Morrison, Compendious Description*; *Drs. Mason; O'Shaughnessy, Faulkner; Vegetable Kingdom* 287. *Poole St. of Commerce*: See Vateria; Gums and Resins. *Spry's Suggest*, p. 67. *Mad Ex. Jur. Reports.*

GUMADI. Tam. Gmelina arborea.—*Roxb.* also Gmelina parviflora.

GUMADI-KAIA. Tel. Cucurbita hispida, also Cucurbita maxima.—*Duch.*

GUMADU, also Tella Goomadi. Tel. Gmelina asiatica.

GUMAR or Gumber or Gumbar or Gumbari. Beng. Gmelina arborea.—*Roxb.*

GUMATTI. Hind. Mines in Mandi, Kangra Hills, &c., whence a dirty gray rock-salt is obtained.

GUMBAR. Hind. Brassica rapa.

GUMBAREE. Hind. A tree of Cuttack, found more or less plentifully throughout the forest jungles of the Sumbulpore district and the Tributary mahals, on the banks of the Mahanuddy, Brahminy, and Byturg rivers.—*Cal. Cat. Ex.*, 1862.

GUMBAZ. Ar. Per. Hind. a dome, a mausoleum. The gumbaz covering the tombs of the Adal Shahi kings, at Bejapore and Gogi, are of magnificent dimensions and in good preservation. Those at Gulburgah are also large but are greatly delapidated. The Gumbaz at Golcondah, near Hyderabad in the Dekhan, over the Kutub Shahi kings are in good order, though of small dimensions. Those over the Imad Shahi of Berar are remarkable. Over the Birud Shahi of Beder there are large gumbaz, but mostly in ruins, and those at Roza between Dowlatabad and Ellora are small and mean, in appearance, though the emperor Aurungzeb who died at Ahmednuggur is buried there.

GUMBER, a river of Subathoo.

GUMBEER, a river of Jeypore, flows near Mhow.

GUMBEER. See Kush.

GUMBHARA. Beng. and Sans. Gmelina arborea tree. It has a light coloured wood, close grained and light, grows in the Sonthal jungles, but scarce. It is used for planks and in constructing palkees. It is this

wood with which the beautiful lac ornaments are made, such as work boxes, envelope cases, pen trays, &c., for which Sooree is celebrated.—*Cal. Engineers' Journal*, July 1860.

GUMBO. Eng. of W. Ind. Abelmoschus esculentus.— *W. & A.*

GUMCHA. Guz. Gumchi Duk, seeds of Abrus precatorius. Goomchi ki jar, Root of Abrus precatorius. *Lin.* wild Jamaica liquorice.

GUM DRAGON. A name for Gum tragacanth.

GUMHAR. Hind. Gmelina arborea.

GUM KINO the resin of Pterocarpus marsupium. See Gum Kino.

GUMMEDI CHETTU. Tel. Gmelina arborea.

GUMMI. Ger. Gum.

GUMMI GUTTÆ: CAMBOGIA. Lat. Gamboge.

GUMMIGUTT. Ger. Gamboge.

GUMMY GARDENIA. Gardenia gummifera.

GUMMUDU TIGE. Tel. Batatas paniculata.—*Choisy.*

GUMPANA KARRA. Tel. also Gumpana chettu. Tel. Odina woodier.—*Roxb.*

GUMPI KAMLU, or Kamawaru. Tel. A sudra caste in Southern India who do not permit any stranger to enter their houses.

GUMRUK. Guz. Hind. Pers. Custom house, also Mahsul. Pers. Customs.

GUMSUR. See Goomsur, India.

GUMTI, a river in India, an affluent of the Ganges, runs near Lucknow, Sultanpur, and Jaupur. At Benares, after the Ganges has received the waters of the Kali Naddi, the Gumti and other tributaries, the average discharge, each second of the year, has been estimated at 250,000 cubic liquid feet. By the latter end of July, all the lower parts of Bengal, contiguous to its banks are overflowed, forming inundations of a hundred miles in width, where little appears above the surface of the flood, save isolated villages and trees. Boats of every kind then steer a direct course, husbandry and grazing are alike suspended, and the peasant sculls his boat across the fields. In some parts of Bengal, whole villages are every now and then swept away by changes in the course of the Ganges through districts, from which, a few years before, it was several miles distant.—*Cal. Rev., Horsfield:*

GUMUDI. Tel. Syns. of Cucurbita maxima?—*Duch.* of Hedysarum tuberosum? and of Pueraria tuberosa?—*D. C.*

GUMUDU CHETTU. Tel. Gmelina asiatica.—*Linn.*

GUMUDU-TEKU. Tel. Gmelina arborea.—*Roxb.*

GUMUDU TIGE. Tel. Batatas paniculata. *Choisy.*

GUMURU. See Tin.

GUNS. Several of the guns in the Peninsula of India are of great size. That with the largest diameter is at Bejapore. It was cast at Ahmednuggur about A. D. 1549 by a native of Constantinople, named Rumi Khan, also Hussain Khan, and the bed of its foundry, was still unlevelled in A. D. 1839, it was close to Rumi Khan's Gumbaz which had been converted into a house. The gun was dragged to Bejapore by means of elephants and bullocks. Rumi Khan was the Mir-Atish, or Commandant of Artillery under the Nizam Shah, Bhairi dynasty, of Ahmednuggur. The length of the gun he cast is 15 feet and calibre is 2 feet 4 inches, and the editor crawled into it in 1841. It remains placed on a bastion of Bejapore, and hindus have besmeared it with red lead and worship it. Another gun may be seen not far off, on the summit of the high tower called the Oopuree Boorj, measuring thirty feet in length, and composed of bars of iron curiously welded, or rather bound together. The legend current regarding the Oopuree Boorj is that one of the kings, wishing to get his city fortified with as little expense to himself as possible, gave each of his nobles a certain portion of wall and rampart to build, and excited the greatest emulation among them as to whose work should be best done. One of the chief nobles was absent at this time, and, on his return, found the city completely walled in, and his peers rejoicing in their patriotic endeavours. Stung at being excluded from such a grand work, he expostulated with the king, who, to comfort him, promised him that he should build one that would surpass in height and splendour the work of the others. Hence this tower. A gun 27 feet long, is now lying on the top of Gawilghur hill, and one 21 feet long is on the walls of Beder.

GUN. Hind. Pavia Indica.

GUNACHA. Hind. Rubus lasiocarpus.

GUNA-LACHAMA river rises in lat. 15° 40', long. 78° 49' and runs in a very circuitous course, E.N.E.—S.S.E.—S.E.. into the Bay of Nizampatam. Length, 155 miles.

GUNAPENDALAM. Tel. Dioscorea globosa.—*Roxb.*

GUNCH also GUNCHA. Hind. Abrus precatorius.—*Linn.*

GUNCH-GAJI. Hind. Mucuna prurita.

GUND. A plateau on the Malabar Coast, it is chiefly from this that the demands for

timber, by H. M. naval department are intended to be met. In 1861, some progress had been made in working this valuable forest. Capt. Taylor, Indian Navy, explored the Black river and took the levels. He reports favorably as to the quantity of teak, and that, although there is a succession of small rapids amounting to a fall of 120 feet in the river, the timber can be floated down, though not without some difficulty.—*Dr. Cleghorn, Madras Conservator's Report*, p. 4.

GUND. Hind. Cordia angustifolia.—*Roxb.*

GUND. Guz. Gum.

GUNDA. Hind. Hora elia.—*Singh.*

GUNDA, a knotted string tied round the neck of a child, &c., as a charm.

GUNDA, four of any thing. This word is given under Ganda: like the Dam, the Ganda of accounts and the Ganda of practice do not coincide.

GUNDA BAROSA, also Gunda Feroza. Beng. Hind. also Aval kundur—? Boswellia thurifera resin.

GUNDA GILLA of Silhet, Bauhinia scandens.—*Linn Willde.*

GUNDAK. Hind. also Gundaki. Sing. Sulphur.

GUNDAK-KA-TEL. Guz. also Gundak-katezab, Sulphuric acid.

GUNDAK, a river of Hindustan. See Gandak; Salagrama; Topes.

GUNDAL. Sans. Tel. Cyperus hexastachys.—*Rottl.* Wight says the true name is Gundra 'a fragrant grass' also a plant bearing a fragrant seed, which, with the addition of la 'what eats,' becomes Gundala, a name of the Chakor or Perdix chakor, *Gray*, which is said to eat the seeds above mentioned. *Elliot Fl. Andhr.*

GUNDAM. Pers. Wheat.

GUNDAMNI. Tam. or Gandamani. Tam. Abrus precatorius.

GUNDANCHA. Hind. See Gulancha.

GUNDAO. See Khyber, p. 510.

GUNDAPOOR. See Khyber, p. 518.

GUNDARI. Guz. See Sugar cane.

GUNDATU. Dekh. Aristolochia bracteata.—*Retz.*

GUNDA TUNGA GADDI. Scirpus kysoor.—*R.* i, 230.

GUNDAVA. See Cutch Gandava; Gandava; India. Kelat, p. 487.

GUND BEDUSHTAR. Per. Castor.

GUND BEL, also Olacha, Guz. and Hind. Lemon grass.

GUNDEBIGULA. Tel. also Pantangi. Tel. Briedelia montana.—*Roxb.*

GUNDGURH. This mountain, prior to British supremacy, was a stronghold of bandditti, who infested the high road passing through Hussan Abdul to Peshawar. At the foot of one of its northern spurs, opposite to Hurreepore, is the strong village of Murree, where the Sikhs were several times repulsed by the mountaineers, and where Major Abbott found an asylum during the late insurrection.—*Rec. Gov. of India* No. 11.

GUNDHA-GOORANA. Beng. Andropogon glaber. *Roxb.*

GUNDHEL. Hind. Pæderia fœtida.

GUNDHEL, or gandhel Tel. a sweet smelling grass (from Gundh perfume) is most probably the same as the Gundhbel, which Royle ("Ant. Hind. Med." p. 143), says is the Andropogon calamus aromaticus, from the leaves, culms, and roots of which a fragrant essential oil is distilled.

GUNDHA BADHALI. Beng. Pæderia fœtida, Dog's bane, also Hedyotis villosa.

GUNDHA-BINA. Beng. Andropogon citratum: Lemon grass.

GUNDHA-VUNIK. Sans. a spice seller, From Gundhu, spices, and vunik, a tradesman.

GUNDHA-DHAMA. Sans. From Ganda, a scent, and dhama, a place.

GUNDHA-GOONA. Beng. Smooth grass. Andropogon glaber.

GUNDHA-KAST'HA. Beng. Lignum aloes. Aloe-wood, Eagle-wood.

GUNDHA MALUTEE. Beng. Echites caryophyllata.

GUNDHANA. Beng. Hind. Allium porrum, Leek. Allium ascalonicum, Shallot.

GUNDHA RAJ. Beng. Cape jasmine, Gardenia florida.

GUNDHA RAS. Beng. Gendarusa vulgaris.

GUNDHARVA. Sans. the divine songstress from gana, a song, and dharma, a person's own profession. See Gandharva.

GUNDHAVAHA. Sans. From gandha, a scent, and vah, to carry.

GUNDHEREE. See Khyber, p. 516.

GUNDO-BINA, Beng. Andropogon schœnanthus. *Linn.*

GUNDI. Hind. Buttons.

GUNDINA. Pers. Allium porrum, the leek.

GUND-MAR. Hind. Kash. Wormwood. Artemisia Indica. *Willd.*

GUNDNI, Hind. Cordia angustifolia.

GUNDO BHADALI. Beng. Pæderia fetida. *Linn.*

GUNDOLI, of the Baora, the antilope. Cervus capra. *Pallas.*

GUNDRA. Sans. Tel. Cyperus hexastachys.—*Rottl.* also Panicum uliginosum.—*Roxb.* This is Roxburgh's species of Panicum. The true kind, said to be a favorite

food of the Chakor, is probably a more nutritious, cultivated species.

GUNDRA. Sans. Tel. Saccharum sara.—*Roxb.*

GUNDAK. The name of two rivers of Hindustan, the Chota or little Gunduk river, passes through the Muzuffernuggur and Goruckpore districts. The great Gunduk and the Boor Ganga run through Chuprah. The Gunduk is a tributary to the Ganges. It rises near Dhawalagiri peak in the Himalaya, runs S. S. E. S. W S. E. into Ganges, near Patna, after a course of 407 m. In its course it receives the Trisula-ganga, 100 miles long; Marachangdi 100 miles long; Naling, 110 m., and about 40,000 sq. m. are drained. Though navigable continuously through its whole course downwards from Bhelunji, there are in the part of its channel nearer that place many rapids and passes, where, the course being obstructed by rocks, navigation becomes difficult and dangerous. The Gundak or Sarjoo from the Kemaon mountains, passes through Kesul-des, the dominion of Desaratha.

GUNDA MEDA. Tel. Celastrus paniculata. *Willde.*

GUNDAN. Mahr. Diospyros cordifolia, and Ehretia ovalifolia.

GUNDANA. Allium porrum. Leek.

GUNESHA. Sans. From Gana, a company, and eesha, a lord, the hindoo deity Ganesh. See Ganesh.

GUNESHA-JANANI. Sans. The mother of Ganesha; from Janna, birth.

GUNG, also Gunch. Guz. Hind. See Goong.

GUNGA. Sans. From gam, to go.

GUNGA. The river Ganges; the Godavery. See Ganga, Ganges; Inscriptions p. 383. Triveni; Vamana.

GUNGADHARA. Sans. From Gunga, and dhara, to hold.

GUNGADHARA-SHASTRI. Sans. He who knows the shastra, is called a shastri.

GUNGAPAT. A river in Sindiah's territory.

GUNGAPOOTR, or gangaputr, a tribe of inferior brahmins (literally, sons of the Ganges) found chiefly in Benares, Bithoor, and Sheorajpoor in Cawnpoor. *Elliot.*

GUNGARANI. Tel. Conocarpus acuminata.

GUNGARAVI. Tel. Thespesia populneus.

GUNGA SANDURAM.— ? Lead.

GUNGA-VAKYAVALI. Sans. From vakya, a word, and abali, a train.

GUNGARI. Hind. Rosa brunonis.

GUNGA-VANSA. See Inscriptions, p. 388.

GUNGA-VASA. Sans. From Vasa, a residence.

GUNGAVULLY. A river of the plain of Dharwar, rises in lat. 15° 45,' lon. 75° 10,' and runs S. S. W., into the Indian Ocean. Length, 100 m. It has no tributaries of any extent; and area drained imperfectly known.

GUNGAWULLY and Sadashewghur are shipping ports, on the western coast of India. Gungawallee was at one time the chief place of export for Canara timber, consequent on its position nearest to the Mogadda jungle above, and to the south of the Arbyle ghaut. *Gibson's Bombay Forest Report of* 1857-58-59-60, p. 55.

GUNGEL. See Kunawer.

GUNESHPURI. See Hot springs.

GUNGILL. A streamlet near Timurnee in Sehore.

GUNGLIUM. Tam. properly Kungiliam, dammer.

GUNGLU. Hind. Brassica rapa.

GUNG-MEN. Burm. Amomum *sp.*

GUNGRU. Hind. Dioscorea deltoidea.

GUNGUM. Hind. Carum carui.

GUNGWAR. See Bazeegur and Nut.

GUNH. Hind. of Kulu, Pavia indica, Indian horse chestnut. See Guah.

GUNHAR. Hind. of Kaghan, Kashmir, &c., the amaranth, A. speciosa or A. frumentaceus. See Chaulai.

GUNI. Beng. Tel. Gunny.

GUNIYARE. Beng. Premna spinosa.

GUNJA. Sans. Tel. Abrus precatorius. —*Linn.*

GUNJA. Beng. Hemp, Cannabis sativa.

GUNJ, or Ganj, usually written by Europeans, Gunge, is a granary, a market, and especially one of grain. It is used chiefly as an affix to proper names as Islamgunge, Hurdoa-gunge, Captain-gunge; just as chip, or chipping, which are of the same meaning as Gunge, is in England, as Chipping-sod-buny, Chep-stow, Cheppen-ham, Cheap-side.—*Elliot.*

GUNJI. Hind. properly Ganji. Hind. Starch.

GUNJILL, a river near Kotra in Hoshungabad.

GUNKIRI. Hind. Adiantum caudatum.

GUN METAL.

Stuck-goed,	Dut.	Metallum tormentorum,
Stuckgut,	Ger.	Lat.
Bronzo,	It.	Metal de Canones, Sp.

It is used for casting statues, cannons, bells, frames, stands for argand lamps, ornaments, &c. Bronze is an alloy of copper and tin, the quantity of tin, employed varying according to the effect desired to be produced. Analysis has shown that ancient weapons and tools contained 8 to 15 per

cent. of tin; medals from 8 to 12 per cent. tin, with 2 parts zinc added to each 100, for improving the bronze colour. The modern alloys of copper and tin have led to the production of a variety of metals bearing different names, as Soft gun metal, Brass ordnance metal, with 8 to 12 per cent. tin, the various Bell metals and the Chinese gong with 20 per cent. of tin: and speculum metal of 126·4 of copper to 58·9 of tin. —*Tomlinson.*

GUNNA. Sans. Amarantus campestris.

GUNNA. Duk. Ganna. Hind. Saccharum officinarum. Sugar-cane from which Sugar is produced. Gunna, the name for the Sugar-cane, differs but little from that which is used in almost all languages to express the same object. Hebrew Kaneh, Arabic and Persian Kunnat, German Kanne, Greek, Latin, Italian, Spanish, and Anglo-Saxon Canna; and hence the English cane, and sugar-cane, and the many words derived from it, which are applied to vessels and utensils bearing resemblance to the shape of hollow reeds; as can, canakin, canal, canister, and canoe, which latter is evident from the passage in Juvenal (*Sat.* v. v. 89.) Minshen ascribes a similar origin to the word gun, "Gune, ex Lat.; canna, quia consistit canna ferrea;" regarding which it is to be observed that no one has succeeded in giving a better etymology. From the Hebrew name is the Haneh, or measuring reed of the Jews, equal to six cubits; which has its counterpart in the "bans" measure of the hindus, the Roman decempes and the Greek akaina, all of six cubits, or ten feet—*Elliot.*

GUNNANGI. Tel. Peltandra, *sp.*—*W. Ic.* a plant is common on the hills near Nuzid in Masulipatam.

GUNNERA SCABRA used for tarts like the stalks of a species of rhubarb.

GUNNIS. See Ganesa.

GUNNY.

Guni, Beng. Koni, Tam.
Gunpat, Guni, Pat, Hind. Gonu, Tel.

A strong coarse sack-cloth manufactured largely in Bengal, for making into bags, sacks, and packing generally. The material from which this article is manufactured is the fibre of two plants Corchorus olitorius, and C. capsularis, both of which, but particularly the former, are extensively cultivated throughout lower Bengal. Besides a large domestic consumption of gunny, the whole rice, paddy, wheat, sugar, saltpetre, &c., of the country, as well as the pepper, coffee, and other foreign produce exported from Calcutta, are packed in bags or sacks made of this article; and which is put to similar uses all over India, and other places to which it is exported. It is woven of various lengths and generally about 8 inches wide. Buchanan describes the process of growing the hemp and preparing the article in the neighbourhood of Bangalore. The sugar of India is brought to England in them, and they are very largely exported to America for packing their cotton. In the year 1850-51, the Gunnies and Gunny cloth exported from Calcutta were in number 9,035,713, valued at Rs. 2,159,782, two thirds of this amount being sent to North America, the Coromandel and Malabar coasts, Pinang and Singapore. Besides this, 58,950 gunny bags were exported from Madras and Bombay, re-exports to the value of half a lac of rupees. The kind of cloth of which the gunny bags are made, is called in Bengal, "Chata," in Tamil "Koni," Tel. Goni also "Tat." It is of three different kinds, and is always woven in pieces from three quarters to one cubit wide, of which two or three are sown together, at the sides, into one piece, before offering it for sale. The first kind, intended for bedding is four to five cubits long, and from two and a quarter to three cubits wide, and sells at about 8 rupees per 100 pieces. Secondly that intended for covering bales of cloth is of the same dimensions, but is thicker than the former kind, and costs from 6 to 10 rupees per 100 pieces. Thirdly that intended for making rice and sugar bags, is five cubits long and one and a half, or one and a quarter cubit wide, and ten bags cost four or five rupees. On all the Eastern frontier, of Bengal, a great proportion of the women are clothed with coarse cloth, made from the jute.

The exports from British India of gunny bags and gunnies were of the following value:

Year.	£.	Year.	£.
1850-1...	158,421	1856- 7...	376,253
1851-2...	299,720	1857- 8...	217,092
1852-3...	201,667	1858- 9...	392,424
1853-4...	174,926	1859-60...	333,977
1854-5...	215,346	1860-1 ...	359,043
1855-6...	302,340		

—*McCulloch. Faulkner. Rohde. M. S. S. Balfour's Commercial products. Cat. Ex.* 1862. See Corchorus.

GUNOBUR. Hind. Pinus gerardiana.

GUNONG. Malay. A hill.

GUNONG API. A volcanic island in the Banda group. Since the Banda islands were discovered, there have been at least thirteen great eruptions of this volcano. That of 1820 was very severe and another occurred in 1824. See Banda, Goonong, Java.

GUNONG BERNUM. A lofty mountain an hundred miles to the North of the Lulumut group of the Malay Peninsula.

GUNONG GERAI. A mountain of Kedah or Quedah, also called Quedah Peak. It is the highest hill on the Quedah main and its summit is estimated at 5,000 feet above the level of the sea. According to Dr. Ward, north of Quedah Peak is an immense plain almost level with the sea, covered near the coast, with rising mangroves. *Newbold's British Settlement, Vol.* 2, p. 4.

GUNONG SUNGI PAGU. See Johore.

GUNPALOS. HIND. Pyrus kumaonensis.

'GUNPAT, Gunni Pat. GUZ. HIND.? Gunny, properly Gonpat.

GUNPOWDER.

Krudt Pulver,	DAN.	Ubat, Ubat badil; sandawa, masiyu,	MALAY.
Buskruid,	DUT.	Proch,	POL.
Poudre,	FR.	Polvora,	PORT.
Pulver, Schiesspulver,	GER.	Poroch,	RUS.
Barut, Daru, Guz.	HIND.	Krut,	SW.
Polvere,	IT	Topaika marindu,	TAM.
Pulvis pyrius,	LAT.	Mandu,	TEL.

Gunpowder is a compound of sulphur, charcoal and nitre. The sulphur and charcoal in a state of fine powder are mixed with the saltpetre moist as it comes from the refinery. This compound, known as "green charge," is long and carefully ground under iron and stone runners. This green charge mixture is then milled into gun-powder under large iron runners, that used for Enfield or Snider for six, and fine sporting powder for twelve, hours. It leaves the mill in a state partly of soft cake or mill cake and partly of dust. These are then pressed into a hand cake at the rate of 70 tons on the square foot, and by the corning and granulating processes it is broken up into the grain, dried and glazed to the form in which it is sold as gunpowder.

The sulphur of European commerce is chiefly obtained from Sicily and the volcanic districts of the Mediterranean; the finest, known as "Lercara Firsts," sells at £7 the ton in the London market, as an ingredient in gun-powder, and its value consists of the low temperature at which it inflames. Sulphur is largely produced in the volcanic islands of the Archipelago and can be readily extracted from iron and copper pyrites. The total of the annual rates at which powder has been manufactured in the three Presidencies for ten years, gives an average of 3 annas per lb. for Bengal, nearly 4 annas for Madras, and 4 annas 6 pie for Bombay. When to the prime cost is added the packing and carriage, it will be seen that 4 annas and 6 pie is about the actual average cost.

The gunpowder made in Madras is dried on a black drying terrace on which the temperature ranged as under, at noon.

1854	January	130	to	156
„	February	136	„	156
„	March	136	„	154
„	April	132	„	156
„	May	130	„	154
„	June	132	„	154
„	July	150	„	160
„	August	130	„	150
„	September	130	„	164
„	October	136	„	150
„	November	136	„	146
„	December	96	„	120

Sir John Davies is of opinion that the art of printing, the composition of gunpowder, and the magnetic compass, which he says, are justly considered in 'Europe as three of the most important inventions or discoveries of modern times, had their first origin in China.

White Gun-powder, was a discovery of Augendre which until Dr. Pohl lately turned his attention to it had fallen into complete oblivion, viz., an explosive substance composed of 28 parts of prussiate of potash, 23 of cane-sugar, and 49 of chlorate of potash. This mixture is white, and may be used as gunpowder; it is lighter than common gunpowder, but its strength is greater in the ratio of 167 to 100 for an equal weight of each; and in the ratio of 129 to 100 for equal volumes. Hence only 60 grammes of white powder are necessary to produce the effect of 100 grammes of black, which, moreover, leaves a residue of 68 grammes, while the former only leaves 31½ grammes. White gun-powder has further the advantage of not heating the gun so fast as the other, because the temperature of its flame is much lower; it is easier to manufacture, less hygroscopic, less inflammable by percussion, and more economical than black gun powder. It remains to be seen whether its corrosive action on fire arms be greater or less than that of its rival. *Davies China, Quarterly Review, July* 1868.

GUN-POWDER PLAY is the well-known "Laab-ul Barut," firing matchlocks in the air in the east to rejoice.

GUNSTOCK-TREE. Guazuma. *Sp.*

GUNTA BARINGA.

Bhui Jamb,,	BENG.	Sirri-tekku,	SINGH.
Gund barunghi,	DUK.	Chirru-dekku,	TAM.
Barunghi.	SANS.	Ghantu bharangha,	TEL.
Bhoomi Jombuka,	„		

Gauta baringa is the root of a plant grow-

ing in the hills about Lamsingi to the W. of Vizagapatam. It is mentioned by Ainslie, (*p.* 112, *1st Ed. 4to.*) under its Tamil name 'chirudekku. The same drug is contained in the Canara and Travancore collections: the plant yielding these roots is still doubtful. This root continues to be used in Southern India by native practitioners as a febrifuge. Ainslie says, "it is a small, knobby, somewhat warm and slightly bitterish tasted root which the natives prescribe in fever and catarrhs. From the word Paringhee, it is perhaps brought from some foreign country." From its low price Dr. Cleghorn was inclined to think this improbable. Of its absolute antiperiodic qualities nothing seems to be known with accuracy, the Vyteans consider an infusion or decoction of the leaves and tender shoots of this plant, as attenuant and diaphoretic: they are said to be slightly bitter and not unpleasant to the taste. Mr. W. Fergusson of Colombo is of opinion that Premna herbacea. *Roxb.* is the plant that produces the Gunta baringa. *Mr. Fergusson in literis. Elliot Flor Andh. M. E.* J. R. *Ind. Anns. Med. Sci. for April* 1856, p. 397. *Ainslie's Mat. Med.*, p. 112.

GUNTA CHETTU. Tel. Lawsonia alba. —*Lam.*

GUNTA GALIJERU. Tel. also Gunta kalagara. Tel. Eclipta prostrata.—*Roxb.*

GUNTA KAMINAM. Tel. also Bodasaram. Tel. Stemodia viscosa.—*Roxb.*

GUNTHER, Dr. A., a learned naturalist. In 1860, Lieut.-Colonel Playfair and Dr. A. Gunther published a work on the fishes of Zanzibar. Dr. Gunther, in addition to all that he had written in the proceedings of the Zoological Society and other Journals, in the years 1860 to 1868, brought out seven volumes of a catalogue of the fishes in the British Museum.

GUNTOOR, a Madras collectorate formed out of the Northern Circars. The district has a population of 570,083 and takes its name from that of the chief town, Guntoor. Its principal river is the Kistnah, and its principal towns Ventapollam and Nizampatam. Guntoor was granted to the British in 1768 by the nizam subadar of the Dekkan, was subequently taken by him, but finally regranted in 1785, on the occasion of the war against Hyder Ali and the Mahrattas. In the district of Guntoor, irrigation works were neglected, and in one year, in consequence of drought, a famine destroyed one-half of the population, and caused a loss in revenue, for ten years, estimated at £800,000.

GUNUKA. Sans. from ganna, to count.

GUNUNG MARAJ. See Banka Islands.

GUNYUN. Hind. of Ladak Carum carui, *Linn.* the carroway seed plant.

GUPTA. A dynasty that ruled in Northern India. The following is a table of the Gupta kings, according to the views of two writers who have made them a subject of special study.

Col. Cunningham. Continuous series.	A. D.	*Professor Lassen.* Elder Guptas.' Cor.	A.D.
I. Gupta,	319	I. Gupta,	160
II. Ghatotkacha,	340	II. Ghatotkacha,	168
III. Chandragupta I,	360	III. Chandragupta,	195
IV. Samudragupta Parakrama,	383	IV. Samudragupta,	230
V. Chandragupta II, Vikramaditya,	400	V. Chandragupta II,	240
VI. Kumaragupta, Mahendra,	430	VI. Skandagupta or Kumaragupta,	270
VII. Skandagupta, Kramaditya,	440	VII. Mahendragupta and Narayanagupta,	280
VIII. Skandagupta, Ladraditya or Lokaditya,	452	'Later Guptas.'	
IX. Buddhagupta,	480	I. Devagupta,	400
X. Taktagupta,	510	II. Chandrapriya,	435
XI. Naragupta, Baladitya,	540	III. Sakraditya,	460
XII. Vajra,	570	IV. Buddhagupta,	490
		V. Tathagatagupta,	505
		VI. Baladitya,	530
		VII. Vajra,	540

Mr. Thomas gives the Gupta dynasty thus. He appends no dates. In the early part of his career.

I. Gupta.	V. Chandragupta.II
II. Ghatotkacka.	VI. Kumaragupta.
III. Chandragupta. I	VII. Skandagupta.
IV. Samudragupta.	VIII. Budhagupta.

GUPTA. The Chandragupta known to the Greeks as Sandracottus in the early part of his career, led a wandering life in the Punjab, (See Turnours Introduction to the Mahawanso, p. xli., quoting the Tika or Commentary), and was most probably engaged with his fellow-countrymen in opposing Alexander. His chief adviser, the brahmin Chanakya, was a native of Takshasila or Taxila, the capital of the Western Punjab; and it was in that country that Chandragupta first established himself by the complete expulsion of the Greek troops left by Alexander (Justin, xv. 4.—"Auctor libertatis Sandracottus fuerat.") It would appear that the Greek colonists in the Punjab had first been placed under Philip, while the civil administration of the country remained in the hands of its native princes, Taxiles and Porus. Afterwards, on the murder of Philip by the mercenary soldiers, Alexander (Anabasis vi. 2, vii) directed Eudemos and Taxiles to govern the country until he should send another deputy. It is probable, however, that they continued to

retain the charge; for after Alexander's death, in B. C. 323, Eudemos, contrived by the treacherous assassination of king Porus by his general Eumenes, to make himself master of the country (Diodorous xix, 5.) Some few years later, in B. C. 317, he marched to the assistance of Eumenes, with 3,000 infantry and 5,000 cavalry, and no less than 120 elephants. With this force he performed good service at the battle of Gabiene. But his continued absence gave the Indians an opportunity not to be neglected; and their liberty was fully asserted by the expulsion of the Greek troops and the slaughter of their chiefs.—Justin. xv. 4 says "Præfactos ejus occiderat"; again "Molienti deinde bellum adversus præfactos Alexandri" Chandragupta was present when Porus was murdered. He afterwards became the leader of a national movement, which ended in his own elevation to the sovereignty of the Punjab. Justin attributes his success to the assistance of banditti; Justin xv. 4 —"Contractis latronibus Indos ad novitatem regni solicitavit" But in this Colonel Cunningham thinks he has been misled by a very natural mistake; for the Aratta, who were the dominant people of the Eastern Punjab, are never mentioned in the Mahabharata without being called robbers.—Lassen, Pentapot Indica —"Aratti profecto latrones," and "Bahici latrones." The Sanscrit name is Arashtra, the 'kingless,' which is preserved in the Adraistæ of Arrian, who places them on the Ravi. They were the republican defenders of Sangala, or Sakala, a fact which points to their Sanskrit name of Arashtra, or 'kingless.' But though their power was then confined to the eastern Punjab, the people themselves had once spread over the whole country—"Ubi fluvii illi quini * * * ibi sedes sunt Arattòrum."—(Lassen, Pentapot Indica, from the Mahabharat) They were known by the several names of Bahika, Jarttika, and Takka; of which the last would appear to have been their true appellation; for their old capital of Taxila or Takka-sila was known to the Greeks of Alexander; and the people themselves still exist in considerable numbers in the Punjab hills. The ancient extent of their power is proved by the present prevalence of their alphabetical characters, which under the name of Takri, or Takni, are now used by all the hindus of Kashmir and the northern mountains, from Simla and Sabathu to Kabul and Bamian. On these grounds, Major Cunningham identifies the banditti of Justin, with the Takka, or original inhabitants of the Punjab, and assigns to them the honour of delivering native land from the thraldom of a foreign yoke. This event occurred most probably about 316 B. C., or shortly after the march of Eudemos to the assistance of Eumenes. Chevalier Bunsen also mentions (iii. 548-4) that Chandragupta was present when Porus was murdered: that he dethroned and murdered the younger brother of Nanda king of Palibothra, or Patalipura, B. C. 312, and founded the Maurya dynasty, whose reigns gave a lustre to the East. Chandragupta's kingdom extended over the Persians, *i. e.*, the easterns, also the Peninsula of Guzerat, and north to the Indus, and south to the mouths of the Ganges and Telingana, the whole of Aryavarta. His forces consisted of 600,000 infantry, 30,000 cavalry, and 900 elephants Towards the close of the fourth century before our era, when Alexander's successors were at peace with each other, the great Seleucus turned his arms towards the East, with the intention of recovering the Indian provinces of Alexander. Chandraguptra formed an alliance with Seleucus, whose daughter he received in marriage. He also received at his court of Palibothra, Megasthenes, as an ambassador, and in return, Chandragupta sent presents with an ambassador to Seleucus to Babylon. The hindu drama of Mudra Rakshasha records the memorable political event of his usurpation of Palibothra. His name occurs in an inscription at Sanchi, also on one at Oojein. Tod also says he was of the Takshak race.—*Bhilsa Topes*, p. 141. *Indische Alterthumskunde*, Vol I, Appendix, p. xxx., and Vol. II, pp. 1161 and 1162. *Journal of the Asiatic Society of Bengal*, p. 146. *Thomas, Prinsep's Essays on Indian Antiquities*, Vol. I, p. 276. See Inscriptions, pp. 373, to 379.

GUPTAVADHUTA An ascetic of a particular hindu order, one who does not avow his profession of mendicancy, or who observes its practices in secret —*Wilson.*

GUR. See Kirkook.

GUR. HIND. DUK. Unclarified sugar, raw sugar, treacle, or molasses, whether the product of the sugar cane or of any of the palms, written Goor, also called Jaggree.

GURA. See Vara, or Vasara.

GURACHA. HIND. Rubus flavus, and R. lasiocarpus.

GURÆNDA. SINGH. A tree in Ceylon, the wood of which emits an offensive stench. Thunberg stated that it is neither the Sterculia fætida nor the Anagyris fætida.—*Tennant.*

GOOR-AKOO, or Goodakoo, HIND. the tobacco for the hukka, from Gur, unclarified sugar and aku a leaf.

GU-RAKHI. MAR. A cow-keeper, a cow-herd, from Go, a cow, and rakhna to keep.

GURAL. HIND. The Chamois of Kangra.

GURAL HARRA — ? See Har.

GURANYO ALOO. Dioscorea rubella. Red Sweet Yam. This is an oblong and red skinned root, tuberous, deeply tinged with red under the skin, but the colour does not penetrate deep; in a rich light soil they are sometimes as much as three feet long.

Guranyo Aloo, Lal. Dioscorea purpurea. Purple Yam. Root oblong; throughout of a lighter or dark purple, but always considerably deep in tinge. This colour is permanent.

Another species is the Zemmykund the Dioscorea purpurea. Tubers subrotund, purple throughout, very large, of an irregular, smooth, roundish shape, and growing near the surface, so as to appear in dry weather through the cracks they make by raising the soil over them.—*Riddell.*

GURAPPA SAKA TUNGA. TEL. Scirpus maritimus.—*Linn.*

GURAO. MAR. According to Wilson a mixed caste usually employed as the servant of the village temple, sweeping it, and decking the village idol, he is also the village trumpeter. In the Dekhan, the Gurao is supposed to be the illegitimate offspring of a brahman with a woman of another caste. They are now in every varied employ.—*Wilson.* See Baluta.

GURBHADHANU. SANS. from garbha, the womb, and adhana, to hold.

GUR-BATAS. Root of a climber brought to Ajmeer from Delhi: has a bad smell, is considered astringent and cooling; much used in horse mesalih: four seers for one rupee.—*Gen. Med. Top.*, p. 135.

GURBIANI. HIND. Thalictrum foliolosum.

GURCH, also Gurcha. HIND. Menispermum cordifolium. syn of Cocculus cordifolius.—*D. C.* Tinosporea cordifolia.

GURCHAM. See Kelat, p. 493.

GURD ALU. HIND. Prunus armeniaca.

GURDASPUR, a district in a fertile pleasant strip under the Himalaya hills.

GURDEZ, a country between Ghazni and India.

GURJAN, also in the Arabic form Juzjanan, must not be confounded with the country of Gurjan or Gurgan, on the eastern shores of the Caspian. Yakut says the names Guzjan or Guzjanan both designate a large district of the province of Balkh, between that city and Merv. The chief town was Yahudiya, and Ibn Haukal mentions Shaburkan, Andkhod, and Ambar among its principal places, adding that Ambar was the largest town.—*Elliot.* See Gurgan.

GURDEZEE, properly Gardezi a class of Syuds in Jowlee of Moozuffernugur. They claim connection with the Barah Sadat.—*Elliot.*

GURDONEE, a silver neck-ring

GURG. HIND. PERS. a wolf.

GURGAN, the modern Vehrcan or Hyrcania.

GURGANNA. HIND. Verbascum thapsus, Eremostachys vicaryi, Salvia lanata.

GURGBANSEE, properly Gargbansi, a class of Rajpoots in Sugree and Mahool of Azimgurh; and in Amorha, Ruttunpoor, Bansee, and Rusoolpoor, Ghous of Gorucknoor.—*Elliot.* See Chunumea.

GURGHEE, a river running in the Hazaribagh district.

GURGI. HIND. Dress. Trowsers

GURGU. HIND. Pistacia integerrima.

GURGULI. HIND. Leptopus cordifolius.

GURGU ARU. MALEAL. Syn. of Bryonia laciniosa.

GURGUR. BENG. Job's tears grass, Coix barbata.

GURGUR. See Kirkook.

GURGURA. HIND. Reptonia buxifolia.

GURGURI. HIND. a kind of hukka.

GURHEEBUND properly Garhiband, a description of maafee tenure in Bundlecund, by which lands are held on paying a stipulated yearly tribute, but not one-fifth the amount which ought to be paid. When the power of the Mahrattas became consolidated, they soon perceived that the Gurheebund holders were difficult to deal with in every way, slow and irregular in the payment of revenue.—*Elliot Supp. Gloss.*

GURHEE HUBEEBOOLLAH. See Khyber, p. 517.

GURHWAL, a non-regulation district under the N. W Provinces of India. It is a country of very great extent, though of small comparative value. Many of the larger rivers of Upper India, and all those which form the origin of the Ganges, have their rise in its mountains, and hold their course through its territory. Sreenuggur, the chief town is on the south bank of the Alacnanda about twenty miles above its junction with the Bhagiruttee at Deo Prague, where a strip of level ground stretches along for three or four miles, forming the valley known by the same name as the town. On the termination of the Nepal war in 1815, rajah Soodursun Sah, who had been deprived of his country by the Goorkha dynasty, was found in great poverty at Dehra. That portion of his hereditary possessions which

lay to the west of the Alikananda river was restored to him by sunnud, the lands to the east, and the Dehra Doon and the pergunnah of Ramgurh being retained by the British Government. During the rebellion of 1857, the rajah rendered valuable assistance to the British. He died in June 1859, and in consideration of his services, his eldest illegitimate son, Bhowan Sing, was allowed to succeed and since received a sunnud guaranteeing the right of adoption. The revenue of the country is about rupees 80,000, and the population 200,000. The rajah has no troops of any kind, and pays no tribute. The people of Gurhwal are Bhot, dwelling in the passes and their neighbourhoods at heights above 6,000 feet. The passmen state that ridges which within the memory of man were clothed with forest and pasture lands are now covered with snow, showing the extension of the snow zone. The Niti pass on the Duli, a feeder of the Ganges, is the best, and the Juwar on the Gauri pass, a feeder of the Sarda or Gogra, is the worst. The number of well-built houses in the Bhot districts are in

Villages.	Houses.		Villages.	Houses.
Mana on the Saraswati	3	„ „	125	„
Niti,	10	„ „	219	„
Juwar on the Gauri,	13	„ „	455	„
Darma on the Dhouli,	24	„ „	342	„
Byanse Pass on the Kali,	9	„ „	181	„

The Bhot, here, as elsewhere, is an agriculturist, and is assisted by slaves who live under the roofs of their masters. The people in the Mana, Niti, Juwar and Byanse passes are supposed to be immigrants from Tibet who drove out an earlier body of hindus, and many of the chief families trace their origin to a Tibetan locality. The inhabitants of the Darma pass are said to be a body of Mogol left in Kumaon by Timur and if so they are not true Bhot. The Darma inter their dead for a time, and in the month Kirtik exhume and burn them, but the other pass-men burn their dead on their demise. The Darma practice divination, taking their omens from the warm livers of sheep sacrificed for the purpose. The women of the Darma and Byanse pass dress alike, and these two clans eat the Yak and would eat the cow, while those of Mana, Niti and Juwar abstain from beef of all kinds and look down, as on an inferior caste, on the Darma and Byanse. The Juwar nearest India, have the largest trade, and resort to an annual fair in September at Gaitogh, the residence of the Lahsa viceroy. These passes are the roads from India to Nari or Gauri, Tibetan provinces of the Chinese empire. The Gurhwal people have a passionate love of country and home. The celebrated temples of Kedarnath and Budrinath are both in Nagpore, and also the Panch Kedar, or five intermediate holy spots along the edges of the snowy range. The concourse of pilgrims during the season of resort from May to October, enables the zemindars to sell their rice, wheat, ghee, &c., with advantage, along the different points of the pilgrim road nearest to their homes. They also breed large flocks of sheep and goats on the excellent pasture tracts which lie at the base of the snowy peaks. In regard to temperature, the climate of some parts of Nagpore is quite European, and the scenery of the whole tract is highly beautiful, while the vicinity of the eternal snows is characterized by the grandest sublimity. Nagpore will never be forgotten by those who have pursued the torrents of the Mundagnee to their source, who have wandered among the magnificent forests of the Toongnath range, or who have spent a day on the banks of the Deoree Thal. In this pergunnah are the copper mines of Pokhree, &c., which, in the time of the Gurhwal rajahs, are said to have yielded a large revenue. Since the British occupation of the province they have never been very profitable, and the produce had become so scanty, owing to the difficulty of working the ground, rather than to the absence of ores, that in 1837, the farmer could not even pay one hundred Rupees per annum. About 400,000 acres of Gurhwal and Kumaon are covered by the Pinus longifolia, bearing about fifteen trees to the acre.—*Fraser's Himalaya Mountains*, p. 369. *Cunningham's Ladak. Latham's Ethnology. Aitchesom's Treaties*, p. 58. *Mr. J. H. Batten on British Gurwhal in* 1842.

GURITI CHETTU. Tel. Dæmia extensa.—*R. Brown.*

GURJAN BALSAM. Anglo. Beng. Wood oil, or Gurjan oil from species of Dipterocarpus. See Gurjun.

GURI-SHIORA. Beng. Ficus rubescens. *Vahl.*

GURI GENZA CHETTU. Tel. Canna Indica.—*Linn.*

GURINDA. Hind. Prinsepia utilis.

GURJARA the ancient name of the tract between Jambuka or Jambusir on the Nerbudda to the Tapti river, p. 321. See Gujar; India.

GURJA-RASHTRA. also Gurjara or Gujarathi, a name of Guzerat. See Gujar; India p. 321 Mahratta.

GURJI a Georgian: to say that a Persian lady resembles a Gurji or Georgian, is one of the highest compliments to her

beauty. The harams of Persia, contain many lovely Circassians. *Ouseley's Travels*, Vol. II. p. 51.

GURJI-MARA. Can. Gamboge Tree.

GURJUN OIL. Gurjun ka tel.—An oleo-resinous liquid afforded by several species of Dipterocarpus: deep brown, transparent, of nauseous odour; sometimes thick and white. See Dipterocarpus.

GURJUR. See Chittagong.

GURKE ELLE LANGE? Cucumis utillissimus.

GURMAIA. Guz, Cassia fistula.

GUR KATS, also Gur Shagal. Hind. Desmodium tiliæfolium.

GURKEH. Umber was a sovereign of high rank among the princes of the Deccan, who governed his dominions with wisdom. He built the city of Gurkeh, now called Aurungabad, five kos from Dowlatabad, and died two years before the expedition of shah Jehan, at eighty years of age, leaving his dominions the best cultivated and the happiest region in India. *Briggs, The Nizam.*

GURKHA, a rising race in Nepal. In feature and figure the true Goorkha are always singular and remarkable, from their broad Chinese or Tartar-like physiognomy, the small eyes, flat nose, and meagre whiskers, as well as his stout square make and sturdy limbs. The Gurkha, in every description of costume, and in all degree of raggedness, are to be seen mingled with inhabitants of Kumaon, Sirmore, and Gurhwal. In 1792, the Goorkha race mastered the whole of the valley of Nepal, and the hill country from Sikhim to the Gogra and a party of them crossed the Himalaya, and appeared suddenly before Teeshoo Loomboo. The Llama and priests hastily evacuated their convents, and fled to Lhassa, and the place was plundered by the Goorkha, who retired immediately with their booty. The Tibetans applied to China for aid, and an army was collected for the punishment of this act of unprovoked outrage. The Goorkha submitted unconditionally to the Chinese commander, who imposed a tribute and triennial mission to Pekin, besides restitution of all the booty taken at Teeshoo Loomboo, and he took hostages for the performance of these stipulations. The rajah of Sikhim was at the same time taken under Chinese protection. Checked towards the east by these events, the Goorkha extended their dominion westward, subjugating Kumaon, Sirinugur, and all the hill country to the Sutlej. When Lord Hastings commenced his administration, their dominion extended as far as the river Teesta to the East, and westward to the Sutlej, thus occupying the whole of the strong country in the mountainous tract which stretches on the northern borders of India, between that and the highlands of Tartary. They had acquired these territories during the preceding 50 years, from many disunited hill chiefs whom they dispossessed, exterminating the families as each raja fell before them. *H. T. Prinsep. Egerton's Journal of a Winter's Tour in India*, Vol. I, p. 177. *Prinsep's Tibet, Tartary and Mongolia*, p. 18. *Fraser's Himalaya Mountains*, p. 223.

GURKHALI. See Nepal.

GURMA. A river of Rewah.

GURMALA. Guz. Hind. Mahr. Cathartocarpus fistula. Pers.

GURM MUSSALA. Guz, Garm masala. Hind. Spices.

GURMUI. A river near Chogong in the Bauleah district.

GURNARD. One species is known as the Flying gurnard: species of Exocœtus are the flying fish, and a species of Pegasus is the flying horse.

GUROH. A band or troop, of fakeers, thus there is the Chistiah, Ba-nawa, the Calendar, &c., guroh.

GUROH SAR. Leader of a band.

GUROOAN. A river near Koomarpootah in Goalparah.

GUROORA or Garura, also Garootmut Sans. From garoot, a wing.

GURRA. A river of Phillibeet.

GURRAH MANDLA. in the middle of the 16th century was 300 miles long and 100 broad. Gurrah town is five miles below Jubbulpur.

GURRAPU BADAM CHETTU. Tel. Sterculia fœtida.—*Linn.*

GURRAPU DIKKA CHETTU. Tel. Sagittaria obtusifolia,—*Linn.* Lit. "Horses hoof-tree," from the shape of the leaves.

GURRAPU GATTE AKU. Tel. also Manduka brambi, Tel. Clerodendron viscosum.—*Vent.*

GURRAS, a Nepaul tree that affects the highest situations; its flowers are large and of a deep red, and yield by decoction a purplish colour, which is converted by acids into a tolerable pink. The Jumno-mundroo tree, the Gurras, the Puddiem or Payah, the Chootraphul, the Mahul and the Puhuttoli tree, all grow in Nepaul. *Smith's Nepaul.*

GURROY. A river near Kushtee in Pubna district.

GUR-SOONDUR. Beng. Acacia arabica.

GURU or Gooroo, amongst jains, hindus and the sikh, a religious teacher. Among the Sikh religionists Govind Sing was the last of the padshah. The ten padshah or Guru of

the Sikh were 1, Nanak; 2, Angad; 3, Amaradas; 4, Ramadas; 5, Arjun; 6, Hargovind; 7, Har-kishan; 8, Tegh-bahadur; 9, Harah; 10 Govind Sing. In the hindu religion the guru corresponds to an ecclesiastical bishop and each of the hindu sects has a superintending guru. They have large incomes, reside in a temple, but make extensive ecclesiastical visitations or tours, accompanied by a band of disciples who occasionally act as the assistant guru. In popular belief, the guru can work miracles and forgive sins. He can excommunicate and again restore to communion. In his tours he levies contributions from the people of his sect. The Jains have their own guru.—*Wheeler's History of India.* See Gayatri Jain. Jogi, Kanta Bhaja.

GURU CHANDAN. HIND. Bezoar.

GURUGA. TEL. Celosia argentea.—*Linn.*

GURUGINJA. TEL. Abrus precatorius.

GURUGUDU or Gilugudu. TEL. Cascaria tomentosa, *R.* ii. 421.

GURUGU KURA. TEL. Allmannia nodiflora.—*R. Brown.*

GURUGU PULA TIGE. TEL. Cryptolepis reticulata.—*Wild.*

GURUKATTA. SANS. Bole Armenian.

GURU GOVIND, the last of the Sikh Guru. See Guru; Sikh.

GURUKKAL. The head priest amongst the saiva sect of the south of India.—*Wilson.*

GURUGU. TEL. Celosia argentea. *L.*

GURUGU CHETTU. TEL. Crozophora plicata, *Ad. Juss.*—C. tinctorium, *Burm. Ind.* This is the Indian turnsol—*Royle Ill. i.* 329. Misled by the English name, some have imagined the plant to be the sun-flower, and still farther to increase the confusion, they have turned the old Greek name of Croz. tinctorium *L.* ("ηλιοτρὸπιον μικρόν) into the modern Heliotrope and explained the various Indian names of Croz. plicata by Heliotropium (Tiaridum) Indicum *Lindl. Elliot Fl. Andh.*

GURUGUDU. TEL. Cascaria tomentosa. —*Roxb.*

GURUMANDI. HIND. Sphoeranthus mollis.

GURUMATA. Panjabi, a convention of the chiefs of the Sikh tribes, formerly held at Amritsar, on all occasions of importance. *Wilson.*

GURUMUKHI. A modification of the Devanagari alphabet devised by the Sikhs: it does not, differ in shape, but the forms of many of the letters are interchanged.

GURUNG, a pastoral tribe living west of the Magar race on the slopes of the mountains in Nepal. They breed sheep, which they use for carriage. Their language is peculiar, but little known, and used by the buddhist priests to propagate their religion. They eat beef, but do not use milk. Their paganism is not yet extinguished.

They form a tribe or clan or race in Nepaul, and, along with the Krat and Magar, also of Nepaul, form the principal part of the Nepaul army. These three tribes are said to differ only in their religion, according as it combines a greater or less degree of the hindu opinions with those of buddhism. The Jarya are a tribe of Nepaul, south of the Gurung, with whom they are intermixed and intermarry. They are hindu in creed and manners. They may pertain to the Gurung, Magar or Newar tribes. The Newar were, however, the prior holders of Nepaul and their divisions are the Gurkha, Nepaul, Makwarpur and Morung.—*Latham.* See Krat, India.

GURU PADASRAYA, in the hindu religion, the servile veneration of the spiritual teacher.

GURU SICHER, a peak on Mt. Aboo 5,700 feet above the sea.

GURYAL. GUZ. HIND. a watch, a gong, a clock; properly Gharial.

GURZ, an iron club pointed at one end, and having a knob at the other covered with spikes. Gurz-Mar, is an order or guroh of faqeers. The members of it carry a gurz with which they wound themselves to extort alms. The order is said to have originated with a Pir named Sayid Ahmad Kabir.—*Wilson's Glossary.*

GUSHARATHA MARA. CAN.? also Tumi. TEL. Embryopteris glutinifera.

GUSHTASP, a Persian king of the Kaianian dynasty, the Hystaspes of Grecian history. He was son of Lohrasb, and the son of Gushtasp was Isfandiar, the Apanda or Astyages of the Greek historians. See Persian Kings.

GUSHURA. HIND. Root of Barleria longifolia.

GUSRAH. HIND. of Cis Sutlej, sandy, unculturable soil.

GUSRU, a river of Jabbalpur.

GUSSALAH. HIND. Moorda-sho. PERS. persons whose office it is, in the mahomedan towns, to wash the bodies of the dead.

GUTCH'KA.? DUK. Syn of Guilandina bonduc.—*Linn.*

GUT-HA, properly Gat'ha, a measure of length. The twentieth part of a jareeb. Each Gut-ha contains three Ilahi Gaz. The word is derived from Gut-hna to join, or unite by knots.—*Elliot, Supp. Gloss.*

GUTHLI. HIND. Kernel, Gutli-khajur kernel of Phœnix dactylifera.

GUTI, in 15° 6' 9", 77° 38' 1♀. Hill station 2,171 feet above the sea, and the base of the Guti rock is 1,180 feet. It is in the Bellary collectorate.—*Schl. Ad.*

GUTIA. Beng. or Shuk-China. Beng. Smilax glabra.

GUTI-SUNA. Hind. Panax fragrans.

GUTTA. Malay, a gum, any gum or concrete juice of a tree.

GUTTA PERCHA. Malay, is the concrete juice of the Isonandra gutta. It is a forest tree of Penang, of the Malay Peninsula from Penang to Singapore, of Sumatra and of Borneo. It is called the Taban tree, by the Malays of the Malacca and, in Borneo, it is known by the name of 'Niato.' but Gutta percha seems to be the Malay name in the Straits. The ch is not pronounced hard like a k, but like the ch in the English word perch. The tree grows slowly to from sixty to seventy feet high, and three or four feet in diameter. Its foliage is of a pale green on the upper side, and covered with reddish-brown hairs beneath; it flourishes luxuriantly in alluvial tracts, at the foot of hills, and in such situations in many places, forms the principal part of the jungle. The natives had discovered its valuable properties before it became known to Europeans. They constructed from it whips, shoes, traces, buckets, jugs, basins, 'timba' or draw-buckets, and vessels of various kinds and thus attracted attention to the substance which has since been applied, in Europe, to a vast variety of domestic and scientific purposes. Their method of collecting the gum, however, has been of the most destructive kind, especially since the demand of a European market for this substance has had to be met. Instead of economising their treasure, as is done in the case of the caoutchouc tree, by tapping the tree and allowing its juice to ooze gradually from the incision, they fell the trees at once, and, removing strips of bark at intervals, collect indeed a large quantity of sap at one time, but destroy all future supplies from that source. The tree was formerly very abundant, but all the large timber was soon felled, and few and but very small plants are to be found. The wholesale destruction of the gutta tree, necessarily involves destruction of the traffic. To check it, is said, to be extremely difficult; because each set of explorers, is anxious for present profit. A very small quantity, comparatively speaking, is to be obtained by tapping, and the first comers get a full supply of sap for themselves, without considering those who come after, and who might very probably cut down the trees if they had been spared previously. When 20 to 30 years old, it was cut down and the smaller branches cleared away; round the bark of the trunk and the larger branches, circular incisions are made at a distance from one another of a foot or a foot and a half, and in a few days all the sap dribbles and falls into a cocoanut shell or other vessel placed below. The portions of juice are then collected into bamboo pitchers and carried by the collectors to boil it, at their huts, in large cauldrons, in order to steam off the water which has mixed with the juice and to clear it of impurities. After boiling, it assumes its marketable consistency and is brought for sale. (*Cameron.*) Pure gutta percha is greyish white, but it is generally brought to market of a reddish-brown hue. This is ascribed to chips of the bark, which fall into the sap and give it their colour, but in addition to this there are frequently other matters, such as sawdust, purposely introduced as adulterants. Dr. Montgomerie, of Bengal, appears to have first noticed the native use of this substance, in 1842. In 1843, Dr. d'Almeida presented a specimen of the inspissated juice to the Royal Society of Arts, and described some of the advantages which would accrue from its use. This communication led to no results; but another, made shortly after by Dr. Montgomerie, was more successful, so that by the united efforts of these gentlemen gutta percha was introduced to public notice, and by the year 1858, about 2,000 tons were annually exported from Singapore. The gutta percha from Borneo is not so much esteemed as that from the Malay Peninsula, and doubts exist as to the identity of the trees. It seems to be a practice with the people who collect the gutta percha of the Malayan Peninsula, to mix the juices of several other species of Isonandra with that of the true Isonandra gutta. And though this mixture confessedly depreciates the value of the gum, as the products of the several species have, to some extent, similar properties, the adulteration allows the commercial article to be applied to many purposes in the arts, from which the higher price and the scarcity of the true gum gutta would exclude it. There are said to be five or six species of Isonandra on the Koondahs of the Western ghats of India, I. wightiana, I. perottetiana, I. candolleana, and I. lanceolata, and in Ceylon is I. grandis and five other species. Some of these, however, may be referred to other genera, or are

synonyms. One in the peninsula, the Isonandra acuminata, *Wight*, is now referred to Bassia elliptica and yields the Pauchontee or ponchontee Dr. Oxley says that gutta ought not to require an elaborate process: the simple boiling in water, and rolling out into sheets, from which all foreign matter can be easily picked off, is the only process he employs, and this he thinks would be generally sufficient, if manufacturers in giving their orders would take the precaution of requiring that the article should be strained through a cloth at the time of its collection, and if they would encourage the natives to do this, by offering a somewhat higher price for gutta percha so prepared. A vast deal of trouble and expense might, in his opinion, be thereby saved. The great peculiarity which makes gutta percha convenient and valuable for a variety of purposes is, that when plunged into boiling water, it becomes so soft and plastic as to be easily moulded into any desired form, and this form it permanently retains on cooling. It was the discovery of this quality which first led the Malays to fabricate it into useful articles, Mr. Tomlinson tells us (Dictionary) that surgeons employ it for fractures, bougies and capsules; tubes for syringes are made of it, and water conduits have been manufactured from it for water service. For stereotype plates a mould is taken, by pressure, of a page with woodcuts, in gutta percha; from this mould a cast is obtained on a cylinder of gutta percha, and from this last the printing is carried on. An hour, it is said, suffices to make both mould and cylinder. It is made into speaking tubes for the conveyance of messages in mines, railway stations, prisons, workhouses, hotels, and other large establishments. For partially deaf persons, the distribution has been devised of gutta percha tubing over a church or other large building, so that, by seating themselves where the tubes terminate, they are able to hear distinctly the sermons or speeches delivered therein. Gutta percha also appears to be admirably adapted for cornices and centres for ceilings, also for picture frames, and many other uses to which plaster and papier machie have hitherto been applied. It has likewise been employed for door handles, and plates, knife handles, vases, baskets, &c., for the stopping of decayed teeth and for printing in relief. The clear, sharp impression it receives, and the toughness of the substance, have made it very useful in books for the blind, and in maps embossed, for their benefit. In solution, this substance is employed in waterproof clothing; mixed with caoutchouc and other substances it is made into a light, porous, spongy material, suited for stuffing or forming the seats of chairs, cushions, and mattresses. Springs of clocks clasps, belts, garters and string, are prepared from the modification of the above mixture, while moulds and balls of gutta percha are produced of a hardness sufficient to bear turning in the lathe, like wood or ivory. A varnish may also be made in which gutta percha, being the principal ingredient, may be used to give a water-proof covering to other substances. Gutta percha dissolves at ordinary temperatures, and still better at a higher heat in sulphuret of carbon. The solution leaves behind on a glass plate a thin coating, possessing all the properties of gutta percha, unaltered. Paste-board boxes coated over with this may be made to hold water. Gutta percha was found by Dr. Faraday to possess high insulating power. Being flexible, impervious to water, and possessing insulating power, it is the most efficient of all substances as a coating or tubing for the copper wire of submarine telegraphs.' The juices of various trees have been brought to notice, under the impression that they might prove substitutes for Gutta percha; but none of them have been found to answer, not even the sap of Euphorbia cattemundoo from the Coromandel Coast, which, at one time, was considered a likely substitute. General Cullen brought to notice the Pachontee tree of Malabar, the Isonandra latifolia, of *Wight*, since included in the genus Bassia, but it was not found of much commercial value.. The Dutch Government while taking measures to transplant and cultivate the Isonandra gutta in Guiana, have discovered, at Surinam, a juice-yielding tree possessed of analogous properties, in the Sapota Mulleri, believed to be the same as the bullet tree of the English. It is a tall tree, yielding, in the hot season, a large quantity of milky juice. The tree grows abundantly on slightly elevated situations. The trunk is surrounded with a ring of clay, with elevated edges, and then an incision is made in the bark as far as the liber; the milky juice flows out immediately, and is collected in the clay reservoir. The juice resembles, in some respects, the milk of the cow: it forms a pellicle on its surface, which is renewed after removal. By the evaporation of the juice, 13 to 14 parts in 100 of pure Gutta percha is obtained. Six volumes of absolute alcohol added to ten of the juice, separates at once

all the Gutta percha which it contains. Sulphuric ether acts more rapidly than alcohol. The juice is not coagulated by acetic acid. This Surinam gutta product is sold at Amsterdam at the same price as the best Gutta percha of commerce, a good proof of the esteem in which it is held, The coagulated juice of a large climber found by Mr. Sandeman, of Munneepore, in his grant, has been pronounced inferior, inasmuch as it is sticky, and becomes brittle when exposed to cold and it would be unsaleable in England. A Cachar kind of gutta percha is also brittle, and when dissolved in chloroform or benzole, does not dry so quickly as the commercial article. On heating this in water it becomes most ductile and plastic, rather more so than common gutta percha: it is dissolved by the same agents as the latter. *Low's Sarawak*, p. 19. *Singapore Cat. London Ex.* 1862. *Indian Field Calcutta June* 12, 1858. *Tomlinson's Dictionary.* See Isonandra, Pachontee.

GUTTA PODAH of Billiton, vegetable wax.

GUTTA TRAP of Singapore the inspissated sap or juice of an Artocarpus, used for making bird-lime.

GUTTEAH of Chittagong, a tanning substance obtained from a bush that grows on the sides of creeks and rivers, in low ground, which is inundated with the spring tide. It is cut for firewood, and the fishermen and shoemakers purchase it, and take the bark off to tan their fishing nets and leather, and afterwards sell the wood posts for firewood. It is very abundant at Chittagong.

GUTTE GUM. Dut. Gamboge.

GUTTI. Sans. Tel. A cluster of flowers.

GUTTI BIRA. Tel. Luffa racemosa. *R. Brown.* Perhaps only a variety of L. fætida. The peponidæ are smooth and generally 3-4 on the same stalk; cultivated about Masulipatam.

GUTTIFERÆ are generally regarded as the Indian Garcinaceæ: all of them abound in a viscid yellow, acrid and purgative gum resinous juice resembling Gamboge. See Clusiaceæ, Garcinaceæ.

GUTTI GUNNERU. Tel. Calpicarpum Roxburghii.—*G. Don.*

GUTTI NEMALADUGU MANU. Tel. A species of Vitex.

GUTWARA, properly gatwara, but more correctly, Gant'hwara, a tribe of the Jat race who hold villages in Gohana (where they are called Aolanea, after their chief town), in Soneeput Bangur, and in the Doab on the opposite side of the Jumna. They trace their origin from Ghuzni, from which place they were accompanied by the bhat Bajwaen, and the blacksmith Budea—of whom descendants are now living and are engaged in the occupation of their fathers in the villages of the Gunt'hwara fraternity.—*Elliot, Supp. Gloss.*

GUTZLAFF, Reverend Charles, a missionary in China, acquainted with several Chinese dialects. He endeavoured to spread christianity amongst them. He was afterwards an interpreter in China, and consul of Britain. He died about the year 1868. He greatly encouraged the Tae-ping movement.—*Bennett's Wanderings.*

GUVARPHALLI. Guz. Dolichos fabaeformis.

GUVI MANU. Tel. Ficus virens.

GUVVADADA. Tel. Grewia abutilifolia. —*Juss.*

GUVVA GUTTI. Tel. Trichodesma Indica.—*R. Brown.*

GUYA-BABULA. Beng. Hind. Acacia farnesiana. syn. of Vachellia farnesiana.

GUYAN. Hind. Ghwiyan, the edible Arum, A. colocasia.

GUZ also Gaz, a measure of length, a yard 3 Guz = 1 Gut'ha, and 60 Guz = 1 Jareeb, The Ilahi guz, is the standard guz, or yard measure of forty-one fingers, instituted by Akber. After much controversy respecting its length, it was authoritatively declared by the British Government to be 33 inches long, and the declaration has been attended with considerable convenience to revenue officers, as a Beegha measured by this yard constitutes exactly five-eighths of an acre. Since the middle of the 19th century the word guz is generally regarded as the British standard yard of 36 inches.—*Elliot.*

GUZBUR. See Kelat, p. 492.

GUZANJABIN, abounds in the province of Kermanshah; it is a kind of manna; caused by a green fly on the back of the leaf of the dwarf oak. It is very accurately described by Diodorus Siculus. The Persians mix it with flour and sugar, and make it into little cakes, which they consider great dainties, and export to all parts of Asia.—*Ed. Ferrier Journ.*, p. 26. See Gazanjabin, Manna.

GUZERAT, a peninsula in the N. W of the Peninsula of India, with the Gulph of Cutch on its north-west, and the Gulf of Cambay on its south-east. The area of the whole province is stated by Capt. Nasmyth to be 31,752 square miles of which only 10,736 belong to the British Government, the remainder appertaining to tributary chiefs. The low land of Guzerat resembles that of the Concan, Canara, the Carnatic and Orissa, but the interior of that province is mountainous. The alluvial tract, is a soil emi-

nently productive, and is occupied by Rajput tribes, Gujur, Katti, Koli and Kunbi, all claiming a distinct origin. The Koli of Guzerat are descendants of aboriginal tribes who occupied the country before the Aryan conquests. They have long since adopted some parts of hinduism. In the beginning of the nineteenth century they were a restless turbulent race, despising agriculture and living by plunder. Before the middle of the century they had settled down to be peaceful husbandmen, and the state of some of their villages vied with those of the Kunbi.

The Guzerat Koonbi are a remarkably sturdy independent race, and will often wrangle, for days, over a slight increase made in their rent.

The district of Diu is Portuguese, and the town of Diu has been repeatedly besieged by rulers of Guzerat and the Dekhan but it has continued in the power of thePortuguese.

Guzerat was overrun in A. D. 718, by Mahomed-bin-Kasim, Walid's general, but when advancing on Chittore he was met by Bappa and totally defeated.

The city of Nehrwalla says Rennell, the ancient capital of Guzerat, together with the whole of that peninsula, fell into the hands of Mahmood, who died four years afterwards (1028), possessed of the eastern, and by much the largest part of Persia ; as well as, nominally, of all the Indian provinces from the western part of the Ganges, to the peninsula of Guzerat.

Anhilwarra, was the dynastic name of three races that ruled in Guzerat from A. D. 696 till A. D. 1309, when Guzerat was annexed to Delhi by Ala-ud-din Mahomed shah. The name of these dynasties was taken from the town of Anhilpoor, which rose to great distinction as a commercial site, and with Cambay as its sea-port, was the Tyre of India. At its height, Anhulpoor was twelve coss (or fifteen miles) in circuit, within which were many temples and colleges; eighty-four chaok, or squares; eighty-four bazaars, or market places, with a mint for gold and silver coin. Col. Tod thinks it not unlikely that the Chaora, the tribe of the first dynasty of Anhulwarra, is a mere corruption of Saura; as the ch and s are perpetually interchanging. The Mahratta cannot pronounce the ch ; with them Cheeto is Seeto, &c., he thinks the Saura princes of Deo and Somnath, in all likelihood, gave their name to the peninsula of Guzerat. The language spoken is one of the Hindi tongues.—*Rennell's Memoir*, p. 47. *Sir H. Elliott's History of India, Annals of Indian Administration. Histoire de l' Inde*, p. 29. *Tod's Travels*, pp. 147, 152, 156. *Tod's Rajasthan*, Vol. I, p. 31. See Hindu, India, Infanticide, Jain, Kalmuk, Kathi, Kattywar, Koli, Krishna, Kutub Minar, Marco Polo, Rajput, RudraSampradaya, Veddah.

GUJERATI. In the Dekkan this term is applied to any native of Guzerat, but more especially to the traders and dealers from that country. In Bengal and Bahar, one subdivision of the Kurmi or agricultural tribe, is called Gujarati, having perhaps come originally from thence or, possibly from being of Gujar origin.—*Wilson.*

GUZERATI ILACHI. Hind. Elettaria cardamomum.

GUZ-GIAH. Pers. also Bunjdashti. Pers. Thorn apple.

GUZNI. See Ghazni ; Kandahar.

GUZZELHUTTI, a pass running up a valley in which the Moyar flows to the Bhawany, between Colligal and the Neilgherry hills. The Anamallay hills are in the S. W. border of Coimbatore and are richly clothed with valuable forests, with many elephants and some of the lower hill ranges from the Neilgherries, between which is the valley and gap or pass of Palghaut leading to the western coast. The Guzzlehutty pass leads up the deep valley separating the Neilgherry hills from Colligal.

GWA. Hind. Tetranthera monopetala.

GWALAGARH, 31° 53' ; 76° 20', in Chamba, near the well known temple of Jwala Mukhi, about 10 miles N. of Nadaun Fort is 3,281 feet above the sea.—*Mulherran.*

GWALDAKH. Hind. of Kaghan, Ribes rubicola, glacialis and grossularia, currant and gooseberry; also Ribes leptostachyum.

GWALIOR, town in 26° 13' 2" ; 78° 9' a large place 65 miles S. of Agra. The Entrance to the fort on the hill is 1,111 feet above the sea. Gwalior is the capital of a Mahratta prince, maharajah Scindia. Gwalior Fort built on a rock was taken on the 3rd August 1780, by Major Popham. It was regarded as so powerful a fortress that its capture was heard of by the chiefs of India with great astonishment. During the rebellion a massacre at Gwalior occurred on the 14th June 1857. But the town was re-captured by Sir Hugh Rose on the 28th June 1858. The British Indian Government keep a Political Agent at the Court of Gwalior, by whom, also, Amjherra, Nurwar, Bhadowra, Khaltoun, Sirsee, Ragogurh, Baroda or Sheopore and Burra are superintended. See India, Mahratta Governments.

GWEY-TOUNG. See Karenp., p. 469.

GWALIDAR. Hind. Diospyros lotus.

GWAL KAKRI. Hind. Bryonia umbellata.

GWÂNDISH. Hind. Sambucus ebulus.

GWIAN. Hind. Arum colocasia

GWAI. Burm. Urtica nivea.—*Linn.*

GWYNE, with the Moulmein and Salwen rivers enter the Bay of Bengal.

GYAL. See Bos; Bibos.

GYAL, or Gayal. The land of a deceased Biswadar, lying unclaimed; land coming under the management of the Malgoozar after an "asami" deserts his village.—*Elliot Supp. Gloss.*

GYAM. Tibet, Cedrus deodara, deodar or Himalayan cedar.

GYAMI, a Chinese military tribe.

GYAMI, a population, whose language Mr. Hodgson treats as Sifan.—*Latham.*

GYARUNG or Gyarung-bo, a powerful nation consisting of eighteen banners, at present acknowleding the supremacy of China Each tribe has its special denomination. The name seems the same as that of Gurung, a population in Nepal,—*Latham*

GYEN BAING. Burm. Bassella alba.—*Linn.*

GYEW. Burm. ? A tree, maximum girth 2 cubits, maximum length 15 feet. Found abundant in the jungles round Moulmein and all over the provinces. When seasoned it floats in water. Stated by the Burmese to be equal to chisel handle tree, Dalbergia, species, but if so, Captain Dance had not seen a favorable specimen.—*Captain Dance.*

rGYLFO, the title of the ruler of Iskardo, or little Tibet, derived from two Balti words rGgyl, powerful, and Fo, a man. The queen is styled rGgyl-mo. Mr. Vigne points to this as the original of the title of Guelph belonging to the royal family of Britain, and of the term Gylfe-koniger, still used to designate the old kings of Denmark. See Gylfo.

GYLLUPKA. See Bhot.

GYLONG. See Bhot.

GYMNEMA. A genus of plants belonging to the Natural Order Asclepiaceæ, of which fourteen species occur in the East Indies: the best known are

C. acuminatum	C. nepalensis.
C. decaisneanum.	C. sylvestre.
C elegans.	C. tingens *var.* cordifolia.
C. hirsutum.	C. „ *var.* ovalifolia.
C. lactiferum.	

A green dye of an excellent quality has been obtained from the leaves of G. (Asclepias) tingens a twining plant. It is a native of Pegu but grown in Burmah.

GYMNEMA LACTIFERUM var. of G. sylvestre *R. Br. W. Contr.*

Milk-Bearing Gymnema.

Ch'hoto-doodhi-luta	Beng.	Kiri hanguln,	Pali.
Ceylon Cowtree,	Eng.	Kiri anguna,	Singh.
Cow Plant,	„		

It is a form of G. sylvestre. The appellation Kiri is given because of the resemblance of the juice in colour and consistency to milk. It is never used as food, though Loudon, Lindley and Charles Knight say so, nor as a vaccine virus as stated by Loudon.

It has an erect stem, or rather is twining; the leaves are on short petioles, ovate, bluntly acuminated, usually unequal-sided; the umbels many-flowered, shorter than the petioles; the throat of the corolla crowned by five fleshy tubercles; the tube furnished with double pilose lines running from the tubercles. It is a native of Ceylon.

GYMNEMA TENACISSIMA. Syn. of Marsdenia tenacissima.—(*W. and A.*)

GYMNEMA SYLVESTRE, Spr. *R. Br.* ii, 45.

Asclepias geminata *Roxb.*	Periplocasylvestris *Wildd*
Ch'hoto-doodhi loota, Beng.	Poda patra,
	Putla podara, Tel.

This grows in the Peninsula of India, Bengal, Nepaul, Assam and Canton. *Roxb.* ii, 53. *Voigt*, p. 538.

GYMNEMA TINGENS, Spr.

Asclepias tingens, *Roxb.*	Asclepias montana *Roxb*

Grows in Sukha Nuggur, Kamroop, Burmah and Java. Its leaves yield a green dye, or sort of indigo. *Roxb.* ii, 49. *Voigt.* 538. *Simmonds.*

GYMNOCLADUS CANADENSIS Lam. Coffee-tree wood. A tree of the forests of Canada and N. America, introduced into India

GYMNOPUS. A genus of reptiles, the river turtles or trionyx, of which there occur in India, G. duvaucelli, *Dum.* and *Bibr.* river turtle or trionyx. G. euphraticus, of Babylonia. G. Javanicus G. lineatus. G. ocellatus. G. subplanus of Babylonia. See Reptiles.

GYMNOSOPHI. These arespoken of by the writers of the time of Alexander's invasion, and this was the term by which the Greeks and Romans designated Gymnosophist, people of India who practiced austerities for religion to quell the flesh and its desires. They are yet daily to be seen in every part of India, sometimes without any covering, or with only a narrow strip of cloth, their bodies covered with ashes, exposed to the elements and continuing to live as anchorites through a long life under the most painful circumstances. Manu (Inst. 6, 22.) says, "let the devotee push himself backward and

forward on the ground, or stand on his toes the whole day, or continually sit down and rise again; let him go into the water at sunrise, noon, and sunset and bathe; in the hottest season of the year, surround himself with five fires; and in the winter stand constantly in a wet garment, and so let him proceed ever, continuing his penances in severity." Their present representatives are the byragi and sanyasi In the Ramayana they are represented as lying in winter in cold water, living on dried leaves and water. Colonel Wade and Captain Osborne were witnesses to the interment, alive, and disinterment, of a devotee, at Lahore in 1837, who was buried, for six weeks in a closed chest. It was suspended in a vault to avoid the attacks of white ants. The seal of Ranjit Sing was on the tomb. The systems of hinduism and bud'dhism encourage austerities and the reformers Sakhya Sinha, Kabir, Ramanand, and Chand all favoured it. The idea seems to be connected with the prevailing belief as to transmigration, leading to the infliction of self torture, as penance, for the sins of the former or present existence, in the hope of absorption after the present term of life. The austerities are practiced in the most varied form, from simple abstaining from marriage, to temporary or life long tortures and voluntary suicide by drowning, burning, or placing themselves beneath the great wheels of idol cars. The tortures at the Holi festival, the deaths in the Ganges and at the Jagarnath car, the prostrations for a pilgrimage and around the hill of Goverdhun are of this kind, and in 1866, a hindu ascetic was sitting in a cave at the editor's visit to Ellora, where he had sat for five years. See Byragi, Crow, Hindu, Holi, Karshagni, Sanyasi.

GYNANDROPIS AFFINIS. BLUME. Syn. of Gynandropsis pentaphylla.—*D. C.*

GYNANDROPSIS PENTAPHYLLA. —*D. C. W. & A.*

G. affinis *Blume.*		Cleome pentaphylla *Linn.*	
Shada hurburija;	BENG.	Valle kire,	TAM.
Kamala,	„	Nai kaduga;	„
Kat koduku;		Nai vella,	„
Kara vella,	MALEAL.	Vaminta,	TEL.

An annual plant of the Order Capparidaceæ, grows in the E. and W. Indies, and America. Leaves of the wild plant are eaten in curries; bruised and applied to the skin, they act as a rubefacient and produce a very abundant serous exudation, affording the relief derived from a blister without its inconveniences. It is grown as a flowering plant and both this and other species are cultivated easily from seed, are very pretty and grow well in a light rich soil, the colors of the flowers are white, red, purple and yellow, at Lahore, the seeds are used by the hakims, in convulsions, those of Cleome viscida are said to be anthelmintic.—*Honigberger*, p. 258. *Roxb.*, iii, 126. *Voigt*, p. 73. *Riddell. Jaffrey. Wight's Ill.*. I, p. 35.

GYNOCARDIA ODORATA.—*Lindley.*

Chaulmoogra odorata.—*Roxb.*

Talien-noe,	BURM.	Petar kura,	HIND.
Chaulmoogra,	HIND. PERS.		

This is a native of Sylhet, about Rangoon, and is met with on the banks of streams in the Tounghoo forests, but must be considered scarce. The plant is referred by Lindley to the Natural order Pangiaceæ which by some is considered a section of Papayaceæ. The seeds are sold in the bazaars in India at about 13s. 4d per cwt: they yield by expression about ten per cent. of a thick bland fixed oil having a peculiar smell and taste. The seeds are employed extensively in the treatment of various cutaneous diseases in the form of ointment, especially in herpes and tinea and have been recommended in tape worm. The seeds are various in shape, nearly oval, smooth, grey, hard. Embryo white. For external application they are beaten up with ghee or clarified butter and applied to the diseased cutaneous surfaces three times daily. The expressed oil is prized in the treatment of leprosy in India. The surfaces of the ulcers are dressed with the oil while a six grain pill of the seed is given three times a day. The dose of the latter is gradually increased to twice the original quantity. One drachm given to a dog caused violent vomiting in 15 minutes. The expresssed oil is sometimes given internally in doses of 5 or 6 minims. Too large doses are apt to produce nausea and vomiting. The Chaulmoogra is prized by the Chinese —*Notes on the Chaulmoogra seeds of India by Charles Murchison, M. D., M. R. C. P., L. in Edin. New Phi. Mag.*, No. 6, of April 1856, p. 363. *Roxb. Fl. Ind.* iii. 836. *O'Shaughnessy. Beng. Pharm.*, p. 382. *Honigberger*, p. 255. *McClelland.*

GYNDES. See Fars.

GYO, Schleichera trijuga.—*Willde.*

GYPAETOS HEMACHALANUS. HUTTON, the Lammergeyer, inhabits the high mountains of Europe, Asia, and Africa, from the Altai even to the Cape colony. Authorities differ with respect to the value to be attached to certain differences observed in specimens from different regions. The prince of Canino identifies the Himalayan with G. barbatus of Gebler from the Altai, and G. nudipes of Brehm (meridionalis of Keyser and Blasius) from S. Africa. M. Malherbe remarks that specimens from the Pyrenees and Sardinia are of inferior size to those

from the Swiss Alps; and this smaller race is the G. barbatus occidentalis of Schlegel. Even the Himalayan, the G. hemachalanus of Captain Hutton, is said to differ from that of eastern Europe by having a pictorial dark band not observed in the other. The constancy of the alleged distinctions seems to need confirmation, preparatory to an estimation of their value. The Himalayan bird is commonly miscalled 'Golden Eagle' by English residents,—*Blyth.*

GYPS. A genus of birds belonging to the sub-family Gypinæ and Family Vulturidæ, of which there are three species in India, G. fulvus, G. Bengalensis and G. Indica, and other species occur in Africa and America.

Gyps Fulvus or Vultur fulvus, is the Great White Vulture, or Griffon Vulture, and inhabits the high mountains of Europe and Asia, inclusive of the Himalaya and its vicinity, is common in Dalmatia, Greece, and the islands of the Mediterranean; less so on the Alps, and exceedingly rare and accidental in the British islands and northern provinces of France. It is re-placed in the Pyrenees, Sardinia, and Barbary, by the nearly affined G. occidentalis: in E. Africa by G. Ruppellii: and in S. Africa by G, Kolbii; also generally over India and the Malay countries by G. indicus, a much smaller bird. All the birds are remarkable for possessing fourteen tail-feathers, whereas other birds of prey have twelve only, even their congener, G. bengalensis, which is the commonest Indian vulture about and near towns, and is also met with in E. Africa. As Mr. Yarrell does not appear to discriminate the G. occidentalis, it is just possible that the bird which he notices appertains to that particular race, rather than to the genuine G. fulvus of the Himalaya. The 'great black Vulture' of the Himalaya, Vultur monachus, may yet be found to stray so far west as Britain; since it has several times been shot in Schleswig and Holstein, also in Provence, Languedoc, Dauphine, &c. It is not rare in the Pyrenees, Sardinia, Sicily, and mountainous regions of the S. E. of Europe.

The great African vulture, V. auricularis, has been observed in Greece, and has once been killed in Provence, in France, this resembles V. ponticerianus, the so called 'King Vulture' common over the plains of India, but is much larger, equalling V. monachus in size; while the latter has also an analogous diminutive in Africa, in the V. occipitalis.

'In a fine adult of G. occidentalis, from Algeria, the closed wing measured about 27 inches. The clothing feathers are much less acuminate than in G. fulvus, and resemble those of G, Ruppellii in form; but their colour is throughout dull, pale isabelline, slightly tinged with ashy excepting round the margins; and the hue of those covering the craw is much darker. In the adult G. Ruppellii, the whole plumage is fuscus, with strongly contrasting whitish margins more or less broad, imparting a handsome variegated appearance, especially to the scapularies and coverts of the wings and tail: feathers covering the craw blackish; and those forming the white ruff shorter and more dense than in either of the preceding. Length of wing 24 inches. In G. Indicus the feathers are not more or less accuminate according to age, and in the young of this species and of G. fulvus and doubtless of the others also, the feathers of the upper parts have a medial pale streak but not the broad whitish margins which distinguish the adults of G. Ruppellii. In G. Ruppellii the beak is somewhat broader in proportion to its length than in G. fulvus and G. occidentalis, resembling that of G. Bengalensis except in having its ceral portion more prolonged backwards, while G. Indicus has a comparatively slender bill especially as viewed laterally with its cera portion remarkably elongated. In a particularly fine adult of G. Indicus the closed wing measures $24\frac{1}{2}$ inches.—*Mr. Blyth's Report.*

GYPSOPHILA ELEGANS. This is a genus of small creeping plants, flowers of various colours, and will grow in any common soil.—*Riddell.*

GYPSUM, A native sulphate of lime, occurs in several forms, which are known as Selenite, Plaster of Paris, Alabaster or Snowy gypsum, Radiated gypsum, Satin spar or Fibrous gypsum. Extensive beds of crystalline and fibrous Gypsum and Selenite occur near Ennore, the Red Hills, Ootatoor, Tiagur, Madura, Bangalore, Masulipatam, Hyderabad, and other localities, but are not put to any use except in the vicinity of Madras. The substance can be purchased in most bazaars in India under the name of kulnar and kurpoora silasit, and is used in small doses as a medicine, but the Natives do not appear to be acquainted with the uses of this mineral in taking casts, plastering and house decoration, or in manufacturing Keene's cement. The best qualities are from Ootatoor near Trichinopoly, the Chingleput District, Sadras, Ennore, the Red

Hills, Nellore, Masulipatam and Bangalore. The only new localities for this mineral are Sadras, the Red Hills, and Nellore. It occurs very abundantly in the Madras Presidency in the form of fibrous and crystalline gypsums, both free from carbonate of lime, and well suited for the manufacture of plaster of Paris, for moulds, busts, statues or ornaments. The fibrous gypsum of Bangalore, Tiagur and Nellore are the thickest and best, A fine transparent crystal of selenite in the shape of a parallelopiped was brought to Mr. Mason by a Burman, who said it was found in Amherst Province. Granular gypsum is found near the banks of the Tenasserim in about latitude 13° 40' N. It is granular and friable, is a sulphate of lime. A fine variety of fibrous gypsum, sulphate of lime, (Shakoung, Chinese,) is brought, to Burmah from China. They use it in medicine, and say "it is very cooling!" Gypsum, is brought to Canton in abundance, from the North West of the province, and is ground into powder, in mills. It is not used as manure by the Chinese, but mixed with oil to form a cement for paying boats after they have been caulked. The powder is employed as a dentifrice, a cosmetic, and a medicine, and sometimes, also, is boiled to make a gruel in fevers, under the idea that it is cooling. The bakers who supplied the English troops at Amoy, in 1843, occasionally put it into the bread to make it heavier, they do not think it noxious; its employment in colouring tea, and adulterating the ping fa, or powder sugar, is also attributable to other motives than a wish to injure the consumers.

Gypsum is named from γῆ earth, and ἕψειν, to concoct, i. e. formed or concocted in the earth. It is widely distributed throughout the world, and was well known to the ancients, who applied it to many of the same uses for which it is valued at the present day; it abounds in the London and other clays, but its great repository is in the rock commonly called new red sandstone. Numerous quarries exist in that formation, and those of Derbyshire, South Yorkshire and Nottinghamshire are in high repute. The better sorts of Derbyshire gypsum are employed in the Staffordshire potteries, as an ingredient in certain kinds of earthenware and porcelain, and also in making moulds for such articles of pottery as cannot be shaped on the common wheel. The finest pieces of this gypsum are reserved for ornamental purposes, such as vases, small statues, &c., of which a considerable manufacture exists in Derby. Gypsum in this form generally bears the name of alabaster, Gypsum, when calcined and reduced to powder, can be brought to a pulpy mass by admixture with water, and is the well known Plaster of Paris. This mass very soon sets, or returns to the solid form, giving out, while in the act of doing so, a considerable degree of heat. Advantage is taken of this fact in the use of gypsum as a material for casting and taking impressions.

A white granular gypsum suited for sculpture occurs in the Jammu territory, and an alabaster, from Spiti, is a hard white granular gypsum. Gypsum occurs in the marl beds of the Devonian or primary strata of the Salt Range. In the gypsum of Mari, Kalabagh and Sardi, beautiful regular quartz crystals occur called Kalabah and Mari diamonds. They are transparent, milky, or red. The 'Bohemian topaz' of the Jhilam consist of small crystals of this quartz, in the form of dodecahedra, or double six sided pyramids, but there is not the six sided prism so characteristic of quartz. The Kalabagh diamonds are quartz in six-sided prisms, terminated by six-sided pyramids.

Sang-i-Jarahat of Lahore and the Punjab, is a sulphate of lime. An inferior alabaster, occurs at Sardi and on the Karuli mountain, erroneously called 'marble,' Lahore gypsum is called sang-i-jarahat; also godanti; that of the Jhilam and Rawul Pindi is called 'Surma safed,' a name usually applied to the carbonate of lime 'makol.' *Powell's Handbook*, p. 14. *Madras Exhibition of* 1857, *Juries Reports Simmonds. Tomlinson. Masons Tenasserim*, *Williams' Middle Kingdom*, p. 242.

GYPSY, Eng.

Zigeuner,	Ger.	Gitano,	Spain.
Cygani,	Hung.	Tschengene,	Turk.

Their number amount to five millions, half a million being in Europe. See Karachi: Zigano.

GYRINI and Hydrometræ, are aquatic insects of which several occur in S. E. Asia — *Colld.*

GYR-MAHDEE, a sect of mahomedans who believe that Mahdi was the prophet Elias, and that Elias has come and gone. They call themselves Mahdawi. Vide Mahdee.

GYROCARPUS ASIATICUS.—*Willde.*

G. Jacquini. *Roxb.* | G. Americanus *Graham.*

Tanuku,	Tam.	Tanuku manu,	
Kummara ponuku,	Tel.	Tanuka,	Tel.
		Ponnuku,	„

A tree of the Coromandel mountains; grows on the banks of the Kistnah at Nilatwar and not uncommon in the hot and drier parts of Ceylon. Wood whitish coloured and very light: when procurable, it is used for catamarans, in preference to all others.—*Thwaites*, p. 258. *Voigt. Roxb. Cor. Pl.*, p. 258.

GYROPHORA. Tripe de roche.

H. This letter, in the English language, as an aspirate, shows that the vowel following it must be pronounced with a strong guttural emission of voice, as in hammer, house, humidity, helm, history, hyson; but, in a few English words it is quiescent, as in hour, honour. The Tamil has no letter h, but this English letter is represented in the Arabic, Persian, Urdu, Sanskrit, Hindi, Marathi, Bengali, Uriya, Telugu, Karnatica, and Malayalam, but the sounds are mere modifications of the simple breathing. Two of the sounds derived from the Arabic are not very nicely distinguished in Indian pronunciation. One may be something harsher than the other, and so far it agrees with the strong Sanskrit aspirate, whilst the softer breathing of the Nagari alphabet, the Visarga, or sign of the nominative case, may be regarded as peculiar. Sir William Jones distinguishes the harsher forms by an accent, as Ah'med. Gilchrist and Shakespear distinguish it by a dot underneath it; Professor Wilson places the dot beneath the softer Arabic aspirate. In a suggested Missionary alphabet it has been proposed to indicate the unmodified flatus by an apostrophe as ve'ement for vehement. With the people on the line of the Indus river, the letters 'S' and 'H,' and 'Z' are permutable. Hind becomes Sind: Zalim Sing becomes Halim Hing. The difficulties, however, as to the letter 'H,' are not greater than in the Italian, where the initial 'H' is quiescent before a vowel and modifies the sounds of consonants. Colonel Tod says S and H are permutable letters in the Bhakka, and he supposes that Sam or Sham, the god of the Yamuna, may be the Ham or Hammon of Egypt. He also thinks it not unlikely that the *Chaora*, the tribe of the first dynasty of Anhulwarra, is a mere corruption of *Saura*; as the *ch* and *s* are perpetually interchanging. The Mahrattas cannot pronounce the *ch*; with them *Cheeto* is *Seeto*.

HAARE. Ger. Hair.

HAB. See Kelat, p. 491.

HABAC. Arabic. Ocymum pilosum.

HABAKUK. This sacred writer says "They sacrifice unto their net, and burn incense unto their drag; because by them their portion is fat, and their meat plenteous," from which it would seem that the Jewish idolaters had a custom like that of the Hindu, who annually worship the implements of their trades. See Kush or Cush.

HABARUM, a mount close to the Dead Sea, on which Moses died in the fortieth year of the Exodus. In this interval, the whole land of the Emorites had been taken, the Midianites overthrown and the country of the king of Basan conquered, crossed the river Jabbok and taken the western country on the Jordan (Batanæa and Aulonites) eastward and north-ward as far as Hermon. —*Bunsen*, iii, 252.

HABAS. Span. Beans.

HAB. Ar. Hind. Pers. A seed or fruit; hence

Hab-ul-as. Berries of Myrtus communis.

Hab-ul-ban. Seeds of Moringa pterygosperma, also of Melia azedarach?

Hab-ul-jarab. Strychnos nux vomica.

Hab-ul-Kal Kal. Hind. Cardiospermum halicacabum.

Hab i-kaknaj. Hind. Physalis Indica.

Hab-ul-khilkhil, Hind. seeds of Punica granatum.

Hab-ul-khizra. Rhus acuminata.

Hab-ul-kurtum, seeds of Carthamus tinctoria.

Hab-ul-lauz-talkh. Amygdalus amara.

Hab-ul-mul. Hind. Ophelia chireta.

Hab-ul-muluk. Hind. Croton tiglium.

Hab-ul-mushk. Abelmoschus moschatus.

Hab-ul-nil. Hind. Pharbitis nil or Ipomea cœrulea.

Hab-ul-qalil. Arab. Egyptian bean; in Bombay, cherry stone; pomegranate pips.

Hab-us-soudan. Cassia absus. *Linn.*

Hab-us-surk. seeds of Abrus precatorius

Hab-ul-zulm, Carthamus tinctoria seeds.

HAB-GHALEE. Arab. The long pod of the Moringa aptera, Yessur Ar.

HABHUL. Hind. Myrtus communis.

HABIB-US-SIYAR. A book written by Khond Emir.

HABIL. Arab. Abel, who is supposed to have been buried at Damascus. See Abu-Kubays.

HAB SAUDE. Egypt. Nigella seed.

HABSHI. Hind. An African or Abyssinian, Habsh being the Arabic reading of Abyssinia.

HABENARIA, a genus of plants belonging to the natural order Orchidaceæ. This genus has a ringent hooded perianth, a 3-lobed entire spurred lip. Dr. Wight, in Icones, gives the following species of Southern Asia: affinis, cephalotes, crinifera, decipiens, digitata, eliptica, fimbriata, foliosa, Heyneana, Jerdoniana, Lindleyana, longicalcarata, montana, ovalifolia, peristyloides, plantaginea, platyphylla, rariflora, Richardiana, salaccensis, trinervia, viridiflora. Habenaria acuifera, is an elegant species found in the Tavoy forests; and several other species of the same genus are scattered over the Tenasserim Provinces. *Mason W. Ic.*

HACKERY. Anglo-Bengali. A cart or carriage, a country cart.

HAC-MINSAU. Cochin-Chin. Emblic myrobalan.

HADA. A blight, drying up of leaves.

HA-DA. See Japan, p. 410.

HADAD. The Phœnician Sun-god, and their king of the gods. *Bunsen*, iv, 269.

HADAH. Wife of Lamech and of Esau *Bunsen*, iv, 253.

HADAKONKALEE. Uria. A useful timber of Ganjam and Gumsur, extreme height 12 feet. Circumference 2 feet. Height from the ground to the intersection of the first branch, 4 feet. *Capt. MacDonald.*

HADAPIGA. Kar. A barber.

HADAR. Hind. Ribes leptostachyum, Ribes rubrum.

HADDU. Panj. Cornus macrophylla. *Wall.*

HADES. See Karen.

HADHJORA. Hind. Nyctanthes arbor tristis.

HADI, a helot race, spread over all Bengal, who take their name from the original Santali word for man, 'had,' and who have supplied such terms as 'hadd,' base, low-born; 'hadduk' a sweeper; 'hunda,' hog, blockhead, imp; hudduka, a drunken sot, &c., also, 'Hadi,'-in low Bengali, 'Hadi-kath,' is the name of a rude fetter or stock, by which the landholder used to confine his serfs until they agreed to his terms. It means literally the helots log; it was also used for fastening the head of the victim in the bloody oblations which the Aryan religion adopted from the aboriginal races, especially in the human sacrifices to Kali, to which the low castes even now resort in times of special need. In an account of the last human offerings to Kali, during the famine of 1866, it was mentioned that the bleeding head was found fixed on the 'harcat,' *i. e.* helot's log.—*Dr. W. W. Hunter*, p. 30.

HADIAH. Arab. A maiden of good family and courage, who precedes in battle, the Bedouin Arab, mounted on a camel, in the fore ranks, she has to shame the timid and excite the brave by taunts or praise.—*Palgrave.*

HADISAH. See Mesopotamia.

HADIWICKE. A moderately hard, fine, close-grained, rather heavy Ceylon wood.

HADRAMAUT. See Arabs. Inscriptions, p. 371.

HÆMADIPSA CEYLANICA *Blain*, the land leech of Ceylon, another is the Hæmadipsa Boscii. See Leeches.

HÆMATIN. A colouring substance obtained from the Cæsalpinia sappan tree.

HÆMATITE, a name given to certain forms of native peroxide of iron. When of a red colour it is called red hæmatite; and when brown, brown hæmatite.—*Eng. Cyc.*

HÆMATOXYLON CAMPECHIANUM. Logwood. This useful timber tree has been introduced into India. It grows readily and seeds abundantly, but it remains to be seen whether it will attain a large size in this country. It is used only as a dye, and the bark is astringent in a considerable degree. It is a promising tree and deserves attention. It is a low spreading tree, seldom thicker than a man's thigh.—*Eng. Cyc., Dr. Cleghorn in Madras E. J. R.*

HÆMOPSIS PALUDUM. One of leeches. See Leeches.

HÆMATOPUS OSTRALEGUS. A genus of birds of the family Chionidæ and order Grallatores. See Birds, p. 518.

HÆMATORNIS CAFER, is one of the bulbuls of Southern India, is not a song bird and is called the Bulbul-i-gul-dum, or bulbul with the rose tail. Hæmatornis cafer is a common cage bird and like quails and cocks is trained to fight, and when pitted against an antagonist, it will sink from exhaustion rather than release its hold.

HÆNKE. The 'Reliquiæ Hænkianæ, of Presl, is a folio volume with plates, devoted to the materials collected by Hænke, who was employed in the Spanish service, and collected in America and Manilla. The Indian plants described are few, and the descriptions and identifications far from satisfactory.—*Hooker f. et Thomson.*

HAE-NUN, called by Europeans Amoy, an island on the S. E. of China about 22 miles in circumference. The town of Amoy is situated on the S. W. part of the island, opposite the small island of Ku-lung-su, which affords protection to the town anchorage or inner harbour. On the Western side of the island is that of Woo-seu-shan, also that of Woo-an. Amoy was delivered over to the British, after the first Chinese war of 1841-2, and forms one of the consulates thereof, Shanghai and Hong-Kong being others.—*Horsburgh*

HAE-TAN. A large and irregularly shaped island on the East coast of China, near the mainland, between lat. 25° 24' and 25° 40' N. Its northern part, Hae-tan Peak, is in lat. 25° 36' N. and rises to an elevation of 1,420 feet, but its eastern and western shores are low and indented with deep sandy bays. *Horsburgh.*

HÆTERORNIS CRISTATELLA, the myna bird of Ceylon.

HÆTUMAT, A land mentioned in the Vendidad of the Zoroastrians, as the eleventh of which the Aryans took possession. It is the valley of the Helmund to the west of Arachosia. *Bunsen*, iii, 485.

HAFAR CANAL. See Khuzistan.

HAFES. GER. Oats.

HAFIZ. ARAB. HIND PERS., from the Arabic Hifz, he did remember, is a literary titlegiven to a mahomedan who can recite the whole of the Koran from memory. It is generally earned by lads, sometimes of very tender years, and in large towns there are always several of the Hafiz. Where so many are actual Hafiz, thousands have almost attained thereto, and remember vast portions of their religious book, and every mahomedan with any education can indicate almost any passage under discussion. The Koran is not perhaps a third the size of the Old and New Testaments, and the feat of committing it to memory is comparatively easy, which may explain why we so seldom hear of a Bible hafiz. Recently, however in 1860, a religious gentleman in Massachusetts having offered several prizes of Bibles to those, old or young, who should commit to memory and repeat the largest portion of the Bible, Mrs. Betsy Conant who had been residing in Melrose, a lady sixty eight years of age, committed to memory the entire Bible, Old and New Testament, reciting each day in the week. This was certified by her daughter, and also by the Superintendent of the Sabbath School. An Irish servant girl repeated nearly 10,000 verses; three other females repeated above that number, and a list was appended of some 20 more who were able to repeat from 3,000 to 9,000 verses. It is noticeable that more than two-thirds of the successful competitors were women, showing how strong the faculty of memory is among the sex as a general rule.

HAFIZ. A lyric poet, native of Shiraz, author of the Dewan-i-Hafiz. Many of his poems have been translated: one by Sir William Jones, and which perhaps surpasses the original, commences with

> Sweet maid, if thou would'st charm my sight,
> And bid these arms thy neck unfold;
> That rosy cheek, that lily hand,
> Would give thy lover more delight
> Than all Bokhara's vaunted gold:
> Than all the gems of Samarkand.

Hafiz is the "takhallus" or poetical appellation. His own name was Khaja Shams-ud-Din. Very little is known of his life; and it appears to have been in no degree remarkable for incident. He was born at Shiraz in the beginning of the 14th century, and died and was buried there in A. D. 1338. He is regarded as a holy man and oblations are offered at his shrine. The tomb is a gloomy and ugly building, but the transcript of one of the poems of that poet, which is cut on it in the most exquisite Persian character, renders it an object of great curiosity. It is said that the best and oldest copy of his works extant, is kept within the tomb. The white material with which the tomb is formed, has become from exposure to the weather, very much discoloured, and adds to the sombre effect produced by the cypress trees that surround it. Four well known distiches of Hafiz, inculcate the return of good for evil

> "Learn from yon orient shell to love thy foe,
> And store with pearls the hand that brings thee woe:
> Free, like yon rock, from base vindictive pride,
> Emblaze with gems the wrist that rends thy side:
> Mark where yon tree rewards the stony shower
> With fruit nectareous, or the balmy flower:
> All Nature calls aloud—Shall man do less
> Than heal the smiter, and the railer bless?"

—*As. Res.* Vol. IV. *Pottinger's Travels, Beloochistan and Sind*, p. 241-2. *Sir William Jones.*

HAFIZ. See Kosti, Kurdistan.

HAFREK. See Naksh-i-Rustoom.

HAFT AKLIM, Amin Ahmad, Razi, author of a history of the Persian poets, entitled Haft Aklim or the 'Seven Climates,' has illustrated his with much geographical matter. Amin graphical and biographical work. Ahmed was surnamed Razi being a native of Rai. Five hundred years ago, Amin Ahmad said the cuneiform character was unintelligible to the learned of all religions.—*Ouseley's Travels*, Vol. II, p. 402, III, p. 10. See Heft. Aklim.

HADROSPHERUM. Hadrospherum, mesospherum,and microspherum are applied by Pliny to varieties of Nard; perhaps a mistake of his, as Dioscorides observes that some people made the mistake of regarding malabathrum as the leaf of Indian Nard. *Yule Cathay*, I. p. cxlv.

HAFT. HINDU, the seven rivers of the Punjab. See Bharata Bharata Versha.

HAFT KHANEH, or Satgurh group of caves is one of the Behar caves in the neighbourhood of Rajagriha, the most ancient caves in India, about 200 B. C. The others are the milk maids' cave, the Brahman girls' cave, the Nagarjun cave and in the neighbourhood are the Karnachapara and Lomas Rishi caves.

HAFT LANG. A tribe of the Bakhtiari.

HAFT TAN. PERS. Lit. seven persons, who in the early days of mahomedanism,

were worshipped in Kurdistan by the Ali Ilahi sect as the incarnate deity. Baba Yadgar was one of the seven persons. His tomb is in the pass of Zardah, and is the holy place of the Ali Allahi sectarians, who believe in upwards of a thousand incarnations of the godhead. At the time of the Arab invasion of Persia, the Zardah pass was regarded as the abode of Elias. See Ali Allahi.

HAGGIS. Sultan Baber compares the Jack fruit to a haggis. "You would say," quoth he, (p. 325), that the tree was hung all round with haggises," *Yule, Cathay*, II, p. 362.

HAGAI. Hind Pashtu. Fraxinus xanthoxyloides, Crab-ash.

HAGIN MARA, Can. Nauclea ? *sp.*

HAGRIA VOSMAERII. *Gray*, a reptile of Bengal of the family Scincidæ.

HANSA, the vahan of the hindu god Brahma. See Vahan.

HAHULAI. Egypt. Aloes wood.

HAI or Ai, the royal city of the Canaanites.

HAIDAR, or Hyder Ali, an officer of the Mysore sovereigns whom he set aside. He was an active intelligent soldier. On the 17th Augt. 1764, he routed the rear of a British convoy. He carried war into the Carnatic and his advanced posts reached St. Thomas' Mount, eight miles from Madras. He left at his death, a compact kingdom and was succeeded by his son Tepu known as Tippoo sultan.

HAIGA. A clan of brahmans, in Canara.

HAIFA. A name of Caifa in Palestine.

HAIQ. The populations to whom the term Armenian is now applied, call themselves Haiq. Their chief occupancies are the Turkish province of Erzerum, and the Russian district of Erivan, and the patriarch resides in Erivan. They are now under the sway of Russia, Persia and Turkey, but they are found in all eastern countries; 37,676 are in European Russia alone, and one important settlement of them is in Venice, that of the Mechitarist monks, on the island of St. Lazarus. In figure, the Armenians have been likened to the Jew, the Turk and the Afghan. They evince great commercial aptitude, and are bankers and merchants. In Armenia, however, they cultivate the soil. Before their conversion they were fire worshippers. Many of them now are Nestorian christians, some are Romanists. The language of the present day has affinities with the Iron, and Persian, Arabic, Syrian and Turk. General tradition and the formation of language point alike to the mountains of Armenia as the birth place of the Arab and Cananitish races, and there is especial native evidence to the same effect as regards Edom, consequently the Phœnicians.

HAIL. Hind. of Jhilam district, manured land.

HAIL occasionally falls in India southwards, almost, to the equator. Occasionally the fall assumes the form of lumps of ice, so large and heavy as to break through the roofs of houses and kill, or injure, the larger quadrupeds such as sheep. In Ceylon, it has fallen at Kornegalle, at Badulla, Kaduganawa and Jaffna. On the 24th September 1857, during a thunder storm, hail fell near Matelle in Ceylon in such quantity that in places it formed drifts upwards of a foot in depth.

Violent hailstorms are frequent in the hot seasons of Central and Eastern India. The following are amongst the most marked of the meteorological phenomena which occurred in the first fortnight of March in one year. On the 3rd, a violent hailstorm occurred at Bolarum, which dashed right through the roofs of the houses, and stripped the trees of their leaves and branches —it was experienced at Secunderabad, but did not extend to Hyderabad itself. A hailstorm occurred at Cawnpoor on the 8th, and two violent hailstorms happened at the same time near Meerut. Many of the fragments being the size of ostrich eggs. A violent squall with hail occurred at Hurryhur on the 12th; two hundred and seventy birds, which had been killed by it, were picked up in a single garden, and the river was found covered with dead fish, which seemed to have been attracted to the surface and fell victims to the gratification of their curiosity. The following abstract of the proportion of hail-storms, due in India at the different months of the year, may be found of interest to many inquirers. It is taken from a hundred and twenty-seven storms, which we find on record during the last forty years:—

January	5	May	17	September	2
February	20	June	4	October	3
March	31	July	2	November.	4
April	34	August	0	December.	5

One year a heavy fall of hailstones took place near Ashteh, (the village where Bapoo Gokla fell,) which caused severe injuries to people working in the fields, and the death of a girl about ten years of age. Many of the hailstones were larger than a good sized wood apple, they fell in an oblique direction, and so accumulated at the foot of walls that it took two days in some places for them to melt away. One stone was larger than a man's head and took two days to dissolve, the wheat crops which were

then nearly ripe for taking down, were quite destroyed by it. In Hyderabad in the Dekhan, hail-storms usually occur in the very hot period of the year, in April or May, and the hail doubtless falls from a great height. In Berar and in the parts of the Mahratta country there is a caste of hail-conjurors, the Garpagori, who pretend to have the power of preventing hail falling on fields.

HAILEYBURY. A college in England where the civil servants of the East India Company were formerly educated.

HAI-LING-SHAN, or Hin-ling-san, is a high island, on the south coast of China, extending about 12 miles. Two small islands form it into a harbour. *Horsburgh.*

HAINAN ISLAND, bounding the Gulf of Tonquin to the Eastward, extends 165 miles in a N. E. and S. W. direction, and is about 75 miles in breadth. Viewed from the sea, it presents many high and uneven appearances, but inland, there are many level districts, cultivated with rice, sugar-cane, tobacco, and betel-nut trees. These level tracts are separated by lofty mountains and impenetrable forests, through which paths are opened. The island is subject to the Chinese, whose officers fill all the public offices. The fishing boats are built of a hard, heavy wood, and sail fast. Their fishing voyages, commencing in March, last for two months, and they navigate to 700 or 800 miles from home, collecting beche de mer, dry turtle and sharks' fins, amongst the numerous shoals and sand banks in the S. E. of the China Sea. *Horsburgh.* See Tonking.

HAINES, Capt., an officer of the Indian Navy.

HAIR. Eng. Dut.

Poil,	Fr	Ruma, Bula Ran-	
Haare, Huhaare,	Ger.	but, Tailhan,	Malay.
Bal,	Guz. Hind.	Kesa,	Sans.
Pelo,	It. Sp.	Mairu,	Tam.
Pelles,	Lat.	Ventrukulu,	Tel.

The hair of animals is a considerable article of traffic. Goats hair is largely exported from Bombay to England. The hair of the elephant's tail and the bristles of the wild boar are utilized in India. The value of the exports of hair from India amounts to about £2,000 annually.

Human hair.

Cheveux,	Fr.	Capelli umani,	It.
Haar,	Ger.	Capilli,	Lat.
Menschen Haar,	,,	Cabellos,	Span.
Bal,	Hind.		

The women of all the oriental races wear long hair, differently braided. The men of Beluchistan and Afghanistan shave the front but wear hair long on the back and sides of the head. Mahomedans of India as a rule shave their heads and hindoo men also shave, leaving only a scaup-lock on the crown. Brahman women, on the demise of their husbands have their heads shaved. The ancient Greeks, in laying out their dead, placed an obolus or Greek coin in the mouth, to pay Charon's fare across the rivers Styx and Acheron, and a cake made of flour and honey to appease Cerberus. Greek men cut off their hair, when they obtained the age of puberty and dedicated it to some deity. Theseus is said to have repaired to Delphi to perform this ceremony and to have consecrated his shorn locks to Apollo. After this, it was again allowed to grow long and only cut off as a sign of mourning. Thus, at the funeral of Patroclus (Iliad xxiii) the friends of Achilles cut off their hair and

"On the corse their scattered locks they throw."

In some parts of Greece, however, it was customary to wear the hair short and to allow it (*Cassandr.* 973) to grow long when in mourning

Neglected hair shall now luxurious grow,
And by its length their bitter passion show,—

In Luristan, at present, the women on the death of their men relatives, cut off their hair, and hang the locks around the tomb. The practice of the young women and young men of the Island of Delos, was something similar; they cut off a lock of hair before marriage and placed it near the tomb of the virgins from the hyperboreans.

The hair of hindoo women, and often also that of men, is frequently made a votive offering to their gods. Crowds of hindoo pilgrims are to be seen moving towards Triputty and other holy places but the men and women return with heads shaved. Mahomedans of India have black hair, which they occasionally dye red with henna or mehndi. The Somali of the East of Africa, change their hair into red by mixing it with lime. Amongst the Romans, blonde auburn tresses were most admired and to obtain these, men steeped their hair in a powerful alkali, as the Somali now do.—*De Bode*, II, 218-19.

HAIRI KAIRI. Japan. or the happy despatch—the ripping up of the belly by a Japanese. See Hari Kari.

HAIR POWDER.

Poudre a poudrer,	Fr.	Polvere di cipri,	It.
Puder,	Ger.	Polvos de peluca,	Sp.

—*McCulloch.*

HAIRY BREAD-FRUIT TREE. Artocarpus hirsuta.—*Lam.*

HAIRY LETSOMIA. Letsomia setosa.

HAI-TSAI. Chin. Gracillaria tenax.

HAI-YANG, is the Neptune of the Chinese. In Hi-ching-mian, is a temple of the sea god, at Ta-coo, in one hand he holds a magnet as emblematic of security, and a dolphin in the other, to show his sovereignty over the inhabitants of the sea; his head, beard, and hair, are evidently intended as a personification of water.—*Baron Macartney's Embassy*, Vol. I, p. xxxi.

HAIYU, Chepang, and Kusundu are three uncivilized Bhot tribes who dwell amid the dense forests of the central region of Nepal, to the westward of the great valley; they dwell in scanty numbers and nearly in a state of nature. They have no apparent affinity with the civilized races of that country, but live in huts made of the branches of trees, on wild fruits and the produce of the chase. The Chepang are slight, but not actually deformed though with large bellies. Mr. Hodgson says they are of Mongol descent. Their language is akin to that of the Lhopa. The Chepang, Haiyu, and Kusunda, seem to belong to the Rawat group of frontier populations. They are named by Mr. Hodgson as Durre, Denwer and Bramho, which Mr. Latham believes to be the same as Tharu, Dhangur, and possibly Brahman. They occupy the districts where the soil is moist, the air hot and the effluvia miasmatic.—*Latham.*

HAIZA. Ar. Hind. Cholera, Haiza-kapata.

Hind. Kalanchoe varians.

HAJ. Ar. A pilgrimage, by a mahomedan, to Mecca, Medina, Jerusalem, &c., hence the word Haji a pilgrim. The day of the ceremony is the 10th Zu ul Haj, on the Kurban or Bakr 'Eed festival. The setting forth of the pilgrims from the distant parts of the world, is generally attended with great show. The Persian shiah sect resort in pilgrimage to three places; the town of Meshid is reckoned the least in the scale of sanctity; and those who have been there to the tomb of Imam-Raza, obtain the name of Meshidi. The next, after them, are the Karbalai, who stand a degree higher in estimation, while those only who have visited the Kaaba at Mecca and the tomb of Mahomed at Medina, can lay claim to the title of Haji. A Persian will feel offended if you call him Meshidi, when he has a right to the superior degree of Kerbelai, or the still higher and more pompous appellation of Haji. Thus Meshedi, Kerbelai, and Haji, become titles of distinction.—*Baron C. A. De Bode's Travels in Luristan and Arabistan*, p. 25.

HAJ DARWAZAH, the Pilgrim gate of the city from which the pilgrims issue when proceeding on pilgrimage.

HAJAM. A barbar, who shaves, bleeds, cups, cleans the ears, pares the nails &c., usually included among the village establishment.—*Wilson.*

HAJAR Ar. A stone, any stone.

HAJAR-UL-AKAB. Eagle stones of the ancients, one of them was probably the bonduc nut of the Guilandina bonduc: the Greeks believed that the Eagle stone or Aetiles were only found in the nests of eagles and the Arabs describe them as resembling tamarind stones, but hollow, and found in Eagles' nests, and they believe that the eagles bring them from India.—*King.* See Ætiles.

HAJAR UL MUSA. Arab. Asphalte.

HAJAR-US-SIAH. A celebrated black stone which stands within the kaaba at Mecca, an object of the greatest veneration. This stone is set in silver, and fixed in the south-east corner of the temple. It is deemed by mahomedans one of the precious stones of paradise that fell to the earth with Adam, and, being preserved at the deluge, the angel Gabriel brought it to Abraham when he was building the Kaaba. It was, they say, at first white, but its surface has become black from coming in contact with those who are impure and sinful. These and many other fables are told of this relic of idolatrous worship, for such it undoubtedly may be considered.—*Malcolm's History of Persia*, Vol. II, p. 336.

HAFERO. Sindi. Mimosa tubucaulis. *Lam.*

HAJI. Ar. A mahomedan pilgrim, one who has visited a holy place of pilgrimage, Mecca, Medina, Karbela, Jerusalem, Sinai, Meshid, &c. They are little esteemed in the peninsula of India or in Hindustan, but are much revered in central Asia, and in the Mahomedan parts of the Eastern Archipelago. Amongst the tombs in India to which mahomedans resort is that of Haji Rahmat oollah and oblations are offered at his shrine.

HAJI AHMUQ and Haji Bay-wuqoof, are mahorum fakeers.

HAJIGAK. A pass in the Hindu Kush 12,400 feet above the sea.

HAJIN. According to General Briggs, one of the aboriginal tribes of India.

HAJONG. A section of the Bodo tribe who dwell in the plains of Cachar. See Bodo.

HAJRAH. The Arabic name of Hagar, the kept woman of Abraham, the mother of Ismael generally called the Bibi Hajirah.

HAJUR MUNI. Beng. Phyllanthus urinaria.

HAKIM. A mahomedan physician; a

learned man, pronounced hakeem. General Ferrier says that the influence which the Hakeem Sahib has generally exercised in the British embassy at Teheran, and the employment of such men as Jukes, Campbell, McNeill, Riach, Bell, Lord, and others, in various important duties in those countries, has naturally led the chiefs of Herat to suppose that physicians occupy a higher place in the councils of the British than is accorded to them, and they attribute much of the prosperity of the British nation to their hikmut.—*L. Ferrier Journal*, p. 149.

HAKIK. HIND. Canna indica.

HAKKU. HEB. Akka or Ptolemais, their inhabitants were called Gaik-Krui.

HAKODADI was a small fishing town; but the number of inhabitants increased 60 per cent., within twelve months, and business considerably more. See Japan.

HAKOOCH-KANTA, BENG. Dilivaria ilicifolia.

HAKOOI. BENG. Hakoon. HIND. Croton polyandrum.

HAKOORK. BENG. HIND. Psoralea corylifolia.

HAKRA. A name of the river Caggar.

HAKRI. ANGLO-HIND, from "akra" a cart.

HAKSHA. HIND. Portulaca quadrifida.

HAKUCH. BENG. Psoralea corylifolia. *Linn.*

HAKUN. HIND. Croton polyandrum. *Roxb.*

HAL. ARAB. HIND. Present, present state, condition, current, as Ibrahim Khan-i-hal, the present Ibrahim Khan; Hal-ki-waste, for the occasion. It occurs frequently in combination and is used in revenue accounts to represent the existing state of collections.—*Elliot Supp. Gloss.*

HAL. SINGH. Vateria indica, *Linn.*

HAL. The Tamil name of a Ceylon tree which grows to about 2 feet in diameter, and 12 feet high. It is used in native vessels, palanquins, &c. and produces a fruit which the natives eat.—*Edye on the Timber of Ceylon.*

HAL. HIND. A plough: it has been suggested that as the Arians were originally and essentially an agricultural and therefore a peasant race, they may have derived their name from their plough, and words of a similar sound relating to agriculture are found in several tongues. In Latin, it is aratrum, from aro, I plough. In Egyptian (in Nefruari) Ar is said to mean a plough. In Tamil it is Er; ఏర్ in Telugu, Araka, ಅರಕ in Sanscrit, along with Nagala or Nagara, it is also called Hala or Hara ಹರ and possibly the Arian race may have obtained their name from this implement of husbandry.

HALA, also Halla Kandi, a ruined city on the Indus, thirty miles above Hyderabad.

HALA, or Salt Range of mountains, stretch from the E. base of the Suliman mountains to the Jhelum river, N. E. to S. W., in lon. 32° 30' to 33° 30.' Their highest elevation is 2,500 feet. Vegetation scanty; the bold and bare precipices present a forbidding aspect. About 32° 50', 71° 40,' the Indus makes its way down a narrow rocky channel, 350 yards broad; and the mountains have an abrupt descent to the river. The Hala mountains on the west of the Lower Indus, separate Sind from Beluchistan. Shawl and Pisheen are between the Hala and Amran ranges, on the N. frontier of Beloochistan. Khojuck Pass, Amran Mts, 30° 45', 66° 30', 7,449 feet, Pisheen, from 5,000 to 6,000 feet. Shawl exceeds 5,000 feet Sir-i-ab, 30° 3' 66° 53', 5,793 feet. The wildest parts of the enclosing mountains, are haunts of wild sheep and goats; the more accessible tracts yield pasture for herds and flocks. Orchards numerous. The Dasht-i-be-dowlat (wretched plain) is destitute of water.

HALU BRAHUIK, or Bolan Range of mountains, length about 400 miles, from Tukatoo to Arabian Gulf, forming the E. wall of Beloochistan table land. Average height, 5,000 to 6,000 feet. Kurklekee mountains, is that part which borders on the Bolan Pass, from 29°, 20' to 30° 10' and 67° to 67° 30', where the crest of the Bolan Pass intersects them is 5,793 feet. The range is crossed by the Bolan Pass, through which the route lies from Shikarpore to Kandahar and Ghuznee, and though important in a military point of view, is inferior in commercial interest to the Goolairee farther North.

HALAF. AR. HIND. PERS. An oath.

HALA HALAI. HIND. Rhus succedanea,

HALAILI. A cotton stuff, with long stripes of white silk, a favourite material amongst the city Arabs. At Constantinople, where the best is made, the piece, which will cut into two shirts, costs about thirty shillings.

HALAL. HIND. Lawful food for mahomedans, as opposed to haram, unlaw-ful.

HALAL KHOR. HIND. PERS. A sweeper, a house scavenger. The words are Arabo-Persic, and mean a lawful eater, i. e. one to whom everything is lawful. Scavengers are usually mahomedans and are often called Mahtar, Bhangi, Toti.

HALAMAHERA. A group of islands in the S. E of the Archipelago.

HALAMBA-GASS. SINGH., Nauclea cadamba.

HALAPORPHYRUS. A genus of fishes

of the Family Gadidæ, which may be thus represented.

FAM. 3 —Gadidæ.

Gen 18 Gadus, 2 Gadiculus, 1 Mora, 1 Halargyreus, 1 Strinsia, 3 Merluccius, 4 Lotella, 1 Physiculus, 1 Uraleptus, 1 Pseudophycis, 6 Phycis, 2 Læmonema, 1 Halaporphyrus, 1 Lota, 3 Molva, 1 Hypsiptera, 2 Couchia, 5 Motella, 1 Raniceps, 1 Bregmaceros, 2 Brosmius.

HALAR, see Rajpoots.

HALAS, a branch of the Sakai-population of the Malay peninsula. They tattoo their face and breast, pierce their ears and nose and insert porcupine quills. See Kedah.

HALBEH. ARAB. Seeds of Trigonella fœnum-græcum.

HALAYA PAIKA, or old pack, a race in Mysore. Wilson says, Halepaik, KAR., is a term applied in Mysore to the drawers of tari who speak the Tuluva language.

HALBAMBAR. HIND. Hedera helix.

HALCYONIDÆ, a family of birds, containing 5 gen, 23 sp viz., 2 Dacelo: 8 Halcyon: 2 Todirhamphus: 2 Ceryle: 9 Alcedo: 2 Ceyx. See Birds, p. 469.

HALCYON SAUROPHAGA. A very fine kingfisher with white head, neck, and lower parts, green scapulars, and blue wings and tail, previously known by a single specimen from New Guinea in the British Museum. It is a very shy bird, frequenting the margin of the island, usually seen perched on some detached or solitary branch, as if sunning itself, and darting off into the dense bush upon being approached. *Macgillivray Voyage* Vol. I p. 245.

HALDAR. H. or Holdar, a name borne by some Bengal families of the trading castes. *Wilson.*

HALDI. HIND. Turmeric, Curcuma longa, ban haldi, Hind. Hedychium spicatum and Roscoea purpurea.

HALDIA MOORA and Singia moora are roots brought to Ajmere mixed with haldi; they are acrid and poisonous, and are carefully separated.—*Genl. Med Top. p.* 151.

HALDU. HIND. Also Kaddam, Nauclea cordifolia.

HALEE DASUL. CAN. Lagerstrœmia reginæ, *Roxb.*

HALELA. HIND. Terminalia chebula; T. citrina.

HALEO. HIND. Cornus macrophylla, dog wood.

HALENIA. See Chiretta.

HALES; Cornus macrophylla also called Harin; Hadu; Harrin, Nang Punjabi. *Wall.*

HARGAM BAAL. See Aerolites.

HAL-GASS. SINGH. Hal gaha, SINGH. Vateria indica.—*Linn.*

HALHAL-KA-BIJ. HIND. Cleome pentaphylla.

HALHED, Nathaniel Brassy Halhed, in 1776, published a code of Gentoo laws or ordinations of the pandits, from a Persian translation made from the original, written in the Sanscrit language.

HALIAETINÆ, a Sub-Family of birds containing 6 gen. 7 sp. viz., 1 Pandion; 2 Pontoaetus; 1 Blagrus; 4 Haliætus; 1 Haliastur; 1 Milvus.

Haliætus fulviventer. *Vieill.* The Ring-tailed Sea Eagle.

Falco Macei, TEMM.	Haliætus unicolor, GRAY.
Haliætus „ BLYTH.	„ lanceolatus, HODGS.
„ albipes, HODGS.	
Mach-arang, BENG.	Bala, BENG.
„ manga, „	Kokna of the KOL.
„ korol; koral, „	Ugus, „ „

The Ringtailed Sea Eagle is found throughout the N. of India, along the Ganges and Indus up to Kashmir. It lives on fish, turtle and snakes.

Haliætus leucogaster. *Gmel.* The Grey Backed. Sea Eagle.

Blagrus leucogaster, BLYTH.	Falco blagrus, DAUD.
Ichthyaetus cultrungus, „	„ dimidiatus, RAFFLES.
	„ maritimus, GMEL.

This Sea Eagle is found throughout India in Burmah, Maylayana and Australia, chiefly on the coast and near the mouths of rivers. It lives on sea snakes, crabs, rats, and on fish which it picks up on the beach.

Haliætus leucocephalus is a bird of N. America and N. E. Asia.—*Jerdon, Birds of India*, pp. 57 to 86.

H. albipes.—*Hodgs.* and lanceolatus.—*Hodgs.* H. macei *Blyth*, and H. unicolor *Gray* are Syns. of Haliætus fulviventer.—*Vieill.*

Haliætus leucogaster.—*Gmel.* Syn. of Blagrus leucogaster.—*Blyth.*

Haliætus plumbeus.—*Hodgsen.* Syn of Polioætus ichthyætus.—*Horsf.*

Haliætus pondicherianus. See Garuda, Serpent. See Vahan, Vishnu.

HALIASTUR INDUS is the Sunkar cheel or Siva's kite, and is known to Europeans as the brahmany kite. In Bengal, the kites and brahmany kites breed chiefly in January and February, and disappear during the rains. Europeans have given the name of the Brahmany Kite to the Haliastur Indus, probably from observing the superstitous feelings of the natives regarding it, who revere it as Garuda, the eagle vahan of Vishnu, and believe that when two armies are about to engage, its appearance prognosticates victory to the party over whom it hovers. Bartholomew says, that

the vehicle of Vishnu is called "paranda" in the language of Malabar, where it is held in great veneration, particularly by women; and if one of these birds snatch a fish from their hand, they consider it as a most fortunate omen. The friar must have seen this bird pouncing on the fish-baskets borne by the Makati women of the Makwa or fishing tribe, on the coast of Malabar. The Brahmany kite is very useful in the populous sea-port towns of India in removing carrion and refuse and is never killed. Its usefulness was, perhaps, originally the cause of its obtaining, like the cow, a protecting legend in the popular superstition of the hindus, as with the Ibis, and Ichneumon in Egypt, where filth and noxious animals abound. Major Moor mentions as an instance of this bird's boldness of which he was a witness, viz., its stooping, and taking a chop off a gridiron standing over the fire that cooked it. The religious hindoo feeds these birds on holidays, by flinging up little portions of flesh, to which they are attracted by the call Hari! Hari! meaning Vishnu, Vishnu.—*Tennent's Sketches of the Natural History of Ceylon*, p. 246. *Moor*, p. 147. *Cole. Myth. Hind.*, p. 374. *Tod's Travels. Taylor Mackenzie's M. S. S.*, p. 57. *Cole. Myth. Hind. Inscriptions*, pp. 369 to 383. *Krishna*, p. 545. See Arians, Birds, Garuda, Nandi, Ravana, Serpent, Siva, Surya, Vahan, Veda, Vishnu, Vrishala.

HALICACABUM of Pliny, supposed to have been Physalis somnifera, *var.* flexuosa.

HALICHONDRIA. See Halispongia.

HALICORE DUGONG.—*Cuv.*

Trichechus dugong, *Gmel*	Dugungus Indicus *Ham.*
Indian Dugong. ENG.	Le Dugong des Indes Fr.
Dugong: Lamantin. ENG.	Duyung. MALAY.

The Dugong is an inhabitant of the narrow seas of the Eastern Archipelago, and professor Owen denominated it Halicore indicus, in distinction from that of the northern coast of Australia, at a time when the former had not been ascertained to frequent (as a Dugong of some kind is now known to do) the Malabar coast and Gulf of Calpentyn in Ceylon; but it still remains to be proved that this is the true Malayan Dugong, however little reason there may seem to doubt it,—as there might equally have seemed little cause to suspect the distinctness of the other Halicore species.

The Halicore dugong inhabits the shallows of the Indian Ocean and about Ceylon, where the water is not more than two or three fathoms deep. It does not appear to frequent the land or the fresh water. Its flesh is delicate. The dugong was noticed as occurring in Ceylon by the early Arab sailors, by Megasthenes (*Fragm.* lix) and Ælian, and subsequently by the Portuguese. It is this creature which has given rise to the tales about mermaids which have till the present day occupied the world, and doubtless had their origin in the tales of the Arab-sailors. They are phytophagous or plant eaters.

Halicore Indicus, Owen. The Malay dugong, an inhabitant of the narrow seas of the Eastern Archipelago.

Halicore Tabernaculi, Ruppell. The dugong of the Red Sea, has a feeble voice, and feeds on algæ. It is about ten feet long. In February and March, bloody battles occur between the males. Its flesh, teeth and skins are utilized.

Halicore Australis, the Manate of Dampier, and white tailed manate of Pennant, is a native of the West Coast of Australia.

Halicore Indicus. F. Cuvier.

Trichechus dugong ERXLEBEN.	Halicore tabernaculum. RUPPELL.
Halicore cetacea ILLIGER.	Dugungus marinus, TIEDEMANN apud SCHINZ.
Halicore dugong, CUVIER apud RAFFLES.	
Dugong of BUFFON.	Paraipuan laut, MALAY.
Dugong MALAY.	

Under these synonyms, Dr. Theodore Cantor unites all the above, which he says inhabits the Red Sea, the seas of the Malay Peninsula, Singapore, Sumatra, the Philippine islands, Moluccas, Sunda islands, and New Holland.—*English Cyclopædia*, p. 913. *Mr. Blyth in Beng. As. Soc. Journ. Tennent's Ceylon, Dr. Theodore Cantor in Beng. As. Soc. Journal, No.* CLXXII of 11th December 1846.

HALIFAX, Lord, better known as Sir Charles Wood, Secretary of State for India, in the middle of the 19th century and during the time of the revolt and mutiny. He did not support Lord Canning in his administration.

HALIM BENG. DUK. HIND. Lepidum sativum. Garden cress.

HALI MARAM. CAN. Chrysophyllum roxburgii.—*G. Don.*

HALI-MOONG. BENG. Green gram, Phaseolus mungo.

HALIOTIDÆ, a family of recent and fossil shells, belonging to the class Gasteropoda, of the Mollusca, the genera of which may be thus shown—

Gen. Haliotis, Ear-shell, Sea-ears, *recent* 75 sp. *fossil* 4 sp.
Sub-Genus, Deridobranchus.
Gen. Stomatia, *rec.* 12 sp. *fossil* 18 sp.
„ Scissurella, *rec* 5 sp. *fossil* 4 sp.
„ Pleurotomaria, *fossil* 400 sp.
Sub-Genus, Scalites, *fossil* 8 sp.

Gen. Murchisonia, *fossil* 50 sp.
„ Trochotoma, *fossil* 10 sp.
„ Cirrus, *fossil* 2 sp.
„ Janthina, violet snail, *rec.* 6 sp.

One species the Haliotis or sea-ear mollusc or ear shell is largely used as food by the people on the coast of Manchuria. They are also dried and exported to China, and sell at 300 for a dollar.—*Adams.*

HALISPONGIA, DE BLAINE, a genus of sponges, the genus Halichondria of Fleming.

HALIUN. HIND. Asparagus racemosus.

HALJA. HIND. Curcuma longa.

HALL. A very soft, coarse, open-grained, light, Ceylon wood, adapted only for very inferior work, and where durability is not required.

HALLAR. See India, p. 335. Kattiyawar.

HALLIKAR. A tribe of the agricultural sudra in Mysore.—*Wilson.*

HAL MENDORA. SINGH. Cynometra.—*Linn.* A hard, fine, close-grained, heavy, Ceylon wood, used for bridges and in buildings.

HAL MILILA. SINGH. Berrya ammonilla. A rather soft, though fine, but not very close-grained, heavy, Ceylon wood.

HALU. HIND. Impatiens *sp.* also Salvia lanata.

HALUKOO, the Mogul conqueror of Persia, grandson of Chengis Khan, was the prince whose victorious arms, almost repaid to his new dominions, the devastations of his conquest.—*Porter's Trav.* Vol. I, p. 288.

HALUN. HIND. PANJ. Seeds of Asparagus, also Solanum gracilipes.

HALWA, a hill race, not Gond, pretty numerous in Bastar, Bandara and Raepore, who covet the distinction of wearing the sacred thread, which right those in Bastar purchase from the raja.

HALWA. HIND. A kind of sweetmeat, specially that made of honey and camel's milk, and brought from the Persian Gulf, via Bombay, in saucers. Halwai is a sweetmeat seller. Halwa-Rang means color of sweetmeat, pale drab, first dyed with naspal, pomegranate rind, then with catechu.

HALWAKKAL. A tribe of the agricultural sudra in Mysore.—*Wilson.*

HALWA KADDU. HIND. Cucurbita maxima.

HALWA PASHMAK. HIND. A sweetmeat made in threads; also Juniperus communis.

HALYS. A genus of reptiles of the family Crotalidæ, H. Himalayanus occurs in Gurhwal and H. Elliotti in the Neilgherries.

HAM. See Kush or Cush.

HAMA SYRIA. See Abul Feda.

HAMADAN. A town in Persia, the ancient Ecbatana. Among the antiquities of Hamadan, the tomb of Mordecai and Esther is pre-eminent. It is impossible to conceive a more charming situation, a country better suited to live happily in, than Hamadan and its neighbourhood. The country is undulating, the soil rich, the water good, the climate singularly clear, healthy, and bracing, with picturesque mountains at hand for retirement during the heats of summer. *Ferrier Journ. p.* 35. *J. B. Fraser p.* 221. *Porter's Travels Vol. II. p.* 91. See Khuzistan or Arabistan, Kizzel Ozan, Rawlinson.

HAMAL. AR. A porter or bearer, palankin bearers in Western India. *Yule Cathay* II. p. 366.

HAMAM. AR. HIND. PERS. A bath, Hamam lena to take a bath. Public baths, usual in Persia and Kabul, are unknown in India.

HAMAM DASTAH. HIND. A mortar, from the Persian Hawan.

HAMAMELIS CHINENSIS. One of the Hamamelidaceæ, or Witch hazels, a plant hitherto only known as a native of China though it grows on the Jyntia Hills; this, the Bowringia, and the little Nymphœa, are three out of many remarkable instances of an approach to the eastern Asiatic flora.—*Hooker, Him. Jour. Vol.* II. *p.* 318.

HAMA RAJA? A very small Penang tree, little used.

HAMANIEL. SINGH. Berrya ammonilla, *Roxb.*

HAMAYUN, emperor of India, son of the emperor Baber, succeeded Baber A. D. 1530. After a series of reverses, he retreated in 1540 to Amerkot, where his wife gave birth to his son, Akbar, who has been the most distinguished of the emperors of India. Hamayun continued to meet with misfortunes and successively sought refuge in Candahar and Persia, but with the aid of 14,000 soldiers from the Persian king, he recovered Candahar and Cabul, crossed the Indus in 1555, defeated the emperor Secunder Soor and reconquered Delhi which he entered in triumph. In 1556, he accidently fell over the terrace of his library and was killed, and his son Akbar succeeded, as emperor.

Akbar was then but twelve years of age, the same period of life at which his grandfather, Baber, maintained himself on the throne of Ferghana. In the vicinity of Delhi is the well preserved mookabrah or tomb of Hamayun; though old, all that seems to wear features of decay is the external coating of cement.—*French's Tour, p.* 14.

HAMBUKH. Hind. Myricaria germanica.

HAMD-ALLAH. Ar. An abbreviation of the ejaculation-ul-hamd-ul-illah, the praise be to God, as commonly used by mahomedans as the thank God of the English.

HAMDE PADARA of Ravi, Coriaria nepalensis.

HAMECOUS. Fr. Fish hooks.

HAMEIR. See Kulzum.

HAMILTON, Dr. Francis, formerly Buchanan, a Bengal medical officer who published papers in the Linnæan Society's Transactions, Author of a journey through Mysore. An account of Nepaul. Edin. 1819. Description of Hindoostan—Lond. 1820, 2 vols. 1822 4to. Account of the Fishes found in the River Ganges and its branches with a volume of Plates. Dr. Buchanan Hamilton was the first after Rheede to explore the botany of Malabar. In the extreme south of Malabar the rainfall at Quilon is 77 inches, and at Trivandrum 65 inches, probably from the narrowing of the land and the lower elevation of the mountains. The humidity, however, continues excessive. At Cape Comorin the amount of rain is only 30 inches. Hamilton tells us that it resembles Bengal in verdure, but has loftier trees and more palms, the shores are skirted with cocoanuts, and the villages surrounded with groves of betel-nut, palms and talipots. Vateria Indica, a noble Dipterocarpus tree is abundantly planted in many parts; cassia, pepper, and cardamoms flourish wild in the jungles, and form staple products for export. The mass of the Flora is Malayan, and identical with that of Ceylon, and many of the species are further common to the Khasia and the base of the Himalaya. Teak is found abundantly in the forests, but the sandalwood occurs only on the east and dry flanks of the chain. Oaks and coniferæ are wholly unknown in Malabar, but the common Bengal willow, Salix tetrasperma, grows on the hills. Gnetum and Cycas both occur, the former abundantly. The mountain-chain which forms the eastern boundary of Malabar, separating it from Mysore and the Carnatic, has, except on the eastern slopes of the most lofty parts, a very humid climate, and is therefore most appropriately noticed here.—*H. f. et Th. Dr. Buist's Cat.*

HAMILTON, Captain, visited Cambay in A. D. 1681 and gave an account of its quartzose minerals.

HAMILTON, Sir Robert N., a member of the Bengal Civil Service, who served from 1819 till about the year 1860.

HAMILTON, Walter. Author of East India Gazetteer 1815.—*Dr. Buist.*

HAMILTON TEAK. Tectona Hamiltonia.

HAMILTONIA SUAVEOLENS. Roxb.

Muskei, Kantalu, fi-sanni of Chenab,	Niggi, tulenni, phul. golunla of Ravi
Pudari of Sutlej.	Kanera, pudari of Beas

A common shrub in the Punjab Himalaya, up to near the Indus at from 2,500 to 6,000 feet. Its wood is very small, but in Chumba it is said to be used for making gunpowder charcoal.—*Dr J. L. Stewart, M.D.*

HAMIR. The Balla race were of sufficient consequence in the thirteenth century to make incursions on Mewar, and the first exploit of the celebrated rana Hamir was his killing the Balla chieftain of Choteela.

HAMIRPUR. A district west of Banda.

HAMITES. See Arians.

HAMITIC CUSHITES. See Kush or Cush.

HAMKAT-JHOOLI. Beng. Phyllanthus reticulatus.

HAMMA-I-JOUR. Literally "joining of hands," a Parsee ceremony practised in Pappati, similar to the English greeting of a "Happy New Year."—*Parsees*, p. 61.

HAMMAZ. Hind. Sidi cordifolia.

HAMMEN. Dut. Hams.

HAMMER. The native sledge hammer of Bombay, employed in breaking trap, granite, limestone, and other rocks is a most efficient tool. Its handle is generally of male bamboo about two feet long: its head is something like that of an ill-shapen axe—thick all along. It weighs about eighteen pounds. In the face or striking portion is a bluntish wedge of steel, fastened in with a piece of leather. With this the native quarryman will break up the most obdurate trap into slabs or blocks of almost any size or form, from a pavement flag three inches thick and two feet square, to a block two feet cube. He looks narrowly at the grain of the stone, and then with a series of blows, of no great force apparently, literally cleaves the stone, which falls in pieces seemingly without effort. Similar varieties of this, of exactly the same pattern, are used as hand-hammers —they are called Sootki. The blasting, or rather the boring tool, or jumper, is a plain round rod of iron, about three feet long, pointed at both ends with steel. No hammer is ever employed in boring: the jumper is raised and struck in with both hands, and a man will penetrate some inch or two in an hour. The native punch is a short dumpy lancet pointed tool—it is sharpened by being turned point up, and struck with a piece of flint. When used in stone-dressing, it is held in the left hand, and struck with a hollow-faced iron hammer, the cavity being

about an inch in depth and as much in diameter.—*Dr. Buist, Bombay Times.*

HAMMER HEADED SHARK, Squalus zygæna.

HAMOON. See Ab-i-istadah; Hamun.

HAMP. Dan. Hampa. Sw. Hemp.

HAMP. See India, p. 322.

HAMPALANDA-GASS. Singh. Terminalia parviflora.—*Thw.*

HAM-PARANDELLA GASS, Singh. Rottlera tinctoria,—*Roxb. Cor. Pl.*

HAMPALEDE, a rather soft, fine, though open grained, heavy wood, of Ceylon.

HAMPI. See Jet.

HAMRIN HILLS. See Tigris.

HAMPSAGUR, 15° 9', 76° 4', on the right bank of the Tumbudra. The level of the Tumbudra is there 1647 feet above the sea.—*Collingwood.*

HAMS.

Hammen,	Dut.	Presuntas,	Port.
Jambons,	Fr.	Okoroku,	Rus.
Schinken,	Ger	Jamones,	Sp.
Prosciutti,	It.		

—*McCulloch's Commercial Dictionary, p.* 613.

HAMSA PADI. Tel. (*a*) Heliotropium coromandelianum. *Retz.* (*b*) Coldenia procumbens.—*Linn.*

HAMU. Hind. Fraxinus floribunda, *Wall.*

HAMUN a name for the lake of Seistan. Hamun is an old Persian word signifying expanse.—*Ed. Ferrier Journ. p.* 429.

HAMYAR was the first of the descendants of Kahtan who reigned over the whole of Yemen. The devotions of the Hamyarites, were addressed to a multitude of deities, of which the principal were the sun, the moon and the planets.—*Wright's Christianity in Arabia.* See Abdus Shams; Himyar Joktan, Kulzum, Shammar.

HAMZA. Uncle of Mahomed, slain by Wahsha, a negro slave. See Masailma El Aswad.

HAN the 5th dynasty of China began B. C. 206, and lasted to A. D. 264, a total of 469 years. Most of the Han princes were munificent patrons of literature. During the reign of Ming-ti, the 15th of the Han dynasty, considerable intercourse was carried on between the princes of India and China. This had obtained from the earliest period, but particularly during the dynasties of Sum, Leam and Tam, from the fourth to the seventh centuries, when the princes from Bengal, Malabar and the Punjab sent embassies to the Chinese monarchs.

The Han dynasty of China reformed the Chinese calendar. The Chinese, like all the natives of the north-east of Asia, reckon their time by cycles of 60 years, and give a different name to each year of the cycle. The Chinese cycle of sixty years is called Hwa-kea-tsze. The year commences from the conjunction of the sun and moon, or from the nearest new moon, to the fifteenth degree of Aquarius. It has twelve lunar months, some of twenty-nine, some of thirty days. To adjust the lunations with the course of the sun, they insert, when necessary, an intercalary month. Day and night are divided into twelve periods, each of two hours. The Chinese division of the day is therefore, as simple as the English and not much unlike it. The Chinese begin the day an hour before midnight, and divide the twenty-four hours into twelve parts of two hours each. Instead of numbering their hours they give a different name to each period of two hours; the names and corresponding times, according to the English mode, are as follow:

Tsze	11 to 1	Morning.	Woo,	11 to 1	Afternoon.
Chow	1 to 3	„	We	1 to 3	„
Yin	3 to 5	„	Shin	3 to 5	„
Maou	5 to 7	„	Yow	5 to 7	„
Shin	7 to 9	„	Seo	7 to 9	„
Sze	9 to 11	„	Hae	9 to 11	„

The word Keaou is added when the hour of each period is intended, and Ching for the last. Thus, Keaou tsze is 11 at night, and Ching tsze 12 at night; Keaou chow 1 in the morning, Ching chow, &c. &c. The word K'hih, "quarter," is used after the hour with the numerals yih 1, urh 2, or sau 3, to subdivide the hours into quarters, which is the smallest division commonly employed: example, ching maou yih k'hih, a quarter past 6; keaou woo urh k'hih, half past 11. This division still maintains itself in legal and official language, though the practical value of the European clocks, and watches, now largely used in China, is gradually substituting for it the occidental division of twice twelve hours.—*T. T. Meadows' Chinese and their Rebellions, p.* 326-330. *Tod's Rajasthan, Vol. I. p.* 218. *Gutzlaff's Chinese History, Vol. I, p.* 73). See Cycle; China.

HANAFIYAH, a large vessel of copper, sometimes tinned, with a cock in the lower part and generally, a ewer, or a basin, to receive the water.—*Burton's Pilgrimage to Meccah*, Vol. II, p. 43.

HANAN. See Abraham.

HANASA. Hind. A goose, a swan in hindu mythology, the vahan of Brama. See Brama, Hansa, Henza; Hiranya-Gharba, Nando, Vrishala, Vahan.

HANCHOOTI. Beng. Myriogyne lanuginosa.

HANCHU. Panjabi. Euonymus fimbriata.—*Wall.*

HAND. Hind. Cichorium intybus.

HAND. A slave to whom you make a present, a servant to whom you do a kindness, will rush to your hand and press it to his lips. To seize a man's hand is to crave his protection to profess yourself his servant, hence the act is one of obedience and devotion almost of servility. The person advancing to seize the hand always does so in a stooping posture in an attitude of humility. The giving the hand amongst all nations has been considered as a pledge for the performance or ratification of some act of importance, and it was the custom amongst the Scythic or Tartar nations, of transmitting its impress as a substitute. The hand being immersed in a compost of sandalwood, is applied to the paper, and the palm and five fingers (panja) is the signature. In Carne's letters from the East, is given an anecdote of Mahomed, who, unable to sign his name to a convention, dipped his hand in ink, and made an impression therewith. It is evident, however, that Mahomed only followed an ancient solemnity, or custom, for all mahommedans occasionally stamped or sealed their epistolatory communications with the print of their hand. It was considered a solemn form of signature the panjah, or palm and five digit form hand of the mahomedans, is used at the mahuram in erect panjah flags or alam, in the name of Hussain and other martyrs.—*Tod's Rajasthan*, Vol. I, p. 362.

HANDKERCHIEF pieces form a considerable article of manufacture and traffic in Southern India. At the Madras Exhibition of 1857, handkerchiefs, colored, Madras; red, from Sydapet, and Ventapollem, were much admired for the harmony and richness of the colors, and the superiority of texture. Putcha Ramalinga Chetty sent from Nellore *pocket* handkerchiefs, jean, cambric, muslins, watered, (Rajahmundas) and what is called unbleached drill, but it was good jean. These manufactures deserved unqualified approbation, especially the watered cambric, which was exceedingly well done. The cotton fabrics of Nellore were most interesting, excellent in quality and of great variety from the coarsest material to that which is very superior, and received from the Jury a marked notice.

The silk handkerchiefs manufactured chiefly in Bengal are known in the market as "Bandanah," "Korah," and "Chapah." They are generally figured and of different colours. They are exported chiefly to the Burmese territories and sold at from 1½ to 5 Rupees each. Those of Madras manufacture of cotton are ordinary, always red in colour and chiefly used by the inhabitants. The coloured cotton handkerchiefs manufactured at Ventapollem on the coast, which are well known in foreign markets, were formerly highly prized for their superior qualities and colours, but they have been driven from the markets by the Madras and Pulicat manufactures, which the community prefer for their superior qualities and colours. Madras handkerchiefs of superior kinds are sold at 1¾ rupee each, and inferior sorts at 4 annas to 12 annas; the colour of the last description is very perishable. The ordinary colour of the Madras handkerchiefs is red. Almost all the natives, mahomedan and hindoo, prefer them to those of other countries. The principal site of the manufacture of Silk handkerchiefs for the head, is Seringapatam in Mysore; they are of superior quality and of red and pink colours, they are in squares of 6 cubits, and are, in consequence of their gold lace borders, sold at 35 to 100 Rs. each. *Mad. Ex. J. Rep.*

HANDRO. Hind.? A tree of Chota Nagpore, with hard red timber.—*Cal. Cat. Ex.* 1862.

HANDSCHUH. Ger. a glove.

HANE. Of Kangra, Pavia indica, *Royle.*

HANE. Cyngh. Crotalaria juncea.

HANEE MARA. Can. Pterocarpus dalbergioides, *Roxb.*

HANF. Ger. Cannabis sativa. Hemp.

HANGLU. Cash. The stag of Kashmir.

HANGO. See Kunawer.

HANGRANG PASS, 31° 47' 7"; 78° 30' 6, in Kanawar, W. of the Sutlej, leads over to Spiti. The top of the pass, is 14,530 ft. above the sea, according to the G. T. S.—14,710 ft. Herb & Hodg. 14,837 ft. Gerard.

HANG TUAH. This celebrated champion of Java, called "the Laksamana," must not be confounded with the Laksamana of the Portuguese writers, as the latter lived several generations after the first who accompanied king Mansur to Majapahit.

HANGU. See Kohat.

HANIA. Ar. An Arabic salutation, meaning may it be good to you.

HANIF. An expression employed in the Koran by Mahomed, to signify that he followed the pure and catholic faith of Abraham. One mahomedan theological sect is called Hanifi. The Hanifi theology, chiefly holds by the religion of Abraham. See Masailma and El Aswad.

HANJA, Pushtu. Acacia farnesiana.—*Willd.*

HANJIKA. Tel., also Chiri teku. Tel. a species of Clerodendron: a medicinal root.

HAN JIN, AND TAN JIN, men of Han or of Tang, from the dynasties of those

names. *Gutzlaff's Chinese History*, Vol. I, p. 20.

HANKA, the Elephant drivers spear-gaod.

HANKHOW. See Yang-tze-kiang.

HANLE TSO. A fresh water lake in Ladak, in Lat. 32° 48', 78° 54', at the monastery of Hanle, 14,600 feet above the sea. This is the largest sheet of fresh water in Ladak. *Cunningham's Ladak*, p. 142. *Schlagentweit.* See India, p. 337. Maryul or Low land.

HAN-LIN. The famous Imperial academy of Han-Lin is composed of literary graduates; it furnishes orators for the public festivals, and literary examiners for the province, and is supposed to promote the cause of learning and science generally. But the people of Europe, where the press is teeming with new publications, may be astonished to learn that amongst 400 millions of men, there is not in China one original writer, nor has there been any for many centuries. The essays of successful literary candidates are almost the only new publications which see the light, and these contain nothing but what many millions before them have written under similar circumstances.—*Huc Chinese Empire*, Vol. I. pp. 19, 95.)

HANNA. Ar. Hind. Lawsonia inermis.

HANOCH. Hind. of Hazara, Fraxinus xanthoxyloides, the Crab-ash.

HANOMOREY, betel-box bearers, of Oovah in Ceylon, a race or caste held to be more degraded than the Rodiya.—*Tennant.*

HANSA.

Henza,	Burm.	χην,	Greek.
Hanza,	Pali.	Ganso,	Port.
Gangsa,	Malay.	Gans,	Ger.
Anser,	Lat	Gander, Goose,	Eng
Ansar,	Sp.		

When the followers of the first crusade issued from England, France and Flanders, they adored a goat and a goose which they believed to be filled with the Holy Ghost.

Salu, translated quails in Numbers xi and 31, are supposed to be red geese. See Paramahansa. Hanza; Goose; Swan.

HANSA VRIKSHA. Can. Artocarpus integrifolia.

HANSI retains its name as the chief town of a zillah. It was the capital of George Thomas, who raised himself from being a sailor before the mast to be ruler of a small Indian principality. *Yule Cathay*, II, p. 406

HANSRAJ. Species of Adiantum, A. caudatum, A. capillus veneris, A. venustum, the pari-soosa or fairy hair ferns, the leaves of which are deemed by the natives of India heating and febrifuge. *Gen. Med. Top.* p 127.

HÂNTU. Malay. A spirit, a ghost.

HANUDAN of Kangra, Chenab, Ravi, Pavia indica.—*Royle, Ill. Him. Bot.*

HANUMAN a hindu deity, extensively worshipped; his images are set up in temples, sometimes alone, and sometimes in the society of the former companions of his glory, Rama and Sita. He is supplicated by the hindus on their birth-days to obtain longevity, which he is supposed to have the power to bestow. As the god of enterprise, offerings are made at his shrine by night. Hanuman is called Maruti, from Pavana being chief of the Marut, or genii of the winds. He is also called Muhabar. As the monkey general, who assisted Rama in his war with Ravana, he is regarded and worshipped as a demi-god. Both Hanumanjee and Boosundi are said to have their lives protracted through the four yuga of hindoo chronology. Boosund was a crow, who had more blood than he could drink in the wars of Sambhu and Nesambhu. He just quenched his thirst with blood in the wars of Rama. But in the wars of the Mahabharat he broke his beak by striking it against the hard dry earth which had soaked in the little blood shed on the occasion.

In 1868, Bala, potail of Assaye, who was five years old when Sir Arthur Wellesley fought the battle, was the pujari of the temple, in which the Editor put up. He walked in and poured water on the lingam (Abishegan) and on Hanuman and on the bull (Basava) then put rice on these, then walked around five times, then put rice on the tulsi. *Tr. Hind*, Vol. II, p. 207. *Col. Myth. Hind*, p. 59. See Avatar.

HANUMAN-GHUR. See Khaki.

HANUMANTA BIRA. Tel. also Beri. Tel. Leonotis nepetæfolia.—*R. Brown.*

HANUZ. Panjab. Fraxinus xanthoxyloides.

HANZA, sacred goose. The figure on Buddhist monuments is the Casarca rutila or Brahminy goose. The goose is emblazoned on the national standard of Burmah.

HANZA. Hind. Acacia jacquemonti.

HANZAL. Hind. Acer cultratum, also root of Cucumis colocynthis or Citrullus colocynthus.

HAOURAN. In May, the whole of this plain is covered with swarms of Bedouin wanderers from the desert, who come for water and pasturage during the summer months, and to obtain a provision of corn for the winter: they remain till after September. If they are at peace with the pasha, they encamp generally amongst the villages near the springs or wells; if at war with him, confine themselves to the district to the south of Boazra, towards Om-e-jamal

and Jadheins, extending as far as Zerka. "The Arabs of the jabal Haouran (called the Ahl-ul-jabal), and those of the Ledja, seldom encamp beyond their usual limits; they are kept in more strict dependence on the pasha than the other tribes. The Ahl-ul-jabl are the shepherds of the people of the plains, who entrust them with their flocks during the winter to pasture amongst the rocks and mountains. In spring the Arabs restore the flocks to their proprietors receiving for their trouble one-fourth of the lambs and kids, and a like proportion of the butter, made from the milk during the spring months. Those which are to be sold are taken to Damascus." The soil of the Houran consists of a fine black earth, of great depth, but apparently, at the present day, very little cultivated. —*Burckhardt. Robinson's Travels*, Vol. II, pp. 128 to 161.

HAOU? TSING! TSING! The Chinese salutations on meeting, meaning literally, are you well? hail! hail!

HAPIUM. Bali. Opium.

HAPLOCHITONIDÆ family has 2 Haplochiton, 1 Prototroctes.

HAPLODACTYLUS, a genus of fishes of the family Sparidæ.

HAPSUM, See Tin.

HAPTA HINDU, of the Vendidad is the modern Punjab, the Hapta Siu or Hapta Hin or the seven rivers, called in the Vedas, the Sapta sindhava. These consist of the Sindhu or Indus, with its eastern confluents, viz.

Vitasta or Hydaspes.	Vipas or Hyphasis.
Asikni or Ascesenes.	Satadru or Hesydrus.
Parushni or Hydraotes.	Kubha or Kophen.

In the journeying of the Aryan race, their fourteenth settlement was in Haptu Hindu (Punjab vi. verse 19.) the Land of the seven hindus, that is, the country between the Indus and Sutlej. In the Vedas the country of the Five Rivers is also called the Land of the Seven rivers. The traditional Greek names also are seven. The Indus and the Sutlej are each formed by the junction of two arms, which, in their earlier course were independent. According to this view it stands thus

1. Kophen (Kubhà).	I. Indus.
2. Indus, Upper	
3. Hydaspes (Bidaspes)	II. Hydaspes.
4. Akesines (Asikni)	III. Akesines.
5. Hyarotis (Hydraotis, Iravati-Parusni,	IV. Hydraotes.
6. Hyphasis (Vipasa)	V. Hyphasis.
7. Saranges (Upper Satadru, Sutlej, Ghara)	

Ritter supposes that the country extended as far as the Sarasvati, but such a supposition is at variance with history. It is now ascertained from the Vedas that the Arians passed the Sutlej, at a very late period, and settled in what is now India. It was not till their fourteenth settlement after the migration from the primitive country in the north, that they passed the Hindu-Kush and the Indus. The previous resting places form an unbroken chain of the primitive abodes of the Arians (the Free or the Land owners). The last link in those earlier settlements is the land of the Afghans, on the western slope of the Hindu-Kush. Lower down to the westward there is but one settlement necessary to secure their previous possessions, namely, the two districts of Ghilan and Masandaran, with the passes of the Caspian. This settlement more to the north-west (Ghilan and Masandaran) forms therefore also a connected group. Putting these two groups together, we shall find that there is no one single fertile district in the whole of Eastern Central Asia of which our Arian ancestors did not possess themselves, except Southern Media and all Farsistan or Persis. Now as history exhibits the Arian race spread throughout the whole of Media, but as dominant only in Persia, it follows that Ghilan and Masandaran formed the nucleus of these ancient possessions which afterwards became so important and celebrated. There cannot therefore be a more unfortunate theory than the one which makes Persia the original seat of Zoroaster and his doctrine. History as well as personal observations at the present time, supply unequivocal evidence of the Iranian having been the popular language in all these districts. The names in the Vendidad moreover, when compared with Sanskrit, turn out to be regular ancient formations.—*Bunsen iii.* 465, 487.

HAPURMALEE. Beng. Vallaris dichotomus.

HAR, or harchara. Beng. Cissus quadrangularis.

HAR. Hind. A necklace.

HAR. The Rajpoot god of war is Kumara. In the hindu mythology he is represented with seven heads: the Saxon god of war has six. The six headed Mars of the Cimbri Chersonese, to whom was raised the Irmanseul on the Weser, was worshipped by the Sacasenæ, the Catti, the Siebi or Suevi, the Jetæ or Gete, and the Cimbri, evincing in name as in religious rites, a common origin with the martial warriors of Hindustan. Har of India, is the Thor of Scandinavia. The religion of the martial Rajpoot, and the rites of Har,

the god of battle, are little analogous to those of the meek hindu, the follower of the pastoral divinity, the worshipper of kine, and feeder on fruits, herbs, and water. The Rajpoot delights in blood: his offerings to the god of battle are sanguinary, blood and wine. The cup (cupra) of libation is the human skull. He loves them because they are emblematic of the deity he worships; and he is taught to believe that Har loves them, who in war is represented with the skull to drink the foeman's blood, and in peace is the patron of wine and women. With Parbutti on his knee, his eyes rolling from the juice of the p'fool and opium, such is this Bacchanalian divinity of war: this is not hinduism, acquired on the burning plains of India, but is a perfect analogue of the manners of the Scandinavian heroes? The Rajpoot slays buffaloes, hunts and eats the boar and deer, and shoots ducks and wild fowl (*cookru*); he worships his horse, his sword, and the sun, and attends more to the martial song of the bard than to the litany of the brahmin. In the martial mythology and warlike poetry of the Scandinavians a wide field exists for assimilation, and a comparison of the poetical remains of the Asi of the east and west would alone suffice to suggest a common origin. The cupra of Har, a human skull, the Calvarium, in the dialects pronounced cupar, is the cup. in Saxon. The cup of the Scandinavian worshippers of Thor, the god of battle, was a human skull, that of the foe, in which they showed their thirst of blood; and was similar to that of the chief of the hindoo triad, Har, the god of battle, who leads his heroes in the "red field of slaughter" with the cupra, in his hand, with which he gorges on the blood of the slain. The Gosain are the peculiar priests of Har or Bal, they seem all to indulge in intoxicating drugs, herbs and drinks.—*Tod's Rajasthan, Vol. I, p.* 67. See Bal; Gosain.

HAR, Terminalia chebula, and other three species, furnish all the discarded myrobalans of old pharmacopœias. The whole are much used in dyeing. The myrobalan from Delhi and Harowtee, Hindostan and the Dekhan, are of four kinds namely; *Gural harra.* Astringent and purgative: used in mesalihs: given in medicine to children: four seers for one rupee. *Juwal harra.* Used in the same way: eight seers for one rupee. *Chaipel harra*, used only in dyeing, ten seers for one rupee. According to the size of the myrobalan, its value augments, so that a very large one may be worth one hundred rupees or more, the natives believing that the very large ones have the virtue of causing purging by being merely retained in the hands, and is esteemed to possess wonderful general deobstruent and purgative qualities, &c. &c. but is in reality worthless. —*Genl. Med Top.*, p. 136, 153.

HAR. Hind. A plough, enters with the composition of many compound words.

HARA. A name of Siva or Mahadeo. See Basanth, Inscriptions, p. 390. Iswara.

HARA. A Mountain range.

HARA. A branch of the Chouhon Rajpoots. There are a few of this distinguished tribe in Ruttunpoor, Bansee of Goruckpoor, but they are very rarely met with elsewhere in the North Western Provinces.—*Elliot.*

HARADUL. Guz. Curcuma longa.

HARAKAT. Ar. Trouble; inconvenience. Under British rule in India, harakat na hui, barakat hui, trouble there has been none, blessing hath there been. *Burton's Pilgrimage to Meccah*, Vol. I, p. 11.

HARA KIRI, is from Hara, *Japanese*, the belly and Kiri, root form of Kiru, to cut, self immolation by disembowelling, a mode of self execution adopted in Japan. In 1869, when Taki Zenza buro was permitted by the Mikado so to die, because he had ordered the Europeans to be fired upon at Kobe, he wore a dress of ceremony, and a Zimbaori coat. He advanced to the high altar and prostrated himself twice, with his pupil on his left to act as the Kaishaku or beheading friend. He was presented with the Waki-zashi-short sword or dirk, 9½ inches long, which the victim raised to his head and placed in front of himself. He then confessed aloud "I and I lone, unwarrantably gave the order to fire on the foreigners at Kobe and again as they tried to escape. For this crime I disembowel myself and I beg you who are present to do me the honor of witnessing the act." Bowing again, he let his clothes fall to the waist, then took the dagger and stabbing himself below the waist on the left side he drew it slowly across to the right side and turning the dirk in the wound, he gave it a slight upward turn. He then drew out the dirk, leant forward and stretched out his neck. At that moment the Kaishaku sprang to his feet, and with one blow severed the head from the body, made a low bow, wiped his sword and retired. The stained dagger was then solemnly borne away as proof of the execution. The Samurai or gentlemen of the military class, are trained from infancy to regard this self execution as an honourable form of expiation. In some parts of Japan as the victim criminal stretches out his hand to take the wooden dagger, the Kaishaku strikes off his head. Or a daimio disembowels himself and cuts his own throat

Mr. Oliphant says the knife used, under the old system is about 10 inches long, sharp as a razor, and made of steel of the highest temper. It is only used to make a slight incision, significant of the intention of the victim to put an end to himself. His intimate friend stands over him with a drawn sword and when he commences to make the aforesaid incision, the sword descends and the head rolls at the feet of his disconsolate family. *Mr. Mitford in Cornh. Mag. Nov.* 1869. *Oliphant II* p. 147. *Manners and Customs of the Japanese* p. 193.

HARALU. HIND. See Hurala.

HARAM. In Arabia, Egypt and Turkey, the haram means the female part of the family of a Turk, and the word is used to avoid the indecorum, in the eyes of a mahomedan, of mentioning his wives or daughters. It is likewise the name for that part of the house where the females dwell. Mahomedans are so scrupulous to avoid speaking personally of their female relations, that when obliged to refer to them, they say "my house is sick," or "my house sends compliments to your house." The haram in India means a purchased woman associating with her maker. In Arabia, the haram woman would be a slave woman taken in war.—*Rich's Residence in Koordistan*, Vol I, p. 2.

HARAM. HIND., according to the Mahomedan law, unlawful food such as pork, wine, mushrooms, &c., hence Harami, and Haramzadah a vicious, wicked, man or beast.

HARA-MUK or Gunga bul, TIB. means literally place of the Ganges, and is a sacred lake on the mountain of Haramuk in Kashmir. It lies under the wildest and most lofty peaks of the mountain; is 1½ mile long and 200 or 300 yards wide, and is about 12,000 feet above the level of the sea.—*Vigne.*

HARAN, the present Karra, a day's journey south of Edessa, to which Abraham went from Ur of the Chaldees.—*Bunsen*, III, 464.

HARAN. See Mesopotamia,

HARAND, a district in Eastern Beluchistan bordering on the Indus. It is one of the three eastern sections of Beluchistan. See Kelat.

HARANG of Pangi, Juniperus squamosa, the creeping Juniper.

HARAQUAITA is the Arachosia of the classics, the country of the Rachos, with whom the immigrant Arians came in conflict, and who have been turned to the fearful Rakshasa of popular hindu belief. According to General Ferrier, Arachosia can be distinctly shown, by the Greek measurements, to have been at the ruins of Shahr-Zohak or Olan Robat, between Kilat-i-Ghilji and Mokoor. According to Ch. Bunsen, Haraquati, denominated the fortunate, is south of Kabul, and is the Haraiwati of the cuneiform inscriptions, the Arachosia of the classics. It was the ninth settlement made by the Arians (verse 13) in a country which the Arians conquered and it was here that they commenced to inter their dead, which the Zind-avesta strictly prohibits as being the greatest desecration of the sacred earth, another apostacy therefore from the true faith. Arachotia, mentioned on the coins of the Indo-Greek rulers, was Candahar.—*Bunsen*, III, pp. 464 to 485. *Ed. Ferrier's Journ.*, p. 323. See Arians, Greeks of Asia, Cabul, pp. 434 to 438. Sudra.

HARAOATI or Haranti, the Hara, a branch of the Chohan dynasty, are descended from Anuraja, a son of Visaldeva, or more properly of Manakya rai (Tod, Vol. II, p. 454) who in A. D. 695, founded Sambhur hence his title of Sambri rao. In A. D. 1024 Anuraja took possession of Asi or Hansi in Hariana. The Bundi branch of this family reckon from rao Ratan, who built Ratanpoor, the name of the chief town in 1578 to 1821 in which year was Ram Sinh. The Kotah branch reckon from Madhu Sinh, son of rao Ratan in A. D. 1579 to Kiswar Sinh, Madhu Sinh regent in A. D. 1819.—*Thomas' Prinsep*, p. 249.

HARB, an Arab tribe who warred with Mahomed. Mahomed is fabled to have resuscitated those killed in the war by the application of Balsam of Mecca.

HARB-SIR, a hamlet at Poonah.

HARBURENNI and other places in Ceylon, have numerous rock inscriptions in the Pali language from 104 B. C. to twelfth century in the Lat to the modern Tamil character. Religion mentioned is buddhist. Sir Wilmot Horton says, there are thousands of these inscriptions in Ceylon, and they exhibit the Deva Nagari in all its transitions. The inscriptions would appear to be much defaced, and little is yet made of them.—*Vol.*, V, p. 554.

HARSCHARA, BENG. Vitis quadrangularis.

HAR-CUCHILA, Strychnos colubrina.

HARDAUL-LALA, a chief of Bundelcund, whose spirit, according to the natives of northern India, visited the camp of Lord Hastings with cholera in consequence of the slaughter of cows in the grove where the chief's ashes were interred. Hardaur is the name given to the earth mounds, on which a flag is placed, raised to avert

epidemic disease from the villages of northern India.—*Wilson.*

HARDWAR, in L. 29° 57′ 5″; N. and L. 78° 9′ 5″ E., is a town in Gárhwal on the right bank of the Ganges, east of Saharanpur. The level of the Ganges at Hurdwar is 1,024 ft. The Ganges falls rapidly to Hurdwar, which is 1,300 miles from the mouth. It is a great place of pilgrimage, the pilgrims often occupying the valley of the Ganges to a length of nine, and a depth of two, miles from the village of Doodea past Hurdwar and Myapore to Kunkul and Jooalapore. Its celebrity is owing to the proximity of the Rikikase gorge, from which the Ganges escapes from the Sevalik hills of the Himalaya mountains, thirteen miles above Hurdwar. The greatest assemblies, are called Koombh, and occur every 12th year, but there are others every sixth and at certain periods of the year when pilgrims come to drink the waters and bathe in the stream. In 1867, it was estimated that 2,855,966 people were present at the fair but the numbers range from 100,000 to 3,000,000. Koombh, also koombharie are the names of the great pilgrim fairs held at Hurdwar every 12th and 6th year. From Hurdwar, to Rikakasi, a distance of thirteen miles, the valley of the Ganges is covered with dense brushwood, and at night the Dadoo, or cold wind from the mountains, blows down the valley with great violence. It blows from the Himalayas nightly down the gorge at Hurdwar, and in April typhoons are very frequent. Pilgrims come to Hurdwar from all parts of Hindoostan and Bengal, from the Deccan, the Punjab, from Cashmere, Affghanistan, Tartary, Thibet and China, some as religious devotees, some as worldly tradesmen. For miles around the place it is one immense encampment. Colonel Yule has seen buddhist pilgrims at Hurdwar who had crossed the Himalaya, from Maha-china, as they said, to visit the holy flame of Jawalamukhi in the Punjab. In 1829 Gosaeens fought their way to the Ganges, and many were killed.

A great attack of epidemic cholera occurred at Hurdwar in 1783, when 20,000 people died in eight days.—*Yule's Cathay*, p. 411.—*Taylor's Visit*, *p.* 177.

HARDWARE.

Isenkramvarer,	DAN.	Chincaglio,	IT.
Yzeckramery,	DUT	Quincalharia,	PORT.
Clinquallerie, Quincaillerie,	FR.	Mjeloizchnue towarwii,	RUS.
Kurze waaren,	GER.	Quinquilleria,	SP.
Loha kam,	GUZ, HIND.	Jarnkram,	SW.

In commerce, goods of every kind made from metal. *McCulloch's Comm. Dict.* p. 627.

HARDWARI PEORI, or Indian Yellow, is the dried deposit precipitated from the urine of cows that have been fed on the leaves of the mango (Mangifera indica). It consists principally of magnesia and "purreic acid," as it has been called by Sir R. Kane. On treating a solution with weak muriatic acid, after evaporation, yellow scaly crystals of purreic acid are obtained. Hardwari peori is usually met with in the bazaars in lumps, "Wilayiti peori" is chrome yellow, in lumps (chromate of lead). Hardwari indicates the locality where it is obtained. A dye made of the Harsinggar is sold under the same name.—*Powell. Hand Book, Econ. Prod. Punjab* p. 195.

HARDWICKIA BINATA, *Roxb.*; *W. & A.*

Caratchu.	CAN.	Epe.	TEL
Anjun.	MAHR.	Nara epe.	,,
Acha or Attimaram.	TAM.	Nar yepa.	,,

This large leguminous tree grows in the forests of the Godavery; in the Nalla Mallai, on the mountains of the Coromandel coast, in some parts of Khandeish, and in the Padshapoor jungles, in the Guzelhutty pass, common in Lulling pass between Malligaum and Dhoolea and on the hills of the Sone valley. It is a most elegant tree, tall and erect, with an elongated coma and the branches pendulous. On the Godavery, it is often hollow in the centre. Yields a timber of an excellent quality for beams and a variety of uses. The wood is red or dark coloured, very hard, very strong and heavy. As the shoots grow up very straight, it is also valuable for rafters. The bark yields a strong fibre and the people of the island of Siva Samudram use it without further preparation. *Roxb. Voigt, Mr. Rohde's MSS., Hooker's Him. Journ. Vol. I. p.* 50, *W. and A. Mr. Latham, Captain Beddome, Dr. Gibson.*

HARDWICK, general, an officer who served in India, a distinguished naturalist, whose labours were of great value.

HARE.

Arneb,	ARAB.	Rzhong,	TIBET.
Arnebeth,	HEB.		

See Lepus. Mammalia.

HAREEM ARAB. A sacred or forbidden place where no one should intrude. It often denotes the ladies' apartments. It also means the harm, a captured slave in Arabia, in India, a purchased woman. From ancient times, leading the females captive appears to have been the sign of complete victory. Rajpoot inscriptions often allude to "a conqueror beloved by the wives of his conquered foe," and in the early parts of Scripture the same notion is referred to, the mother of Sisera, (Judges verse 31.) asks, "Have they not divided the prey; to every man a damsel or two?" *Tod's Rajasthan, Vol. I. p.* 312.

HAREIN. Hind. Tetranthera monopetala.

HARENGS. Fr. Herrings.

HAR-FARURI, Hind. Cicca disticha. —*Linn.*

HAR GOVIND. A Sikh guru. See Govind, Guru, Sikh.

HARHAR. Hind. Terminalia chebula.

HAR,—HAR. A sub-division, or part of an estate. In Saugor it means the cultivated space immediately round a village which is quite opposed to the meaning it generally bears in the North West, where it is applied to the land most distant from the site of the village, i. e., beyond the Mungha. In Bundlecund and some other places, it signifies a tract of land, but the term in no way indicates separate possession of the tract designated. *Elliot, Supp. Gloss.*

HAR-HAR. Hind. Cleome viscosa.

HAR HARA, also Umbed'her. Hind. Terminalia chebula.

HARI, also Ishwari. Sans. Aristolochia indica.

HARA, semi-aboriginal tribes of Bengal; a servant of the lowest class, a sweeper.—*Wilson, Dr W. W. Hunter.* See Hadi.

HARI, Hind. Casuarina muricata *Roxb.* Armeniaca vulgaris or apricot; Aristolochia indica; also Terminalia citrina.

HARI. A name of Krishna, as an avatar of Vishnu.

HARI The great harvests are called in hindi Rabi and Khurif, or by the villagers "Hari" and "Sawani," from the names of the months in which the crops are ripe. Rabi is the spring harvest, kharif the autumn, but it is not all land that bears two harvests. Land that does so, is called "dofasli," and land that only bears once, "ekfasli," but there are certain tracts of country where two or even three harvests are taken off the soil. The principal crops of the Rabi are the cold weather crops of wheat, barley gram. "mattar" (Vicia), lentils, tobacco, linseed, "sarshaf" or "sarson," "rai," &c. The kharif sowings are "Jawar," bajra (millet), maize, rice, "moth," "mung," "mash," and other pulses, sugar-cane, and cotton.—*Powell Hand Book.*

HARIALI GRASS. Cynodon dactylon. Pers. Was introduced into the Persian provinces of Fars and Khuzistan, during the British expeditions of 1856-57.

HARIANA, in L., 31° 38' L. 75° 49' 5 δ, in the Hoshearpur district, Punjaub, about 10 miles N. N. W. of Hoshiarpur. 1,063 feet G. T. T. Dr. Royle mentions that the grasses of Hariana (Sirsa and Rohtak) —and indeed it is true of the Rakhs generally, consist of species of Panicum, Pennisetum, Cenchrus, Chætaria, Vilfa, Dactylolenium, Chloris, Eleusine, Achrachne, Poa, Eragrostis and Andropogon, species of Saccharum, and Rottbollia. Besides various grasses, other fodders are employed: in one place a clover or lucerne, "Shotal," is grown; also Sinji, but this principally by Europeans for their horses and other cattle. Cattle are usually fed (besides grass) on bhusa, or as it is called in Punjabi "turi," the chopped straws of wheat and barley, besides which they get "Karbi," the dried stalks of jawar (H. sorghum); this latter when green and fresh is called "Charri." Chopped leaves of the ber (both Z. vulgaris and Z. nummularia), called "mulla," are much used, and are said to be fattening. Dr. Henderson mentions that in Shahpur and one or two other districts, turnips are grown very extensively for feeding cattle during the cold weather and they often attain a larger size than in Europe. A few of these are used in times of famine for food, as the "markan" grass, the wild Sawank, "Phog," the seed of Calligonum polygonum, is used as human food in the Punjab in times of famine. Dhaman or anjan (Pennisetum cenchroides) is considered the best grass for cattle, rapidly improving their condition and increasing their produce in milk. Jhang is a scented grass and probably Andropogon schœnanthus and the root of A. muricatum forms the Khaskhas used in matting tatties and screens for cooling the atmosphere.—*Powell Hand Book Econ. Prod. Punjab*, pp. 244 and 245. *Royle Ill. Him. Botany*, p. 421. *Mason's Tenasserim. William's Middle Kingdom*, p. 277. *Hooker's Himalayan Journal*, Vol. II, p. 289. See, Food, Graminaceæ: Grasses: Rushes.

HARIANA. Edrisi speaks of the people of the towns of Banjhir and Hariana, on the Banjhir (Panjshir river) as employed in mining silver, and those of the latter as notorious "for the violence and wickedness of their character." The position of this town of Panjshir does not seem to be known now, though mahomedan coins exist struck at that place in the ninth century but the valley has retained its character to this day. "This fair scene," says Wood, "is chiefly peopled by robbers, whose lawless lives and never ending feuds render it an unfit abode for honest men." Hariana is perhaps Paryan, at which there are silver mines marked in Wood's survey, Edrisi also speaks of Andarab as a town surrounded by gardens, orchards, and vineyards, where they stored the silver from Panjshir and Hariana town. i. 476, seq.—*Yule Cathay* II, p. 595.

HARI CHANDANAM. Sans. Tel. Santalum album.—*Linn.*

HARI CHANDRA. See Harischandra.

HARIDAS, the reader or reciter of the Ramayana and preacher of the Kirtan during the Ram Naomi. See Yug byasa.

HARIDRA. Sans. Curcuma longa. Turmeric.

HARIDWAR. See Naga.

HARI, HARIAN. Hind. Prunus Armeniaca.

HARI HOLKAR, See Holkar, Mahratta Government.

HARI-KARAPUTRA. See Hindu.

HARI-HARA, or Hari-Hara putra, a name of the hindoo deity Avenar.

HARISCHANDRA, a celebrated king of great uprightness of the Chandra Vansa, or Indo-vansa, or lunar race, that reigned in Antarveda and Kasi, but afterwards in Magadha (Behar) and Indraprashtha (Delhi). In this dynasty are included the kings of Kasi (Benares), the line of Puru and the line of Yadu.

Atri.....Muni.
Soma.....Lunus, the Moon.
Buddh.....Mercury, married Ila, daughter of Ikshwaku, the sun.
Alias or Pururavas.
Ayu.....kings of Kasi, descended from him.
Nahusha...Devanahusha, Dionysos, Bacchus (*Wd.*)
Yayati.....Father of Puru and Yadu.

According to Tod, the following are synchronisms of the Solar and Lunar Races:

Buddha of the Lunar Race married Ila, the sister of Ikshwaku.

Harischandra, contemporary of Parasurama of lunar line.

Sagara, cot. of Taljanga, of Parasurama.

Ambarisha, cot. of Gadhi, founded Kanouj.

In the line of Pura occurs Hastin, who built Hastinapur, and Vichitravirya. In the hindu mythology, Indu, Som, Chandra, in Sanscrit, mean the moon: hence the lunar race is termed the Chandra-vansa, or Induvansa, or Soma-vansa. Harischandra is fabled to get a son from Varuna, but is required to offer him to the god, which he would not do.—*Thomas' Prinsep's Indian Antiquities. Tod.* See Magadha, Mysore, Rama, Pandu, Surya.

HARI MANDHAKAMU. Tel. Cicer arietinum.—*Linn.*

HARI MUNG. Beng. Hind. Green-gram, Phaseolus mungo.

HARIN. Panj. Cornus macrophylla, *Wall.*

HARIND. Ricinus communis, the castor oil plant. See Arind.

HARINGE. Ger. also Haringen. Dut. Herrings.

HARINPADI. Convolvulus arvensis.

HARIPORE, about 12 miles from the Ravi on the eastern bank, is supposed to be the Sangala of Alexander. It is west of Pakpatan.

HARIR. Hind. Terminalia citrina.

HARITHA, Sapindus detergens; Sacuminatus.

HARISCHANDI, a Vaishnava sect of hindus, amongst the Dom or sweeper race of the western provinces of India. See Hindu.

HARI SENA, See Inscriptions, p. 384.

HARISWAMINI, See Inscriptions, p. 380.

HARITA. Sans. Phaseolus radiatus.

HARITAKA. Sans. Terminalia chebula. Myrobalan.

HARITALAKA. Sans. sulphuret of Arsenic.

HARITA MANJARI. Tel. Acalypha indica.—*Linn.*

HARIVARNA. See Inscriptions, p. 392. Hari-Vishnu.

HARIWA, this country, so named in the cuneiform inscriptions, is the Aria of the Greeks, the Haroyu of the Vendidad, the modern Herat.—*Bunsen*, III, 481.

HARJANGI. Hind. Terminalia citrina or T. chebula.

HARJORA, Hind. Cissus quadrangularis.

HARKA. Can. Harmala ruta.

HARKADI. Hind. a dye stuff.

HARKARA. Hind. Pers., a messenger. See Inscriptions, p. 388.

HARKUCH KANTA. Hind. also Harkut. Hind. Syn. of Dilivaria ilicifolia. *Juss.*

HAR-KAT, Harkooch Kanta. Hind. Dilivaria ilicifolia.

HARM. Arab. Literally he did honor, hence it means sacred. It is applied to the women's apartments, also to the women captives and purchased women. The words haram, unlawful, hurmat, chastity, harami and haramzadah a wicked person or animal, moharram the first month of the mahomedan year, come from this word. See Haram, Hareem.

HARM. Tam. Wood or timber.

HARMAL. Hind. Peganum harmala.

HARMALA RUTA.

Peganum harmala.		Ruta sylvestris.	
Harka,	Can.	Viragu,	Tam.
Kodar,	Hind.	Arkalu,	Tel.

Grows plentifully at Lahore, the ruins of the old city are covered with this weed and Asclepias gigantea. Harmal, in Lahore, is looked upon as the plant devoted to the pariahs the inferior caste, yet though a Sikh or hindoo, would not touch Harmal, the seeds are in common use among the natives to fumigate the rooms of the wounded. The natives fancy that a person suffering

from any discharge, as hæmorrhoids, the monthly unwellness, &c., is unclean, and that the exhalation proceeding from such person may be prejudicial to the wound, therefore it is customary on the entrance of every stranger to strew a few grains of harmal upon a charcoal fire. The natives, with the exception of Sikhs and hindoos, use these seeds internally against weakness of sight and retention of urine.—*Dr. Honigberger*, p. 284.

HARMANDUR, a celebrated Sikh temple at Amratsar. It was destroyed, in 1762, by Ahmud Khan.

HARMOZIA, this ancient town in a bay of the Gulf of Ormuz was subsequently called Gambroon but now Bandar Abbas, a sea-port town in the province of Kirman in a barren country. It is fortified with double walls. Bassorah did not long benefit by the fall of Hormuz; but appears to have been nearly ruined during the reign of Nadir Shah whose tyranny extended its baneful influence even to this extremity of the Persian empire; so that in 1750 Mr. Plaisted found there nine houses out of ten deserted. In the year 1639, there seems to have been an English factory at Bassorah, subordinate to that at Gambroon and protected by firmans.—*Ousley's Travels*, Vol. I, p. 155. *A Journal from Calcutta to Aleppo, &c.*, p. 11. *Lond.* 1758. *Kinnier's Geographical Memoir*, p. 201. See Kirman.

HARMOZONTE. See Kirman.

HARMUZI. HIND. a deep red earth.

HARN, MAHR. Antilope cervicapra.—*Pallas.* See Antelope.

HARNAULI. HIND, Solanum xanthocarpum, Ricinus communis, the castor oil plant and seed.

HARNESS, Aba-aba. MALAY.

HARO-BEREZAITI. See Arians.

HAROON-UR RASHID, a kalif of Baghdad, the fifth of the Abbassi Khalifa. He came to the throne of Bagdad in A. H. 170 = A. D. 786. At that time the empire of the Khalifa was one of the most powerful that ever existed; and extended from the confines of India and Tartary to the Mediterranean, including also all northern Africa. The reign of Haroon-ur Rashid was prosperous and splendid. He has been famed for liberality and justice, but his bloody cruelties throw an eternal stain on his memory. He died at Taos in Khorassan after a reign of 22 years. The Daoodputra, the reigning family at Bahawalpur, claim to be descended from Haroon-ur-Rashid.

HAROYU. The fifth settlement of the Arians was in Haroyu, the Hariva of the cuneiform inscriptions. Its name has no connexion with the Arians, but comes from the river now called "Heri," abounding in water. The Greek district Aria comprises the larger portion of Segestan, and forms part of southern Khorassan. In the Record (vi. verse 9,) is mentioned that the fifth best land was Haroyu, the pourer out of water, here Ahriman created hail and poverty. See Arians.

HARPAETOS. A genus of birds of which several species occur in India. H. erythrocephalus is common in the Himalaya from 3,000 feet upwards. Below that, it is replaced by H. oreskios. It flies in small troops, and is active and vociferous in the morning, solitary and quiet during the heat of the day, sitting in the shade. It appears larger and brighter than in Nepal and Sikim, Darjiling, Sylhet, &c.—*Mr. Blyth's Report.* See Ornithology. Spizaetus nipalensis.

HARPALIDA. One of the Coleoptera of Hong Kong.

HARPAR. Polanisia icosandra.

HARPEGNATHOS *Jerd.* A new genus of ants. Jaws scythe-shaped, pointed and finely serrated; head oblong. H. saltator, worker, 1-6th of an inch long; head long, head and abdomen blackish brown, thorax and legs rufous.—Length 3-4th of an inch. Seen at Tellicherry and in other parts of Malabar, also found in the Mysore country, the specific name Saltator is from its power of making most surprising jumps which it does when alarmed or disturbed. It is very pugnacious, and bites, and stings very severely. It makes its nest under ground, generally about the roots of some plant. Its society does not consist of many individuals. It appears to feed on insects, which it often seizes alive.

HARRA also Harva. GUZ. HIND.? Myrobalan.

HARRI. HIND. Nyctanthes arbor-tristis. *Linn.*

HARRU. PANJ. Cornus macrophylla, *Wall.*

HARAN. Is the capital of a Turkish pashalik which extends in a north-west direction from the mouth of the Shat-ul-Arab to the rocks of Merdin, the Baghdad frontier towards Constantinople. In an east and west line, it stretches from the confines of Persia to the banks of the Khabour, which separates it from the pashalik of Orfa; the Osrhoene of the Romans, and that part of Mesopotamia which contained the Haran of Abraham, and the famous Edessa of the crusades.

HARRAR. HIND. Terminalia chebula.

HARRI MUNG. HIND. Phaseolus radiatus.

HARRIN-HARA. HIND. Amoora rohituka. *W. & A.*

HARRIS, General, Lord, who commanded at the siege and fall of Seringapatam in A. D. 1799.

HARRIS, Lord, son of the first Lord Harris, was Governor of Trinidad, then Governor of Madras from 1854 to 1859. He caused to be made a revaluation of the lands in North and South Arcot, from which great advantages resulted to the people and to the State. He sent to Northern India, all the Madras soldiers and enabled Lord Clyde and Lord Canning to reconquer northern India, by dismantling his own presidency of both men and guns, *Thurlow Company and the Crown*, p. 32, 33.

HARRIS. Sir William Cornwallis, an officer of the Bombay Engineers, author of a work on the Wild Sports of the Cape, and of a Mission to Shoa.

HARRU. HIND. Chenab. Cornus macrophylla, dog wood.

HARSHA. See Inscriptions p. 376, 379, 380, 386.

HARSHANA. See Yoga.

HARSHUF. ARAB. Artichoke.

HARSINGHAR. HIND. Nyctanthes arbor tristis.

HAR-SULA. Sacrificial pillars are termed Sura or Sula in Sanscrit; which, conjoined with Har, the Indian god of war, would be Har-sula. The Rajpoot warrior invokes Har with his trident (tri-sula) to help him in battle, while his battle-shout is mar! mar! *Tod.*

HARPOCRATES, the ancient Egyptian god Aurora or Day-Spring, is often represented, seated on the lotus

HARPODON a genus of fishes of the

FAM. 5.—Scopelidæ.
FIRST GROUP.—Saurina.
Gen. 9 Saurus, 5 Saurida, 1 Harpodon, 2 Aulopus, 1 Chlorophthalmus, 22 Scopelus, 1 Scopelosaurus, 1 Odontostomus.
SECOND GROUP.—Paralepidina.
Gen. 3 Paralepis, 1 Sudis.
THIRD GROUP.—Alepidosaurina.
Gen. 3 Alepidosaurus.

HART. In Cairo, a quarter of the town, each occupied by separate races, as Hart-ul-Kopt, the Coptic quarter, Hart-ul Yahood the Jewish quarter, Hart-ul-Suggion the Water Carriers' quarter.

HARTAL. HIND. Yellow sulphuret of arsenic, orpiment. Two varieties occur; the "hartal-i-wilayiti" and "hartal-warki," the last so called from its beautiful glittering lamellar texture; varieties of hartal-i-warki are called hartal pili and gulabi.—*Powell's Handbook Econ. Prod. Punjab*, p. 63.

HARTIGHSEA, *sp.* in Java yields a fruit used as garlic. The Cedar of New Zealand is Hartighsea spectabilis the "Kohekohe" or New Zealand cedar, and is a good timber tree.

HARTH. HIND. a Persian wheel.

HART'S EAR.

Lisan-us-saur,	AR.	Cacalia kleinia,	LAT.
Oleander leaved ca-		Gowzaban,	PERS.
calia,	ENG.	Yerrimai naku,	TAM.
Gowzaban,	GUZ. HIND	Yennapa nalika,	TEL.

These leaves resemble the tongue of the cow (hence its Asiatic name), the stalks are prickly, and covered with white spots. While fresh, the leaves have a strong smell like hemlock, and are given by native practitioners in the form of decoction in rheumatism, syphilis, leprosy, and in all other cases in which sarsaparilla is usuallyemployed by European physicians. It is brought to Bombay from the Persian Gulf, and is procurable throughout India in most native druggist's shops.—*Faulkner.*

HARUKEE. BENG. Echites macrophylla.

HARUNTUTIA. HIND. Agathotes, *sp.* Colchicum *sp.*

HARUT and Marut, in mahomedan belief, are two angels, imprisoned, till the day of judgment, in a well in Babylon for having, when in the flesh, committed sins which they denounced in mankind.

HARVEST. In Persia, there are two harvests in a year. The seifee or summer crop, sown in summer and reaped in the end of autumn, consists of rice, cotton, zoorat-i-bellall, maize and zoorat-i-danareeza, great millet, Holcus sorgum; aryen or allum, small millet, panuicum italicum; nokhood, cicer arietinum, known in India as channa or Bengal gram—adas (lentils)—mashek, a small vetch, phascolus radiatus; beanjeer or renatoo the castor oil plant, palma christi—roonjed (sesamum) and some garden vegetables.

HARWAN. HIND. Tamarix dioica.

HARWUN. HIND. a pulse, equal to rawan and raonjgi.

HASA. See Kooch.

HASALBAN ACHSIR. ARAB. Rosmarinus officinalis.

HASALE. Hussulleeru, KARN one of the supposed aboriginal tribes of Mysore, found in the hill districts of Nagar, properly woodmen, but serving as agricultural labourers.

HASAN and Husain, sons of Ali, by his wife Fatimah, daughter of Mahomed. After Ali's murder by the contrivance of Yezid son of Moawiah, Hasan and Hussain left Shawn and went to reside at Medina. Ha-

san was poisoned there by an emissary of the kaliph, and several years afterwards on the 10th of the moharram A. H. 46, Husain was murdered at Kirbila, his eldest son Zain-ul-abidin alone escaping, and it is these events that are commemorated by the ceremonies of the first ten days of the moharram. See Allawa, Barak, Khalifa Moharram, Marsiah, Tabut.

HASANIYUSUF. Hind. Diatomaceæ.

HASARU. Can. Phaseolus radiatus. Asarum Europæum.—*Linn.*

HASELKRAUT. Ger. Asarabacca.

HASELNUSSE. Ger. Hazel nut.

HASHA. Hind. Tamarix dioica.

HASHIM-BIN-HAKIM, born at Gaza near Merv, is known as Mokanna or the veiled prophet of Khorassan, because he was one-eyed, deformed in feature and bald, and concealed his features. He claimed to be the deity; his most numerous converts were near Samarcand and Bokhara. He was joined by hordes from Turkestan. He had a hundred of the loveliest women of Transoxiana. About the year 163 Hijera he destroyed himself.

HASHISH. Ar. tender tops of Cannabis sativa after flowering, the bhang, of India and Persia, and Fasukh of Barbary. The Hottentots use it, and even the Siberians, we are told, intoxicate themselves by the vapour of the seed thrown upon red-hot stones as the Scythians of old did. Egypt surpasses all other nations in the variety of compounds into which this fascinating drug enters.—*Burton's Pilgrimage to Meccah*, Vol. I, p. 64.

HASHMEE maund equal to sixteen Tabreez maunds of $7\frac{1}{4}$ lbs. each, or about 116 lbs. English.

HASHU. See Karen, p. 466.

HASI-LUBAN. Beng. Benjamin.

HASJORA. Beng. Vitis quadrangularis. —*Wall.*

HASORA, a district, town, and river, in Central Asia, the town is 7,198 feet above the sea and is on the banks of the river which runs northwards to the Indus. Latham says, Hasora or Dsungari, a country west of Deotsu, and lying to the south of Rongdo. The people speak the Tibetan language and Moorcroft gives it the name of Dsungari. It is partially a Bhot district.—According to Ad. Schlagentwat Hasora, or Astor, or Tsunger, in 35° 12'; 74° 53', a fort in the valley of Astor, or Hasora. Level of the Hasora, is 7,198 feet abovethe sea, *Ad. Schl.*, *Latham.* See Maryul.

HASORA. Hind. Mica.

HASSA. See Koh-i-nokreh.

HASSAN. A mountain forming part of Taurus and Zagros, between Diarbeker, Palo, and Moosh. It is no thoroughfare, and the people are entirely independent. The Koord race who inhabit all that part are called Zaza, which means stuttering, mouthing, or speaking unintelligibly and seems to be a nickname, *Rich's Residence in Koordistan*, Vol. I, p. 376.

HASSANDHUP, A hard white clay supposed to be a deposit, containing sulphur, from a mineral spring. But it is also a medicinal compound.

HASSAN KEIF. See Kufra.

HASSAR. Dr. Hartwig mentions that, in several fish, the gills communicate with a cellular labyrinth containing water, which keeps the gills moist, and by this means the hassar of Guiana, the frog fish of Ceylon and the climbing perch of India are able to remain out of the water. The Hassar throws itself forward by the spring of its tail, and can move in this way, nearly as fast as a man can actually walk: the pectoral fins of the frog fish supported by the bones of its carpus perform the office of feet. The climbing perch moves itself up trees by means of its ventral fins. Sir R. Schomburgh also tells us that certain species of Dora called by the people the Hassar, in Guiana are occasionally met with in such numbers in their travels that the negroes fill baskets with them. If they fail in finding water, they are said to burrow in the soft mud, and pass the dry season in torpidity like the lepidosiren.—*Hartwig. Fishes of Guiana*, 1103. *Gosse* 122.

HASSAINI SYED, descendants of Hussain son of Ali.

HASSELTIA ARBOREA, a handsome tree near Jumpiam, in Java, with flowers large, yellowish-white, in axillary fascicles, the milk obtained from the trunk by incision, mixed with honey and reduced with boiling water, is employed as a powerful drastic for destroying the tape-worm; it is however apt to produce inflammation of the intestines, and in some cases has proved fatal.—*Lindley, Flora Medica* quoted in *Eng. Cyc.*

HASSKARL, author of the 'Hortus Bogoriensis' catalogue, with occasional notes and descriptions of new species of the plants cultivated in the Government Botanical Garden of Buitenzorg, near Batavia, published in Batavia in 1844, also author of an octavo volume of descriptions, entitled Plantæ Javanicæ rariores.—*Hooker f. et Thompson.*

HASTHI. Sans. Elephant.

HASTI, sent forth three grand branches, Ujamida, Deomida, and Poormida. Ujamida's progeny spread over all the northern parts of India, in the Punjab and across the Indus. The period, probably one thousand

six hundred years before Christ. From Ujamida, in the fourth generation, was Bajaswa, who obtained possessions towards the Indus, and whose five sons gave their name, Panchalica, to the Punjab, or space watered by the five rivers. The capital founded by the younger brother, Kampila, was named Kampilnagara. The descendants of Ujamida by his second wife Kesunee, founded the Kusika kingdom and dynasty, celebrated in the heroic history of northern India *Tod.*

HASTI KASAKA. Tel. Elephantopus scaber. *Linn.* Elephant gourd.

HASTIA, son of Bharata, founder of Hastinapura.

HASTINAPURA, an ancient city built by Hastia, a prince of the Lunar dynasty of Puru. It was finally ruined by the encroachment of the Ganges, but, till an early part of the nineteenth century vestiges were to be traced along the river, nearly in a line with Delhi, but about sixty miles to the east and forty miles south of Hardwar. It was washed away in the reign of Nichakra-Nemi, one of the Pandu dynasty. Another account describes it as overwhelmed by a cataclasm of the Ganges. This mighty stream, rolling its masses of waters from the glaciers of the Himalaya, and joined by many auxiliary streams, frequently carries destruction before it. In one night a column thirty feet in perpendicular height has been known to bear away all within its sweep, and to such an occurrence the capital of Hasti is said to have owed its ruin, as this city was only forty miles south of Hardwar, where the Ganges breaks through the Sewalik mountains and enters the plains of India. It was the chief city of the Panchyala, who aided the Kuru in the combat of the five races. The modern Delhi (Indraprestha) is on the Jumna.—*Thomas' Prinsep*, II, p. 257. *Tod's Rajasthan*, Vol. I, p. 40. *Bunsen* iii, 554. *Wheeler Hist. of India.* See Hindu; Inscriptions, p 374: Kusambu; Krishna.

HASTINGS ISLAND, about 2 miles in extent, in lat. 6° 56' S. long. 116° 24' E.—*Horsburgh.*

HASTINGS. Francis, second Earl of Moira, afterwards created Marquess of Hastings, was appointed to the Government of British India in the early part of 1813, which post, he held for nine years. He was constituted both Governor General and Commander-in-Chief by his own solicitation. The East India Company afterwards acknowledged their sense of his services, bestowing on his family two grants of money, in sums of 60,000l. and 20,000l. respectively. He took the field against the Pindari on the 18th October 1817 his Government of India continued to January 1823. *Hasting's Private Journal*, Vol. I, p. viii.

HASTINGS, WARREN, an eminent ruler of British India, he landed in Calcutta in 1750 as a clerk. He attained to the office of the E. I. Company's agent at the council of Murshedabad, and then became a member of the Calcutta council. He returned to Britain but was sent to Madras as a member of council and in April 1772 was nominated president of the Calcutta council. In 1773, he entered into a treaty with the vizier of Oude; in 1774, in alliance with the vizier, he entered Rohilcund, defeated the enemy and the whole country was then laid waste and its inhabitants driven across the Ganges. In 1774, the new members of his council colonel Monson, general Clavering and Mr. Francis, arrived, and opposed and changed all Hastings' measures. In 1780, he established a court of justice, called the Sadr Adalat, of which he made sir Elijah Impey president. For this Sir E. Impey was recalled and Hastings impeached. He erred gravely in his conduct of Cheyt Singh, rajah of Benares, in 1781, in his treatment of the begums of Oudh, which the Court of Directors rectified and Hastings shortly after resigned his appointment after holding it 13 years. On his arrival in England, in 1785, he was well received by the king, queen, and Court of Directors, and was about to be made a peer, when Mr. Pitt opposed this and only seven days after his arrival, he was impeached by Messrs Burke, Fox and Sheridan. His trial commenced on the 13th or 15th February 1788, in the presence of the king and queen. It proceeded for seven years, and at length, after an honorable defence, on the 23 April 1795 Hastings was acquitted and lived till 1818 in which year also Sir Phillip Francis, his opponent, died.

HASTIRETH, see Hastoreth Astarte.

HASTI SUNDI. Tel. literally elephant's trunk, Tiaridium Indicum.—*Lam.*

HAT. Hind. A periodical market day.

HATAJORA. Beng. Club moss, Lycopodium imbricatum.

HATAPING. Pali. Amygdalus communis.

HATCHING CHICKENS IN OVENS. The method of hatching chickens in ovens may be reckoned among the peculiar arts. Pocoke tells us that in Egypt, the season for it is when the weather is temperate, about February and March. In one apartment, they keep a smothering fire of horse-dung and chopped straw, to be disposed of in the apartments where the chickens are hatched; on each side of a gallery are five rooms, about ten feet square, and four high, with

holes at top. They put the eggs in heaps in the lower cells for eight days, laying the burning dung and chopped straw along in the channel, in the gallery, and turn them by moving the heaps three times a day: they then carry them into the upper apartments, and, spreading them, so as only to cover the floor, and turning them in like manner, they put the fire in the channels and within the apartments, and open or shut the holes at top as they find occasion. In two and twenty days they begin to hatch. They leave them in the ovens till they are perfectly dry, and then put them in the gallery, and the people come and buy them. If it thunder, great number of the eggs miscarry and the chickens hatching, thus, often want a claw or a rump, or are some way or other imperfect. In Chusan an immense quantity of ducks are hatched by steam. The hatching house is a shed, the roof thickly and compactly thatched with paddy, the walls plastered over with mud. There are a number of straw baskets, thickly besmeared with mud, to prevent them from igniting, a tile is so placed, as to form the bottom of the basket, and a lid fits closely over the top, a small earthen fire pot being placed under each basket, the eggs belonging to different folks are put into the baskets as soon as they arrive. The baskets are kept closely shut for five days, a uniform heat being maintained under the basket by means of the before named earthen fire-pot; and at the expiration of that period they are taken out and carefully examined, to see if they are good or bad; if the former they are placed in holes, which have been cut in a board for their reception; if the latter they are laid aside to be returned to their owners. Before the eggs have become cold, they are replaced in the baskets and kept there for nine or ten days; that is, the eggs remain altogether in the baskets about a fortnight or fifteen days, the heat of the hatching-house ranging from 93° to 100°: in the middle of the shed, broad shelves are placed, on which the eggs are laid when taken finally from the baskets, being carefully covered over with a thickly wadded coverlet, and the little birds issue from their fragile domicile in about a fortnight or three weeks: the whole process of hatching an egg occupying one month or five weeks. In the Phillipines, incubation is performed by placing warm paddy husks under and over the eggs, which are deposited in frames. A canvass covering is spread over the husks; the art is to keep up the needful temperature, and one man is sufficient to the care of a large number of frames from which he releases the ducklings as they are hatched and conveys them in little flocks to the water side.—*Pococke's Description of the East.* Vol. I. p. 260. *Bowring's Philippines*, p. 104. *Sirr's Chinese Vol.* I p. 249.

HATEE-SHOORO. Beng. Triandrium Indicum.

HATH'H. Hind. A hand, a lineal measure, a cubit, an Ell.

HATHAJORI. Hind. Martynia diandra. Lycopodium imbricatum.

HATH-BURTANA. A matrimonial ceremony.

HATHI. Hind. Elephant. Hat'hi Khana, an elephant shed; an elephant battery.

HATHI-KI-DUM KA BAL. Duk. Hair of elephant's tail.

HATHI-SHURU. Beng. Tiaridium Indicum, *Schm.*

HAT'H-KUTORAY-WALA. A mohurrum fakeer.

HATIAN. Hind. Eriodendron anfractuosm, *D. C.* Hatian ka Gond sum Gum of Eriodendrou anfractuosum, var. Africanum.

HATICHUK. Anglo-Hind. Cynara scolymus. Artichoke.

HATIF. Ar. A mystic voice.

HATI-KANA. Beng. Clerodendron hastatum.

HATIM TAI. A generous monarch of Arabia who lived about a century before Mahomed. In all mahomedan countries he is quoted as a model of generosity.—*Palgrave.*

HATMUL. Hind. Agathotes *sp.*

HATS.

Hoeden,	Dut.	Tudung, Chapeyan,	Malay.
Chapeaux,	Fr.	Tapiyo,	,,
Hute,	Ger.	Kulla,	Pers.
Topi, Guz.	Hind. Tam	Schlopii,	Rus.
	Tel.	Sombreros,	Sp.
Cappelli,	It.		

The hats worn by different races as coverings to their heads. The mahomedans of Arabia, Persia, and India wear turbans. *McCulloch's Commercial Dictionary*, p. 628.

HATTI. Mahr. An encampment.

HATTIAH. An island at the mouth of the Megna.

HATTI SHURA. Beng. Heliotropium indicum

HAUBER. Hind. Fruits of Cupressus sempervirens also of Juniperus communis.

HAUD and Ud of Garcias, Eagle wood.

HAUDIGA. Can? A Mysore wood used for furniture; polishes and turns well.

HAUG. Dr Martin, a learned Sanscrit and Zend scholar who devoted many years to the study of the Vendidad or Code of the Fire worshippers of Iran, author of Essays on the Sacred language, writings and religion of the Parsees. *Bombay* 1862.

HAULBER. Hind. Juniperus communis.

HAUT-BRION. A district producing Claret.

HAUTE. Ger. Hides.

HAVANGA. Malbal. Cassia lignea.

HAVELOCK, Henry, K. C. B., born at Bishop Wearmouth, a suburb of Sunderland in 1795, and at the age of twenty was posted to a second Lieutenancy in the 95th Foot or Rifle Brigade. He exchanged shortly afterwards to the 13th Foot, and embarked in the 'General Kyd' in January 1823, for India, whither his two brothers one in the 4th Dragoons and the other in the 16th Lancers were serving. He was diminutive in stature but well built, with a noble expanse of forehead, an eagle eye, a countenance remarkably comely, which exhibited that union of intellect and energy which never fails to command deference. Such in physique was the future saviour of India, in morals he was a blameless gentleman. Shortly after he reached India the first Burmese war broke out, and thither Havelock proceeded as Deputy Assistant Adjutant General. He had, whilst in Calcutta and stationed in the fort, been accustomed to have prayer meetings among the so disposed of his regiment. He subseqnently published his Burmese experiences in a book called 'Campaigns in Ava.' On the 9th of February 1829, he was married to Hannah Shepherd the youngest daughter of the Rev. Dr. Marshman: when a bachelor he had determined to devote a tenth of his income to objects of piety and benevolence, and on his marriage he resolved to, and did adhere to the same rule. He obtained his Company in 1838. Havelock formed one of the 'Garrison' shut up in Jallalabad, which witnessed the arrival of Dr. Brydon the only man who escaped that passage of fire and slaughter; the daring attack on Akbar Khan in which he took a prominent part is attributed to Havelock's suggestion. Associated with him was Capt. Broadfoot of the Madras Army, whom Havelock justly looked upon as one of the greatest soldiers of his time. Havelock was in his forty-eighth year and twenty-eighth of his service, when he obtained his regimental majority; and the Command-in-Chief having been bestowed on Lord Gough, Havelock became Persian Interpreter on the Staff. In the short Gwalior campaign and the battles of Punniar and Maharajpore, he was present. Just after the Gwalior campaign the first spirit of mutiny amongst the Bengal sepoys showed itself. The 64th became unruly. 'It is believed' writes Havelock 'that thirty-nine of the 64th mutineers are capitally sentenced: at least the course of their trials justified this expectation. They ought all to be executed.' They were not, and thus so far back, commenced that contempt for Government in the sepoy mind which ended in so much bloodshed in 1857. In the first Sikh war, Havelock took part on H. E. the Commander-in-Chief's staff, and at its conclusion, was appointed Deputy Adjutant General of the Bombay Army. During the tenure of this office the second Sikh war broke out. The fatal charge of Ramnuggur proved fatal to his brother William who was much blamed by some for the hasty and it was supposed rash, order which led to it: Havelock wrote.

"I may well grieve for the loss of the brother who was brought up with me in the nursery and was nine years my schoolfellow; but though it be decided in Bengal that the same acts which would be lauded as heroism in Anglesea, or Joachim Murat or Augusti Caulincourt, are mere rashness in William Havelock, I cannot quite think so; nay strange old man that I am, my grief is more than half absorbed in admiration, and I proudly parody the saying of the English nobleman and would scarcely give my dead brother for any living soldier at the three Presidencies."

At the commencement of 1857, the Persian war broke out, and for the first time after forty-two years of service and in the sixty-second of his age he was brought into a position which afforded scope for his great military talents. Lord Elphinstone dispatched a telegram to General Anson requesting Havelock might be nominated to the command of a division. Havelock accepted the appointment with alacrity. At Havelock's recommendation, Outram the Bayard of India, was nominated Commander-in-Chief — while Havelock was giving his opinion that Outram was the fittest man to command the expedition, Outram was pressing Lord Elphinstone to apply for Havelock's services, and this mutually unknown to each other. When the mutiny and rebellion of 1857 occurred, Havelock suggested the formation of a moveable column at Allahabad which was immediately formed, and among the troops were Neill's Madras Fusiliers, or as they were afterwards so well called 'The Blue Caps.' From this time, he commanded in many battles, on the 11th July 1857, at Futtehpore, on the 15th he fought at Aong, on the 16th he fought and took Cawnpore. His last great effort was the first relief of Lucknow, on the 25th

September 1857. The second relief of Lucknow was effected by Sir Colin Campbell on the 17th November 1857. Sir C. Campbell had arrived in India, and the Government had superseded Havelock putting Outram in command of the force in Oudh, but that noble soldier refused to supplant his brave comrade, preferring rather to act under him than deprive him of his well earned right to relieve Lucknow, the two together advancing in spite of an almost fatal opposition, effected the relief, the 'Blue Caps' charged the Char Bagh bridge, but as it became every moment more apparent that Maude's two guns would not be able to silence the superior Artillery of the enemy in their front. Almost everyman at them was either killed, or wounded when General Neill who commanded the 1st brigade in Sir James Outram's absence allowed a charge, and the 1st Madras Fusiliers were ordered to advance. Lieutenant Arnold a young officer ever conspicuous even among the daring spirits of that noble regiment had been impatiently watching for the signal. At the first word and without waiting for the regiment to rise and form, he dashed on to the bridge with some ten of his men. Arnold himself fell, shot through both legs and his devoted followers were swept down almost to a man. Lieut. Havelock the Deputy Assistant Adjutant General alone remained on the bridge, the mark for a hundred bullet, the Fusiliers animated and nobly led by their regimental officers, dashed forward with a cheer, without giving the enemy time to reload, advanced over the prostrate bodies of their comrades and rushing on the guns amidst a storm of bullets wrested them from the enemy and bayonetted the gunners. It was a second Lodi!! Poor Arnold died "At length" writes the General "we found ourselves at the gates of the Residency and entered in the dark in triumph."

The moment he entered, his command ceased and Sir James Outram became the chief. Havelock's career was finished, he had not yet heard what his country thought of him, and what rewards she had in store for her faithful son; he himself was satisfied in the consciousness of duty performed to his God and nation. He had succeeded in enrolling his name in the imperishable scroll of Britain's heroes.

Havelock fell sick and from the first seems to have had a presentiment that it was his last illness. He died in perfect peace and hope, a sublime picture! attended by his well loved Aide-de-Camp Hargood of the Fusiliers, and his heroic son. Calling the latter to him he said 'I die happy and contented.' 'See how a christian can die.' And when Outram came to visit his dying comrade he said—'I have forty years so ruled my life, that when death came I might face it without fear.' Thus passed away, pure and spotless as a knight of old, a soldier, a christian and a hero.

HAVER. Dut. Havre. Dan. Oats.

HAVILDAR, in the Indian armies of Britain, a non-commissioned officer of native soldiers equal to a sergeant.

HAVUN. A yellow colored and strong wood of the Santhal jungles for about forty miles from Raneebahal to Hasdiha, but scarce. It is used for building purposes by the natives and also for cart wheels.—*Cal. Engineers' Journal, July* 1860.

HAVVAH or Hawa, of the Arabs, the mother of life, the Eve of the Bible, the mother of all living, the mother of the human race, and recognised under different names in all cosmogonies. The Eve of Mosaic history, is the Astarte of the Assyrians; Isis nursing Horus of the Egyptians; the Demeter and the Aphrodyte of the Greeks and the Scythian Freya. The Eve of Genesis, the Hawa or Havvah of the Arab and mahomedan generally, Baltis, in Byblius called Beuth or Behuth. i. e. void of Genesis, is identical with space and means the mother's womb, the primeval mother,—the fundamental idea being the mother or source of life, which is the meaning of Havvah the Eve of Genesis. The tomb of Eve is pointed out in several places. Mecca is bounded on the east, by a hill called Abu-Kubays, and according to many mahomedans, Adam with his wife and son Seth lie buried there. Also at less than a mile from the Medina gate of Jeddah, is a tomb said to be of our common mother Eve, is surmounted by a cupola and surrounded by walls, inclosing a pretty cemetery, in which many of her children lie around her. *Bunsen's Egypt. Hamilton Sinai, Hedjaz and Soudan p.* 66. See Abu Kubays; Adam; Baltis, Mount Ararat.

HAWAZAD. Hind. Pers. Wind lodged, of corn literally, struck by the wind.

HAWAR, Hind. of Kuhat, completed, from hamwar, level land.

HAWELI or Hawili, the tract of country adjacent to a capital town and originally annexed to it.

HINDOO HAWKERS. Yailm wanloo. These people follow any occupation not involving manual labor, writers, painters.

HAWKS and kites are very numerous in the East Indies. Astur trivirgatus, *Temm.* the Goshawk inhabits the hilly parts of Nepaul, India and the Malay countries.

Another Indian species, A. palumbarius is a native of Europe and Asia, but in India is confined to the Sub-Himalaya. Among the hawks, the Kestrel will occasionally be observed in extraordinary abundance; and Harriers (Circus) are often seen beating over the open ground. In Lower Bengal, kites quit Calcutta and neighbourhood during the rains and return in the cold weather. It is supposed that they go to to the N. East. The kestrel, baza and Indian hobby are most frequent in Bengal during the rains, and in the rains, the Adjutant bird visits Calcutta and leaves in the cold weather. Dr. G. Buist has given a highly graphic sketch of a curious ornithological incident observed annually in the island of Bombay. On the approach of the monsoon, nearly all the kites, hawks, vultures, and other carrion-birds disappear from the seacoast, while the crows begin to build their nests and hatch their young just at the season that seems most unsuitable for incubation, when the eggs are often shaken out, or the nests themselves are destroyed by the storm, and the poor birds are exposed, in the performance of their parental duties, to all the violence and inclemency of rain and tempest. At the instigation of a sure and unerring instinct, the carnivorous birds, as the rains approach, withdraw themselves from a climate unsuitable to the habits of their young, betaking themselves to the comparatively dry air of the Dukhun, where they nestle and bring forth in comfort, and find food and shelter for their little ones. The scenes connected with this, which follow the conclusion of the rains, are curious enough. While the mahomedans bury, and the hindus burn their dead, the Parsee race expose their dead in large cylindrical roofless structures, called Towers of Silence, where birds of prey at all times find an abundant repast. Their family cares and anxieties over for the season, the carrion-birds, which had left in May for the Dukhun, return in October to Bombay, and make at once for the usual scenes of their festivities, now stored with a three month's supply of untasted food. As they appear in clouds approaching from the mainland, the crows, unwilling that their dominions should be invaded, hasten in flocks to meet them, and a battle ensues in the air, loud, fierce, and noisy; the fluttering of the wings, the screaming and cawing of the combatants resounding over the island, till the larger birds succeed, and having gained the victory are suffered hence-forth to live in peace. In Bengal, the nites and braminy kites breed chiefly in January and February, and disappear during the rains. The adult 'Adjutants' make their appearance as soon as the rains set in, and becoming in fine plumage towards the close of the rains, depart at that time to breed in the eastern portion of the Sundarbuns upon lofty trees, and along the eastern coast of the Bay of Bengal upon trees and rocks. Vultures are permanently resident. In Ceylon the beautiful Peregrine falcon, Falco peregrinus, *Linn.* is rare, but the Kestrel Tinnunculus alaudarius, *Briss* is found almost universally; and the bold and daring Goshawk, Astur trivirgatus *Temm.* is seen wherever wild crags and precipices afford safe breeding places. In the district of Anarajapoora, where it is trained for hawking, it is usual, in lieu of a hood, to darken its eyes by means of a silken thread passed through holes in the eyelids. The ignoble birds of prey, the Kites, Milvus Govinda, *Sykes*, keep close by the shore, and hover round the returning boats of the fishermen to feast on the fry rejected from their nets. Accipiter trinotatus is a beautiful hawk of Celebes with elegant rows of large round white spots on the tail. *Tennents Sketches of the Natural History of Ceylon* p. 246. *Dr. Buist in Bombay Times, Mr. Blyth "Z" in India Field.* See Eagles. Heroury.

HAWKING is a Tartar pastime, and Asiatics, are generally addicted to it. In India the employment of trained hawks may be traced to an exceedingly remote antiquity; and Mr. Layard found a bas-relief at Khorsabad, in which there appeared to be a falconer bearing a hawk on his wrist. The bedouins of Mesopotamia are attached to the sport, and especially so with reference to their larder; and the Arab race may possibly have introduced it, together with the creed of Mahomed, among the Malays of the Archipelago. We are not aware that traces of the practice of falconry have been remarked amongst the monuments of the old Egyptians; and in Africa this kind of sport is still confined to a few of the mahomedans of the north: nor does it appear to have been practised among the aboriginal tribes of the New World. In Europe the custom seems to have been first distinctly mentioned by authors about the fifth century;—but the garniture of the trained hawks would appear to have been unknown prior to the crusades; in the famous Bayeux tapestry for instance, falcons are represented as carried upon the wrist unhooded. Moreover, it seems likely that trained Ospreys were formerly employed in Europe for fishing: witness, as cited by Colonel Montague, an Act passed in the reign of William and Mary, by which persons were prohibited at a certain period of the

year from taking any Salmon, Salmon peal, or Salmon kind, by hawks, racks, guns, &c. Analagous to "hawking" is the Asiatic custom of hunting with the leopard. In Hyderabad in the Dekhan, in Hyderabad in Sindh, hawking is largely followed, the hawks commonly used are the

1. The Shahbaz, or hawk-king, a large grey goshawk with yellow eyes, caught in the hills of Affghanistan and its surrounding regions, brought down to the plains and sold, when well reclaimed, trained, and in good condition, for 5l. or 6l. The tiercelet or male, is, as usual, much smaller than the female, and is called Jurrah, in Persian, "the active." Both are uncommonly strong and ferocious. They are accounted the noblest birds; the Sherbaz ("lion-hawk") or peregrine of Bokhara and the snowy regions, being all but unknown in Sindh.

2. The Bahri Bhairi) or Falco calidus, so celebrated amongst Indian falconers for her boldness and power, and her tiercel, in Sindh, commonly called the Shahin, are found in some parts of Sind'h. They fly at partridges, hares, bustards, curlews, herons and the saras; being long-winged hawks or birds "of the lure," they are taught to fly high, to "wait on" the falconer, and to "make the point."

3. The Bashah, a kind of sparrow-hawk, and her mate the Bashin, a small, short-winged, low-flying bird with yellow eyes and dark plumage in her first year, which afterwards changes to a light ash colour, marked with large grey bars, are very much valued on account of the rapid way in which they fill the pot, especially with partridges. As they remain in Sind during the cold weather, and retire in summer to the hills around, those trained are "passage hawks," or "birds of the year;" their low price, 8s. or 10s., makes it scarcely worth while to mew them, so they are let loose when the moulting season commences.

4. The Shikrah and her tiercel the Chipak are the common English sparrow-hawks. They are flown at partridges, and by their swiftness and agility afford tolerable sport. At the same time they are opprobriously called "dog-birds" by the falconer on account of their ignoble qualities, their want of staunchness and their habit of carrying the game, carrying being the technical word for flying away with the wounded bird. They may be bought ready trained, in most parts of Sind, for a shilling or two.

5. The Laghar, or hobby and her mate the Jaghar. This is the only long-winged hawk generally used in Sindh; she is large, and black-eyed with yellow legs, black claws and a tail of a cinereous white colour. She is a native of Sind, moults during the hot months from April to October, and builds in ruined walls and old mimosa trees. The Laghar is flown at quail, partridge, curlew, bastard-bustard and hares; the best sport is undoubtedly afforded by crows, only she is addicted to carrying the quarry, and is very likely to be killed by her angry enemies.

Luggur (Laghar) female. Juggur (Jaghar) male.	Native of Scinde, a large sparrow hawk, with dark eye, trained for the season, and then let loose.
Baz (Shahbaz) female. Zorru (Jurrah) male.	Native of Khorasan, goolab (yellow) eye; a noble bird.
Churgh, female. Churghela (Charghlo) male.	Native of Cuthee, black-eyed; fastens on the antelope, and kills the "tuloor" a kind of florikin.
Bashu (Bashah) female. Bisheen Bashin) male.	Native of Khorasan, goolab eye, small.
Bahree (Bahri) female. Bahree-buchee (Shahin) male.	Natives of Scinde, found near the Indus, and not prized
Kohe, female. Koheela, male.	Also called Shaheen, natives of Scinde, black-eyed.
Tooruratee, female. Chatway (Chatua) male.	Natives of Scinde, black-eyes; let loose after the season.
Shikrah, female. Chipak, male.	Natives of Scinde; goolab eye.

"Bashin" is a feminine form of Bashah, and yet popularly applied to the tiercel, or male bird.

The Bahri is a noble bird, as every Indian falconer knows. Some erroneously consider it a variety of the jer-falcon.

In Sind, the word Shahin is improperly applied to the tiercel of the Bahri. The best authorities believe it to be synonymous with Kohi (Kohee), a kind of jer, or Barbary falcon. The old falconers of Britain like the Orientals, had different names for the birds of the different sexes.

The Scindian, like the English sparrow-hawk, preys entirely upon birds. She flies exactly like the goshawk,—low, and frequently takes advantage of a shelter to fall unexpectedly upon her quarry.—*Burton's Falconry, Valley of the Indus.* p. from 13 to 16.

The Deer numerous on the banks of the Oxus, near Said, of which "a splendid pair of antlers" were procured by Lieut. Wood, are probably of the Maral species. Moorcroft also notices them, and enumerates lions and tigers among the animals of that neighbourhood; the lion being similar to

that of Guzerat. According to Burnes the tigers of Bokhara are small. *Z. in Indian Field, Burton's Falconry Valley of the Indus*, p. 16 to 20. See Falconry.

HAWLOOL, in lat. 25° 40' N. long. 52° 27' E., a small island on the south side of the Persian Gulf.—*Horsburgh.*

HAWIZA. See Khuzistan, Kerkha.

HAWULBAGH, is 3,976 feet above the sea.

HAY.

Hovi,	Dut.	Fieno,	It.
Foin,	Fr.	Fœnum,	Lat.
Hew,	Ger.	Heno,	Sp.
Ghans,	Guz.	Wolanda pillu,	Tam.
Sukha Ghans,	Hind.	Endu pachika,	Tel.

Any kind of grass, cut and dried for the food of horses, cattle, &c.—*McCulloch. Faulkner.*

HAWZEN, or Aouissienne, the capital of Haramat in Abyssinia.

HAY, Lord Arthur, author of several contributions on the Botany and natural history of India.

HAYCOCK, NORTH and SOUTH. Islands in the China Sea, in lat. 3° 17' N., long. 107° 31' E. off great Natuna island.—*Horsburgh.*

HAY SAFFRON. Crocus sativus.

HAYWARD, George W. a scientific explorer who was endeavouring to explore the Pamir steppes and the country north of Peshawur, in the interest of the Royal Geographical Society of London. He was murdered in A. D. 1870, in Chitral, by Mir Wali, the nephew (sister's son) of Aman Malik, chief of Chitral, the valley North of Swat and Bajour and West of Gilghit. The Kashmir authorities urged him repeatedly to abandon the expedition in which his life would not be safe. Mr. Hayward resolved to persevere, although he was aware that beyond the Gilghit frontier the maharaja of Kashmir would be absolutely unable to protect him. *Indian Public Opinion.*

HAZAI also Hojai. See Bodo.

HAZAR. Ar. Present, Hence also Huzur, the presence; an address of royalty, also Hazrat. Hind. Pers. from a mahomedan a respectful address.

HAZAR. Ar. Hind. Per. present; hence Hazari, breakfast.

HAZAR, Pers one thousand.

HAZARA, Shia Affghans who live principally in houses. They are said to lend their wives to their guests, their numbers are given at 1,56,000 souls. Monsr. Ferrier, in his "Caravan Journeys," (pp. 194, 237) mentions that he fell among the Aimak Hazara on the Murgab river, and other tribes about Dev-Hissar, more to the north and east. Their women take part in every war, manage the horse, the sword, and the firelock. Their courage amounts to rashness, and they are more dreaded than the men for cruelty and fierceness. He himself saw them under fire in the foremost rank, and it is, and so far as they know, has always been, a national custom. Here we have an intelligible explanation of the Amazons of Alexander, and the "female hosts" of Namuchi. Except Kangra and Hoshiarpur, the Hazara part of the Punjab, is the only well wooded district of Punjab proper.

The Hazara districts between Kabal and Bamian are collectively called Bisut, and mallia or tribute is enforced from them by the authorities of Kabul. This fluctuates in actual receipt, but the registered amount is 40,000 rupees.

The Hazara, or Hazarajat, are so called from the innumerable taifah, or tribes, into which they are divided—Hazar signifying in Persian a thousand. The Hazara occupy the whole range of the Parapamisus, or the mountains extending between the Hindu Koosh, or Caucasus and the city of Herat, to within a few days' march of Kandahar. In appearance, they very much resemble the Ghurka; they have the same high cheek-bones, the same small eyes, very little beard, and no doubt are of Tartar origin. The Ghurka, however, are Hindus; whilst the Hazara are shiah mahomedans.

The following are the Independent tribes dwelling along the outer face of the north-west Punjab frontier and inhabiting hills, adjoining the frontier of the Hazara District.

Hazara District.—Turnoulee, Gukkar, Doond and Suttee, Kaghan Syud and other tribes of Hazara.

In an attack by the Feroz Kohi on a Hazarah tribe near Singlah, in which M. Ferrier was engaged, he says it was a remarkable sight to see brave and energetic Tartar women under fire amongst, and as forward as, the men; they fight also on horse-back, and ride or act under any circumstances as well as the other sex. More than one of them would, I have no doubt, meet any European horseman on more than equal terms: the dexterity with which they manage their horse is extraordinary, and their courage is not less great—they take part in every war, and the vanquished dread their cruelty more than that of the men. The wild Hazara tribes, descend from the snowy range of the Narawah mountains, for the purpose of traffic. The Hazara mountaineers derive their subsistence chiefly from

their flocks. Their games are manly and athletic; they ride, wrestle, and shoot at a mark. The Hazara have a yodelu like the Swiss. Ferrier frequently heard it in passing through the country. Hazara are easily distinguished from their Afghan neighbours by their Tatar physiognomy, their diminished stature and their habiliments, especially their close-fitting skull-cap. The chief of the Bubak tribe, resides at Karabagh. Amongst the Hazara there is a tribe called Berber, like the inhabitants of Algeria. Between Herat and Kabool, lies the mountainous country of the Hazara. The journey between the cities has been performed in 12 days by shah Zuman, with a body of horse, and is said to be passable for artillery of small calibre. Caravans also travel it in summer, but the ascents and descents of innumerable hills are such that it is very fatiguing to the cattle, and the roads from Kabool, by Maimuna or Candahar, are always preferred. Towards Herat, the Hazara are soonee mahomedans, while those near Kabool are shiahs, which is a singular reversal, since the people of Kabool are of the former, and those of Persia of the latter persuasion. About Khujir Chist, east of Obe and Herat, the Teimuri are partially submissive to Herat. In Sir A. Burnes time, those near Maimuna, and the adjoining states, were plundered by them, while the chief of Koondooz "chupao'd" the country to Yakonbung, over three of the passes of Hindoo Koosh, and near Bamian. The eastern portion about Bamian, and west of the road between Ghuzni and Candahar, are subject to Kabool, and pay a regular tribute. They are the Hazara of Besoot, Dihzungee (in part), Kara Bagh and Jughoree. The Kuzzilbash of Cabool have orders given on the greater part of this tract for their allowances, the people being shiahs, but the revenues of Besoot were generally collected by one of the Ameer's sons. The Hazara of Faloda, Hoojuristan, which is west of Jughoree, as well as those of Dih Koondi, secure independence from their remote possessions. The whole race is without a head, or it might prove very formidable; at present they are driven off in every direction, and sold like sheep. At no period did the kings of Kabool derive so much revenue from them as procured by Dost Mahomed Khan. The eastern Hazara are bigoted shiah and devotedly attached to the Persian party in Afghanistan.

The Hazara are of Tartar descent, and one of their tribes is called Tatar Huzara; they live at an elevation of 10,000 feet but in their square faces and small eyes they resemble Chinese; they are a simple-hearted people, but Burnes denies that they give their wives to their guest, though he states that their wives have great influence and go unveiled, and are not chaste.

Immediately on the north of Herat lies the country of the soonee Huzara, and a portion of the tribe ruled from Killa-i Nou, the chief of which is an adherent of the chief of Herat. This country includes Obe, and extends to the Moorghab. On the last invasion of Herat 4,000 Tajik families were removed from their seats nearer Herat to the more fertile lands east of Punjdeh, on the bank of that river.

At present the Hazara, according to Wood (p. 199), do not extend further east than the valley of Ghorbund; but Leech's report on the Passes shows that they are found on the passes immediately above Parwan, and that they formerly extended to the mountains adjoining the Khawak Pass, the most eastertly of all.

The Hazara are not, according to Ferrier, the descendants of the old inhabitants of the Parapamisus, but are Tartar tribes, first settled in the country by Chengis Khan, they have entirely lost their original language, and have adopted an old dialect of the Persian. Their Tartar physiognomy remains, however, unchanged, so that it is impossible to mistake them. The Hazara mountains are on the S. W. of Balkh. The Hazarah are of a pure Mongolian type, indicative of their Turanian origin. The Hazarah are shiah mahomedans they derive their chief subsistence from their flocks. They are good marksmen and also ride and wrestle.—*Cal. Review, No.* 64, *p.* 433. *Masson's Journeys* Vol. II, p. 295. *Vigne's Personal Narrative*, p. 167-169. *Ferrier's Journ. p.* 223, 237. *Vigne's A personal Narrative* p. 113 to 171. *Masson's Journeys*, Vol. ii. p. 217. *Papers. East India (Cabul and Affghanistan* p. from 135 to 136.) *Yule Cathay*, II *p.* 540. *Ed. Ferrier Journ. p.* 222. See India, Kafir, Kavir, Kalmuk, Kazzalbash, Jews, Kabul, Inscriptions, Khyber, Koli, Mongal, Punjab.

HAZARA river is the Aras, the modern name of the ancient Araxes and is the Awerma of the Purans. This ancient river is now called Kum Feroz. It laves the foot of the rock Istakhr. The snowy Ardekan mountains are the same with those which presented so formidable a barrier to Alexander's progress, and by whose slopes he descended into Persia, in his advance on Persepolis. Towards the north of Armenia, runs the Araxes with its numerous tributaries. This river which at its commencement, owing to its many affluents, bears the Persian appellation of Hazara, springs from the side of the Bin Gol, or

"mountain of thousand Lakes," about 30 miles south of Erzerum, and nearly in the centre of the space between the eastern and western branches of the Euphrates. Its course, from its first spring near Jebel Seihan, is almost N. E. for about 145 miles through Armenia; when it turns eastward, being then near the frontier of Kars: this proximity continues for 110 miles. The sources of the Aras and those of the north branch of the Euphrates are about 10 miles from one another. According to Pliny (lib. VI. c. 9). those sources are in the same mountain, and 600 paces asunder. In modern times, the north-eastern districts, along the banks of the Araxes, intervening between Aderbijan and Georgia, had been in general subject to the sovereigns of Persia. —*Malcolm's History of Persia* Vol. II. p. 212. *Journal of the Royal Geographical Society Vol. VI. Part II. p.* 200.

HAZARA CAP, see Kush or Cush.

HAZARDANA, HIND. Euphorbia hypericifolia, E. thymifolia.

HAZAREA MOGRA. Jasminum sambac.

HAZAREE, a mahomedan ceremony.

HAZAREEBAGH, a small station in L. 24° L. 85° 54', 1750 feet above the sea and about 220 miles from Calcutta, in a district of the same name. It is a healthy spot; the earth sandy and rocky, presenting a strong contrast to the loomy and alluvial soil of Southern Bengal. The country slopes to the South, towards Sumbulpore. The North and East parts of the district are very mountainous, but level, and even depressed towards the Mahanudy. Between Hazareebagh and Palemow on the East and Jubbulpore on the west and thence southwards to Nagpore and Chandah. Central India has, in the East, five well marked sub-divisions of sedimentary rocks with coal bearing strata, the Talchir, Barakur, Ironstone shales, Ranigunj and the Panchet, but at a short distance to the west, there are only a threefold series, the Talchir, Barakur, and the Panchet. All these successive beds (possibly with the exception of the Talchir) representing an enormous lapse of time, agree in one respect. that they seem to be purely fresh-water (fluviatile or fluviolacustrine) deposits. The Damoodah, the Barakur, the Adjai and the More, rivers seem at an early period to have formed one general estuary,—the basins of the Sone, and the Nerbudda. But the Mahanuddy and the Godavery, in all of which extensive deposits of coal have been found, as yet seem to have not been connected.—*Mundy's Sketches in India, Vol.* I. *p.* 4.

HAZAR KINIAN, here are no trees to be seen, but the ground is very verdant from the quantity of water. This spot is called Hazar Kinian, or the thousand springs. It is in Kurdustan, in the district of Aalan, an alpine spot where innumerable springs start from the ground.—*Rich's Residence in Koordistan Vol.*I *p.* 262.

HAZEL NUT.

Bindik,	BENG.	Corylus colurna,	
Noisettes Avcilenes,	FR.	Avellane,	LAT.
Haselnusse,	GER.	Fenduk,	PERS.
Finduk,	GUZ. HIND.	Avellaas,	PORT.
Naccinole, aveline,	IT.	Avellanas,	SP.

The fruit of different species of the Coryli or hazel trees. The kernels have a mild, farinaceous oily taste, agreeable to most palates. A kind of chocolate has been prepared from them; and they have been sometimes made into bread. They are grown in England, France, and Portugal, but chiefly Spain. They are also produced abundantly in the Himalayas. Hazel nuts are imported into Bombay from the Persian Gulf. According to the English Cyclopædia, the hazel-nut is the fruit of the wild bush of Corylus avellana, unchanged and unimproved by cultivation. It differs from the domesticated varieties only in being smaller and rather more hardy.—*McCulloch, Faulkner, Eng. Cyc vol.* III. *page* 31.

HAZIRAT, in mahomedan divination, in India, the flame of a charm-wick.

HAZIR ZAMIN, HIND. PERS. a personal bail.

HAZIZ. AR. HIND. Berberis lycium.

HAZRAT. AR. HIND. PERS. An honorific appellation, equivalent to lord, reverence, Mr. worship; Lord Jesus, Hazrat Isa; Hazrat Ali, the lord Ali.

HAZRAT IMAM a town on the south bank of the Oxus producing good silk. See Baljawar.

HAZREE. Breakfast; literally, the assembly.

HEAD CLOTHS, COTTON, or Roomals, are manufactured in the Madras districts they are always in squares of 5½ and 6 cubits: with lace borders and are always red coloured, printed with white spots. These are worn by hindoos as turbands and are valued at from 8 Rupees to Rs. 250.

HEAD DRESS. The Turks of Turkey and of Egypt wear the turban and the red Fez cap. The Jews of Syria, Egypt and Persia, wear the turban. Many Persians in Persia, wear caps. The mahomedans and many hindus of India, use turbans. The Chinese story ascribes wing-like appendages to the emperor's cap. But the wings attached to the cap are rather an ancient

hindu feature, and are remarkably preserved in the state costume of the kings of Burma and the sultans of Java. *Yule Cathay.* I. p. lix.

HEADIE, the Malayala name of a tree in the forests of Canara. It grows from eighteen inches to two feet in diameter, and from thirty to fifty feet high. It yields a close grained wood, and is said to be durable; but it is rather scarce,—*Edye, Forests of Malabar and Canara.*

HEADLESS TESTACEA. See Chamacea. Chamidæ.

HEÆ-NUN, or Amoy, is an island in the Province of Foo-keen, and the city is of the third class, situate in Lat. 24° 32 N. Lon. 118° 6 East, and has a remarkably fine harbour and bay, capable of affording safe anchorage to one hundred sail, the entrance to which is through a narrow passage, fortified on either side. The population of Amoy exceeds 200,000, the greater portion of whom are occupied in the coasting trade. The city of Amoy is about eight miles in circumference, including the outer town or city, and north-eastern environs, the outer town is separated from the city by a chain of rocks, with a paved pass to a covered gateway, on the summit, and is skirted by the outer harbour; Amoy is well fortified, as the citadel, which is more than a mile in circumference commands the inner town, *Sirr's China and the Chinese. Vol.* I. p. 132-133.

HEARI, Mahr., Terminalia chebula, *Retz.*

HEART-LEAVED COCCULUS. Eng. Cocculus cordifolius, *D. C.*

HEART LEAVED-FIG. Ficus cordifolia.

HEART-LEAVED MENISPERMUM. Menispermum cordifolium.

HEART-PEA. Cardiospermum halicacabum.

HEARTS-EASE. Viola tricolor, Pansy.

In gardens oft a beauteous flower there grows,
By vulgar eyes unnoticed and unseen;
In sweet security it humbly blows,
And rears its purple head to deck the green.
This flower, as Nature's poet sweetly sings,
Was once milk white, and Heart's-ease was its name,
Till wanton Cupid poised his roseate wings,
A vestal's sacred bosom to inflame.
With treacherous aim the god his arrow drew,
Which she with icy coldness did repel,
Rebounding thence with feathery speed it flew,
Till on this lonely flower, at last, it fell.
Hearts-ease no more the wandering shepherd found
No more the nymphs its snowy form possess,
Its white now changed to purple by Love's wound,
Hearts-ease no more,—'Tis Love in idleness.

Mrs. Sheridan. p. 47.

HEAVY OAK, Eng. Quercus incana.

HEAT. Poo hgying, Burm. The heat in India is sometimes very high. Major Sander's thermometer, on the Furrah-rood, in 1840, rose to 175° in the sun, a heat which enabled him to poach eggs in the burning sand. The mean heat at Bombay is 84° at Madras 83°, Calcutta 79°. Delhi 72°. *Ferrier Journ.* p. 269. See Gunpowder.

HEATHER, HIMALAYAN. Andromeda fastigiata.

HEAVEN. See Swarga Moksha.

HEAVENS, the seven.

HEAVY SPAR or Sulphate of baryta, sulfate de baryte, French; schwefelsaures Baryt German, is more abundant as a mineral than the Carbonate. The finest specimens have been obtained from Dufton in Cumberland: Dr. Royle found it on the Himalaya, near the convalescent depot at Landour.—*Illustr. Himal. Bot. p.* xxxiii, *Prop.*

HEBALSU. Can. The Wild Jack-wood.

HEBEL, the vanishing, the Abel of the Bible.

HEBENSTREITA a genus of undershrubs grown in common garden ground, the flowers white.

HEBER. The passage, a historical term connected with the race of Arphaxad,—indicating their passage near the Upper Tigris, in a south-western direction —*Bunsen.* See Joktan.

HEBER a bishop and metropolitan of India, an eminent writer, was found dead in his bath, at Trichinopoly, on the 4th October 1833. In his time, he visited many parts of India and consecrated most of the church yards and churches, which led to after regulations.

HEBHARUVARU. Karn. A class of brahmans in Mysore.

HEBOLSU. Mahr. Artocarpus hirsuta, *Lam.*

HEBRADENDRON GAMBOGIOIDES, *Graham.*

Cambogia gutta, *Linn.* | Mangosta morella *Desrouss.*

Assara Rewand,	Ar.	Rong,	Malay.
	Hind. Pers.	Go-katu,	Singh.
Gamboge tree,	Eng.	Katu,	„
Rewand Chini,	Guz.	Kana goraka,	„
Sirah,	„	Mukki,	Tam.

A moderate sized tree of Ceylon from the bark of which the gamboge of commerce oozes. The genus belongs to the natural order Clusiaceæ, and was established by Professor Graham of Edinburgh, for the gamboge-tree of Ceylon. The gamboge of commerce is known by the names of Ceylon and Siam gamboge. The gamboge of Siam is in cylinders, either solid or hollow, usually called pipes: it is supposed to have this form

from being so rolled, or from being poured into the hollow of bamboos. According to Lieutenant White, in his 'Visit to Cochin China,' in this form it is usually of the best quality, but Mr. Pereira has shown that some very impure is occasionally in the form of pipes. As this pipe-gamboge is usually exported from Singapore, it has been doubted whether it was actually the produce of Siam; but specimens from Mr. G. Swinton, which were sent to him direct from Siam, when he was Chief Secretary to the Indian Government, as the produce of that country, are identical with the best pipe-gamboge of commerce. The only information respecting its preparation is that given to Kœnig by a Catholic priest, who officiated as such to his co-religionists of Cochin China, and who stated that the inspissated juice obtained from breaking the leaves and young shrubs, as well as the fragrant lignum aloes, are given as a tribute to the king of Siam by the christians residing there. The tree must therefore be common, and probably near inhabited places, and therefore very likely to be Oxycarpus Cochinchinensis of Loureiro (now referred to the genus Garcinia) who names it from its acid fruit, and describes it as cultivated in Cochin China. Specimens of a plant, something similar to this in the form of its leaves, given by Mr. Malcolmson, were collected by him in Rangoon, which he thought might be the gamboge plants, as it contained a yellow purgative juice in the rind of its fruit. Dr. Graham thinks that the Siam plant may be a nearly allied species of the same genus as the Ceylon plant. The Ceylon gamboge is usually considered inferior; that which forms an article of commerce no doubt is so; and we have been informed by one of the principal merchants of Ceylon that, finding the gamboge there very cheap, he had been induced to purchase and send it to England, but had not been able to sell it from its inferior quality. No doubt, however, some of very excellent quality is produced in Ceylon by the tree which has been called Hebradendron cambogioides, and Mrs. Colonel Walker describes it as "brilliant and excellent," and "as good for water-colour drawings as any she ever used." Dr. Graham ascribes its inferiority to want of care in preparing the article for market; though it is yet doubtful whether the Ceylon gamboge of commerce is all yielded by this tree; but Mrs. Walker on one occasion, in passing through a forest of these trees, saw all of them with the bark cut off in various places. Dr. Christison has shown that there is all but an identity of composition with that of Siam; and its medicinal effects are precisely the same, as proved in Ceylon by Dr. Pitcairn, and by Drs. Graham and Christison in Edinburgh. The plant, though new named, is far from being new. Dr. Graham considers it to be identical with the Carcapuli of Herman, the Cambogia gutta of Linnæus, the Garcinia morella of late authors, and the Stalagmitis cambogioides of Moon's 'Catalogue of Ceylon Plants.' The last name might have been retained, as it was originally intended for it, had it not been discovered by Mr. Brown that the specimens in the 'Banksian Herbarium' collected by Kœnig, and from which Murray's character of the genus and species was established, consist not of one, but of two distinct plants, the flowers of Xanthochymus ovalifolia being stuck by sealing-wax upon a branch of what appears to be this Ceylon plant. The genera Stalagmitis and Xanthochymus are therefore one genus, as was previously inferred by Cambessodes, who has retained for it the former, as the prior name. The genus Hebradendron has dicœcious flowers, the male having the calyx membranaceous, 4-sepalled, persistent; corolla 4-petalled; stamens monadelphous; column 4-sided; anthers terminal, opening by the circumcision of a flat and umbilicate terminal lid. The inflorescence of the female tree is similar to that of the male, the flower white and a little larger, with a germin precisely in miniature of the fruit, and surrounded like it with several (ten ?) abortive stamens. The berry is many (4) celled cells 1-seeded, surrounded at the base with some free abortive stamens, crowned by a lobed and muricated sessile stigma; cotyledons fleshy, united; radicle central, filiform; trees with entire leaves.—*Dr. Christison.* See Clusiaceæ, Dyes, Gamboge.

HEBRADENDRON PICTORIUM *Christison.*

Garcinia Pictoria.—*Roxb.*

A tall tree of the Malabar coast 60 feet high, of a conical shape, and very full of branches. The bark is pretty thick, scabrous and ramous on the outside, of a dark ferruginous colour, intermixed with many yellow specks, and through its substance, particularly on the inside, considerable masses of gamboge are found. The young shoots are somewhat angular, smooth polished, of a deep green colour. The leaves are opposite, short petioled, oblong, ventricose, rather acute, entire, smooth on both sides, and of a firm texture, from 3 to 4 inches long, by $1\frac{1}{2}$ or 2 inches broad. The calyx consists of two unequal pairs of concave obtuse leaflets, permanent. Petals 4,

oval, longer than the calyx. Anthers from 10 to 15, oblong, 2-lobed, and seemingly fertile. Ovary superior, round, 4-celled, with one ovule in each, attached to the axis a little above its middle. The berry is the size of a large cherry, oval, smooth, very slightly marked with four lobes, crowned with the sessile 4-lobed verrucose permanent stigma. Roxburgh says he received frequent samples of the gamboge of this tree from a correspondent at Tellicherry, and uniformly found it, even in its crude unrefined state, superior in colour while recent, but not so permanent as that from China. The tree grows on the highest parts of Wynaad in the peninsula of India.—Lindley *Flora Medica*, quoted in *Royle's Materia Medica*.

HEBREW is the language of the sacred books of the Old Testament and does not contain at most above 1,200 roots, the auxiliary forms included. Like all Aramaic languages it contains a great number of forms, for flexion or composition, thus an "x" signifies to live, life, alive, a living being. The language of Tyre and Sidon, was pure old Hebrew. Abram was a Hebrew, who spoke Aramaic as his mother tongue, but migrated from the Trans-Euphrates country and adopted the language of Kanaan, whose first born son was Sidon. 1,400 years after Joseph, Kanaan was occupied by the Israelite, Edomite and Canaanite, as separate nations. In the Old Testament, (Isaiah xix. 18,) the language of the Bible is called the language of Kanaan, in no instance Hebrew. This language is used by the small colony of Jews residing in Cochin and its neighbourhood, and is their means of acquiring a knowledge of their religion. Dr. Pritchard makes his fourth family of tongues, the Syro-Arabian languages, which, he says, appear to have been spoken from the very earliest times by the various nations who inhabited that part of Asia lying to the westward of the Tigris. Chevalier Bunsen names these the Semitic stock of languages, amongst which he includes those of the Hebrews and other tribes of Kanaan or Palestine inclusive of the Phenicians:—the Aramaic tribes of Aram, Syria, Mesopotamia, and Babylonia, speaking Syrian in the west and the so-called Chaldaic in the east; and thirdly, the Arabians, whose language is connected, through the Himyaritic, with the Ethiopic, the ancient, now the sacred, language of Abyssinia. The Semitic of Eichom, from Shem, is the Syro-Arabian of Farrar and Arabic of Leibnitz.

The Hebrew race, speaking this family of languages, ignorant of science, and theocratic, has devoted itself to the expression of religious instincts and intuitions,—in one word to the establishment of monotheism. The Semitic has, according to Mr. Farrar, three main branches:—

Aramaic, divided into two dialects, Syriac and Chaldee.

Hebrew, with which is connected the Carthaginian, Phœnician and Arabic.

Besides these, Egyptian, Babylonian, Assyrian and the Berber dialects are now considered to have a Semitic character, by Champollion, Bunsen (Egyptian) Lassen, Eugene Bornouf, Dr. Hincks, Sir H. Rawlinson (Assyrian) and Prof. F. Newman (Berber.) Essenians were a sect amongst the Hebrews who every day saluted the rising sun. The Hebrews, in Afghanistan and Bombay are called Ban-i-Israel.—*Bunsen*, i, 270-271. iv. 419. *Caldwell*, p. 3. See India. Inscriptions, p. 372. Iran, Jews, Kali, Sacrifice, Sanskrit, Serpent.

HEBRON in Judea was a refuge city, also, according to the Jews, the grave of our parents is there. See Bait.

HEBULHU. Mahr. Artocarpus hirsuta.

HECATE, See Kali.

HEDDE, Can., Nauclea cordifolia, *Roxb.*

HEDDE WOKE, Singh., Choecarpus pungens.

HEDERA, a genus of plants belonging to the natural other Araliaceæ, the Ivy family, generally trees or shrubs, several genera of which, Panax; Dimorphanthus; Aralia and Hedera, occur in India.

The following species are known in the Indies.

acuminata.	heterophylla.	rostrata.
exaltata.	jackiana.	trifoliata.
helix.	racemosa.	umbellifera.

Arbundul and Biridi, plants of Kaghan are species of Hedera, *Eng. Cyc. Wight's Icones.*

HEDERA EXALTATA, *Thw.* A large tree growing in the central province of Ceylon, at an elevation of 4,000 to 6,000 feet.—*Thw. En. Pl. Zeyl. p.* 132.

HEDERA HELIX, The Ivy: Common Ivy:

Lablab,	Ar.	Dakari	Beas.
Kussus,	„	Parwatti,	Trans Indus.
Harbambal of	Jhelum.	Kural of	Chenaub.
Arbambal	„	Kuril of	Ravi.
Karmora of	Kaghan.	Karur	„
Mandia	„	Karbaru of	Sutlej.
Brumbrum of	Beas.	Kàniuru	„

The ivy is a common plant all over Europe, clinging to trees and walls. It has a climbing stem with root-like fibres; leaves coriaceous, smooth, shining. It is found commonly wild in England, and is dispersed

through many distant parts of the Old World, lying between the Canaries and Europe on the west, and the northern parts of China on the east. In the Canaries it acquires its largest size, being what is called in English gardens, the Irish or Giant Ivy, which grows so much faster than the European form. In the north of India, and indeed occasionally in Italy, the berries, instead of being black as in Britain are bright yellow, and it is supposed that this is more particularly the Hedera of the Roman poets. The flowers are yellowish and appear late in the season, and, in consequence, are much resorted to by bees at seasons when little other food is to be had. It is common in the Punjab Himalaya, at places from 3,200 to 8,000 feet, occurs in the Salt Range and Trans-Indus; and Dr. Bellew got it at 9,000 feet near the Sufed Koh. It is stated to be a favourite food of goats, and in Kullu the leaves are said to be added to the beer of the country to make it strong.—*Dr. J. L. Stewart, M. D., Eng. Cyc.*

HEDERA UMBELLIFERA a native of Amboyna, where it is called "Sarura." It has a shrubby, unarmed, stem, and yields a blackish or dull-brown resin with a very powerful aromatic camphorated smell.—*Eng. Cyc.*

HEDGE HOG, the Erinaceus of the Mammalia, of which there are in India, at least, two species, E. collaris and E. mentalis. See mammalia.

HEDGES are not used for the cold weather crops of India. For the garden crops, sugar cane, betel, vine and others, the large species of saccharum are used. Quick-hedges are formed in Japan of the Lycium Japonicum, Citrus trifoliata, the Gardenia, species of Viburnum, Thuja, Spiræa; and arbours are made of the Dolichos polystachyos. Dr. Cleghorn gives the following as the hedge plants of India.

i. Plants adapted for Field-enclosures.

Opuntia dillenii, *Haw.*	Epicarpurus orientalis, *Blume.*
Agave americana, *L.*	Jatropha curcas, *L.*
Euphorbia tirucalli, *L.*	Pisonea aculeata, *Rox.*
„ antiquorum, *L.*	Capparis sepiaria, *L.*
„ nivulia, *Buch.*	„ aphylla, *Rox.*
Cæsalpinia sepiaria, *Rox.*	Scutia indica, *Brong.*
„ sappan, *L.*	Azima tetracantha, *Lam.*
Pterolobium lacerans, *R. Br.*	Gmelina asiatica, *L.*
Guilandina bonduc, *L.*	Balsamodendron berryi, *Arn.*
Parkinsonia aculeata, *L.*	Toddalea aculeata, *Pers.*
Poinciana pulcherrima, *L.*	Bambusa arundinacea, *Willd.*
Mimosa rubicaulis, *Lam.*	Bambusa spinosa, *Rox.*
Inga dulcis, *Willd.*	„ pana, *Rox*
Acacia arabica, *Willd.*	Dendrocalamus tulda, *Nees.*
„ concinna, *D. C.*	Pandanus odoratissimus, *L.*
Vachellia farnesiana, *W. and A.*	
Hemicyclia sepiaria, *W. and A.*	

ii. Ornamental Plants forming inner fences.

Lawsonia inermis, *L.*	Adhatoda vasica, *Nees.*
Lonicera ligustrina, *Wall.*	„ betonica, *Nees.*
Citrus limetta, *Riss.*	Graptophyllum hortense, *Nees.*
Morus indica, *L.*	Gendarussa vulgaris, *Nees.*
Punica granatum, *L.*	Gardenia florida, *L.*
Phyllanthus reticulata, *Poir.*	Allamanda cathartica, *L.*
Hibiscus rosa sinensis, *L.*	

iii. Plants used for edging garden walks.

Pedilanthus tithymaloides, *Poit.*	Rosa indica, *L.*
Vinca rosea, *Willd.*	„ semperflorens, *Curtis*

Heliotropium Curassavicum, L.

The Cacti, Agaveæ and Euphorbiæ are adapted to the arid districts, their structure enabling them to exist, when refreshed with only occasional showers; the Mimoseæ and Cæsalpineæ seem to enjoy the somewhat more cold and moist climate of the Balaghaut districts; while the Bambuseæ and Pandaneæ luxuriate in the rich loamy soil of the Mulnad (i. e. Rain country) Plants, for railway fences ought to differ as the line is continued through various districts, in accordance with the conditions under which particular plants thrive best between certain limits of temperature and moisture.—*Thunberg's Travels, Vol.* III. p. 8. *Dr. Cleghorn in Rep. Brit. Ass.* 1850, p. 311.

HEDGE QUINCE. Ægle sepiaria.

HEDJAZ. Arab. Goat.

HEDOO, Mahr. Can. Nauclea parvifolia, *Roxb.*

HEDUNG of Java the chopping knife of the Tenger mountaineers.

HED-YA-Mahr, a drover or cattle-dealer.

HEDYCHIUM, a genus of plants belonging to the natural order Zingiberaceæ, of which 28 species occur in the East Indies, some of them with sweet smelling flowers. A very fragrant species of hedychium with long narrow petals, and an epiphytic habit is often seen in Tavoy. Marsden gives Gandasuli, as the Hedychium coronarium of Linnæus, the doolal champa of India, and adds that its flowers are worn as ornaments in the hair, and in the enigmatical language of flowers stand for inconstancy.—*Mason. Jour. Ind. Arch., Vol.* V. *No.* 8, *August* 1851.

HEDYCHIUM CORONARIUM.

Doolal champa, Beng. | Khet-lan-thæ, Burm.

The garland flower, much cultivated; the flowers are fragrant, colours, orange, scarlet, yellow and white. The yellow and white varieties are both common. This is the most charming of all the plants of this natural order—the great length of time it continues to throw out a profusion of large, beautiful, fragrant blossoms, makes it parti-

cularly desirable." The plants are natives of India, and only require a light rich soil: they are increased by dividing the roots.—*Roxb. Voigt. Mason. Riddell.*

HEDYCHIUM SPICATUM.—*Royle; Bot. Mag.*

Bankela; Saki	of RAVI.	*Bazaar roots.*	
Banhaldi; Shlui	„ BEAS.	Kapur Kachri,	HIND.
Sidhoul	HIND.	Kachur.	„
Khor; Shalwi,	SUTLEJ.	Seer,	„
		Rutti	„

This grows throughout the East Indies and in the Punjab Himalaya up to near the Jhelam at least at from 3,500 to 7,500 feet and in China. Its large broad leaves are twisted and made into coarse mats for sleeping on, &c. The tuberous roots have, as "wild ginger," been tried by Europeans, as a preserve, but without success. The root is fragrant, warm, and aromatic, and Dr. Royle thinks it may probably be the "ritte," or lesser galangal of Ainslie. Capoor cutchery is the root of this plant, it is about half an inch in diameter, and, in China, is cut into small pieces and dried for exportation; has internally a whitish colour, but externally it is rough and of a reddish color; it has a pungent and bitterish taste, and a slightly aromatic smell. It is exported to Bombay, and from thence to Persia and Arabia; it is said to be used in perfumery and for medicinal purposes, and also to preserve clothes from insects. In Garhwal, they are used in washing the newly married, and Madden states that they are pounded with tobacco for the hookah.—*O'Shaughnessy, p.* 662. *Roxb.* i. 10; *Voigt. p.* 568; *Dr. J. L. Stewart, Punjab Plants, p.* 239.

HEDYOTIDEÆ a section of plants of the Nat. order Cinchonaceæ, containing 16 Wendlandi, 1 Lerchea; 2 Greenia; 3 Adenosace; 1 Xanthophytum; 26 Ophiorhiza; 8 Argostemma; 1 Spiradiclis; 2 Neurocalyx; 1 Dentella; 95 Hedyotis; 2 Kohautia; 10 Metabalos; 5 Axanthes; 2 Urophyllum.

HEDYOTES, a genus of the section Hedyotideæ, Nat. order Cinchonaceæ; some of the species are pretty flowering plants, otherwise mostly unimportant. *W. Ic. Voigt. Roxb.*

HEDYOTES UMBELLATA LAM. R. BR.

Hedyotes hispida, *Roth.* Hedyotes Indica *Rœm and Sch.*	Oldenlandia umbellata *Linn, Roxb.*
Indian Madder ENG.	Saya. TAM.
Choya. SINGH.	Emburel cheddi, „
Sayan; Sayan mul. „	Cherivelu. TEL.

HEDYSARUM. All the species of the genus Hedysarum may be cultivated. They thrive in a light rich soil; the perennial sorts may be increased by dividing the roots; and the seeds of the annual species should be sown in an open border.

HEDYSARUM ALHAGI. *Linn.*

Alhagi maurorum TOURNE	Ononis spinosa HASSEL.
„ Nepalensium D. C.	Shouk-ul-Byza, ARAB.
Manna Hebraica DON.	
Juvassa, BENG.	Juansa, HIND.
Hebrew manna plant ENG	Juasu, „
Camels thorn, „	Badawart, PERS.
Feve de loup, FR.	Shutur Khar, „
Kamels dorn, GER.	Dehveh samani, TURU.
Susskle, GUZ.	

A spiny shrub, from its branches exudes a sweet substance like manna; tatties are sometimes made of it, in Upper Hindoostan. Wellsted could not learn that manna is procured from this tree, in S. Arabia as in the vicinity of Mount Sinai.—*Wellsted's Travels Vol.* I. *p.* 139. *Ains. Mat. Med. p.* 176.

HEDYSARUM GANGETICUM.

Salaporni. HIND.

This root is believed to be from the Hedysarum gangeticum, one of the Leguminosæ, a bitter tonic used in fever.—*Cat. Ex.*, 1862.

HEDYSARUM GYRANS. The wings of the ternate leaves of this leguminous plant are constantly oscillating upwards and downwards, as if invested with the power of voluntary motion, quite independently of any external stimulus.—*Hartwig.*

HEDYSARUM JUNCEUM, the Rush-stemmed Hedysarum, grows in vast quantities in Shekhawatti and elsewhere, near Jaepoor, the small branches are sweet and eaten by camels and other cattle. This becomes a considerable bush, and has no thorns.—*Gen. Med. Top,* p. 205.

HEDYSARUM LAGENARIUM, ROXB. Syn. of Æschynomene aspera.

HEDYSARUM LINEARE is used in Cochin China as a stomachic, and H alpinum is used in Siberia for the same purpose.

HEDYSARUM NALLA KASHINA. ROXB. Syn. of Ormocarpum sennoides. *D. C.*

HEDYSARUM PROSTRATUM. LINN. Syn. of Indigofera enneaphylla.—*Linn.*

HEDYSARUM SENNOIDES.

Ormocarpum sennoides.—*D. C.*

Jungli Munghi ki-jar, DUK.	Katu murunga vayr, TAM.
Kanana, shiguru, SANS.	Adivi munaga veru, TEL.

The root possesses a considerable degree of warmth and is prescribed, as a tonic in certain cases of fever, also, in decoction, it is supposed to be a valuable remedy in rheumatic affections of long standing. With the bark of the root, ground small, and mixed with gingilie oil, a liniment is prepared which the Vyteans recommend as an external

application in paralytic complaints and in lumbago.—*Ain's Mat. Med.*, p. 74.

HEDYSARUM STIPULACEUM. Burm. and H. triflorum Linn. Willd. are Syns of Desmodium triflorum.

HEDYSARUM TUBEROSUM.

Pueraria tuberosa.—*Bank's Ic. Kemp*, Tab. 25.

Kudsumi, Hind. | Daree goomodee—Tel.

A rare species, a native of the valleys far up amongst the mountains. It flowers during the hot season, at which time it is perfectly naked of leaves, being deciduous about the beginning of the cold season. The root peeled and bruised into a cataplasm is employed by the natives of the mountains where it grows to reduce swellings of the joints.—*Roxb. Fl. Ind.*, Vol. II, p. 863.

HEEL. This part of the body is often alluded to by oriental nations. The only vulnerable part of Krishna's body, was his heel, in which he was shot by a Bhil.

HEEMACHA, a bag made of the skin of a lamb, used by fakirs.

HEEN. Every Chinese province is divided into a certain number of districts, called 'Fu,' 'Ting,' 'Chow, or 'Heen.' A 'Fu' is a large portion or department of a province under the general control of a civil officer, immediately subordinate to the head of the provincial government.—*Sirr, Chinese.*

HEEN AMBILLA GASS. Singh. Antidesma zeylanicum.—*Lam.*

HEEN-KADOL. Singh. Ægiceras fragrans.—*Kon.*

HEERABOL. Hind. Sans. Balsamodendron myrrha. *Nees ab Esen.*

HEERADAKUN. Dragon's blood, from "Calamus draco."

HEERA-KASSEES, Dry per-sulphate of iron, used in dyeing, in making ink, blacking leather, used also in medicine, and made into "missi" to apply to the teeth :—to make.

Black missi.—Heera-kassees, chaipal barra, chooni-gond, lila tootiya, iron filings, kuth, equal parts, pounded and mixed: rubbed on the gums.

White missi.—Sufaid soorum (crystallized carbonate of lime, double refracting spar), and cinnamon pounded together: used as tooth powder.

Sada-kassees.—Impure sulphate of iron, the refuse from the manufactory of the sulphate of copper: four seers for one rupee.—*Gen. Med. Top. p* 137.

HEERAKHOND, in Assam, where diamonds occur. Tavernier tells us (Travels, p. 156), that gold, "comes from the kingdom of Tipra, but it is coarse, almost as bad as that of China." Gold dust is washed in the Dikerie river in the Tezpore district, but all the rivers in the north of Assam probably contain the auriferous metal, and on approaching the strata in the hills, the grains of metal found are of larger size. The value of the gold on the spot is rupees 16 for the quantity of a weight of a rupee. The Assamese use no cradle. A spot is selected and after digging down 4 or 5 feet, the sand is taken out and washed by passing water over it in any long leaf found at hand. The dust is then put into a small wooden or brass cup and a small quantity of quicksilver added, the mass is then gently moved together, the mercury taking up the gold and leaving the sand. The water is then drained off and the mercury with the gold placed in a piece of charcoal, the centre of which has been hollowed out; this is then put into the fire and the smelting takes place, the gold-finder using a piece of bamboo as a blow-pipe: when the whole mass is red hot, the charcoal containing the gold is taken out, dropped into water, and the shining metal appears. Gold also occurs in the Dirjmoh river Assam.—*Cat. Ex.* 1862.

HEERANA or Hirana in east Oud'h, manuring a field bypenning a herd of cattle or flock of sheep in it for several hours. K'hutana is used in a similar sense in Rohilcund. This practice is known in England under the name of 'fold-course' or 'foldage,' which formerly meant a privilege which several lords reserved to themselves of setting up folds within their manors for the better manurance of the same.—*Elliot, Supp. Gloss.*

HEERDA. Mahr. Terminalia chebula. —*Retz.*

HERRING, Pike, and Flat-fish tribes are represented on the Tenasserim Coast, by flat bellied herrings, thryssa-anchovies, Tenasserim-sardines, bristle-finned sprats, shads, chatæsi, fresh-water herrings, flying-fish, half-billed gar-fish, pikes, plagusia—soles, and brachirus—turbots.—*Mas.* 318.

HEFT, properly haft, Persian, seven.

HEFT-DHAT, literally seven metals, corresponding to the planets, each of which ruled a metal: hence Mohar, 'the sun,' for gold; Chandra, 'the moon,' for silver.—*Tod's Rajasthan*, Vol. I, p. 274.

HEFT-AKLIM, the seven climates, into which the mahomedan geographers divide the earth. The term is meant to include the whole world, and kings sometimes hyperbolically assume the title of king of the seven climates.

HEFT KISHWAR, has the same meaning and allusion as heft aklim; and the

sovereignty of the world is sometimes assumed under that title.—*Hindu Infanticide*, Vol. I, p. 141.

HEGGADE. KAR. The head-man of a town or village, but especially applied to one of the Jain religion. It is also used by certain castes as an affix to proper names to intimate respectability corresponding with sahib, or mian in Hindustan.—*Wilson's Glossary.*

HEGGULI of the Yerkali, Pandion haliætus.—*Linn.*

HEIBAH. See Knnduz.

HEIL. PERS. Cardamom. Eng.

HEJAZ, Burton says that the Arab of the Hejaz still uses heathenish oaths, and heathen names, few being mahomedan. Their ordeal of licking red hot iron, their practice of the salkh or scarification as a sign of manliness and their blood revenge, their eating creatures which have not been made lawful by the usual formula and their lending their wives to strangers, he indicates as showing how little mahomedanism has influenced the uncivilized parts of the country. *Burton's pilgrimage to Mecca vol.* iii *p.* 79. *See Bedouin.*

HEJR or Hajr. AR. also Tyn-Armeni? ARAB? Bole Armenian, perhaps Gil-i-Armeni.

HEJR-UL-BAHR. ARAB. Calculus cysticus.

HELA, a race of northern India, occupied as scavengers.

HELBETH. ARAB. also Helbh. ARAB. Trigonella fœnum Græcum. Fenugreek seed.

HELBULSOO. CAN. Artocarpus hirsuta.—*Lam.*

HELE. HIND. A subdivision of the Jat tribes.

HELEMBE. SINGH. Nauclea parvifolia.—*Roxb.*

HELENIUM MEXICANUM a flowering plant, well adapted for borders, they are tallish growing plants, with yellow coloured flowers, and grow in any common soil, natives of North America chiefly.—*Riddell.*

HELFER, Dr., of the Bengal Medical Service and a celebrated botanist, was murdered by the natives of the Andamans in January 1839. See As. Jour. 1840, Vol. xxxiii. Author of Notice of the Mergui Archipelago. Ibid., Vol. xxxiii, Report on Tenassérim, and the surrounding nations Bl. As. Trans., Vol. viii. Along with Lieutenant Hutchinson, he reported on the new coal-field of Tenasserim in Bl. As. Trans. 1839, Vol. VIII, 385. Author of Researches on the Tenasserim Coast, in Friend of India, 165, 638.—*Dr. Buist.* Catalogue.

HELIANTHEMUM, a genus of plants, of the Cistaceæ or Rock-rose tribe, of which the following species may be enumerated,

egyptiacum, N. Africa Spain.
breweri, Britain.
canum, hoary sun rose.
denticulatum, France, Tibet.
eriocaulon, Spain, France.
guttatum, S. Europe.
inconspicuum, Spain.
plantagineum, Europe, Persia.
polyfolium, Britain.
punctatum, France.
salicifolium, Spain, Italy.
sanguineum, Spain.
vulgare, common Rock-rose, Europe.

HELIANTHUS ANNUUS.—*Linn. Roxb.*

Shooria Mukti.	BENG.	Aditya Bhakti chettu:	
Sun flower.	ENG.	Poddu or Proddu triu-gudda-chettu	TEL.
Suraj mukhi,	HIND.		
Suria mukhi.	SANS.		

Very common in gardens.—*Voigt. Gen. Med. Top. page* 206.

HELIANTHUS OLEIFER. WALL, Syn. of Guizotia oleifera.—*D. C.*

HELIANTHUS TUBEROSUS.—*Linn.*

Bheamoka.	BENG.	Jerusalem artichoke.	ENG.
Suraj-mukhi.	BENG.		

Throughout India, this plant is cultivated as a vegetable in gardens.—*Gen. Med. Top.* p. 206.

HELICHRYSUM, a genus of exotic flowering plants, belonging to the Nat. Ord. Matricariaceæ, much admired for their very lasting and brilliant colours, they grow well in a rich soil and are easily cultivated by cuttings taken off at the joint. *Riddell.*

HELICIDÆ, a family of Gasteropodous mollusca, which may be thus exhibited:

ORDER II. Pulmonifera.
SECTION A. In-operculata.
FAMILY I. HELICIDÆ. Land-snails.
Genera. Helix. *rec.*, including sub-genera. 1,200 sp *fos.*, 50 sp.
Sections; Acavus. H. hæmostoma.
Geotrochus (lonchostoma)
Polygyra. H. polygrata.
Tridopsis. H. hirsuta.
Carocolla. H. lapicida.
Sub-genera. Anastoma. H. glogulosa. *rec.* 4. sp
Hypostoma. *rec.*
Lychnus. *fossil*, 3 sp.
Streptaxis. H. contusa, *rec* 24 sp.
Sagda. H. epistylium, *rec.* 3 sp.
Proserpina (nitida). 6 sp. also *fossil.*
Helicella. H. cellaria, 90 sp.
Stenopus (cruentatus). *Syn.* Nanina; Ariophanta, *rec.* 70 sp.
Vitrina. Glass-snail. *Syn.* Helicolimax, *rec.* 64 sp.
Sub-genera. Daudebardia. (Helicophanta). V. brevipes, *rec.* 3 sp.
Simpulopsis (sulculosa). *rec.* 5 sp.
Succinea. Amber-snail, *rec.* 68 sp. also *fossil.*
Sub-genus. Omalonyx. *rec.* 2 sp.
Bulimus.
Sections; Odontostomus (gargantuus). *rec.* 13 sp.
Pachyotis.
Partula. *rec.* 52 sp.

Gibbus (Lyonnetianus). *rec.* 2 sp.
Bulimulus. *rec.* 300 sp.
Zua.
Azeca. *rec.* 650 sp. *fossil* 30 sp.
Achatina. Agate-shell, *rec.* 120 sp. *fossil*, 14 sp.
Sub-genera. Glandina. *rec.* 40 sp.
Achatinella. *rec.* 28 sp.
Pupa. Chrysalis-shell, *rec.* 160 sp.
Sub-genus. Vertigo *rec.* 12 sp.
Cylindrella. Cylinder-snail, *rec* 50 sp.
Balea: *rec.* 8 sp. *Syn.* Fusulus.
Sub-genus. Megaspira. *rec.* 1 sp. *fossil*, 1 sp
Tornatellina *rec.* 11 sp. *Syn.* Strobilus. Easmatina.
Paxillus.
Clausilia. *rec.* 200 sp. *fossil*, 20 sp. *Syn.* Cochlodina. See Mollusca.

HELICTERES ISORA.—*Linn. Rh. Rox. W. and A. W. Ic.*

Dhamni,	Duk.	Kisht; Bur-Kisht,	Pers.
Murad-sing?	,,	Avurtunni,	Sans.
Kewun? Kewauni,	,,	Leeviya-gaha,	Singh.
Screw plant,	Eng.	Valambirikai,	Tam
Maror-phalli,	Hind	Syamali; Ada Sya-	
Kupaisi,	,,	moli; Kavanchi,	Tel
Joa-ka-phal,	,,	Nooli-tudda	,,

This plant has a singular looking contorted capsule, consisting of five fibres closely twisted in the shape of a screw, of various length, from one inch to two and a half. A liniment is prepared from the powder of it, which is supposed to be a valuable application in cases of offensive sores inside of the ears: the Teloogoo name means that the juice of the root is a powerful stomachic. The powder of the fruit has also been used in griping pains of the bowels, but solely because the twisted fibres of the capsule were considered to stamp it as a remedy, according to the ancient doctrine of signatures. The fibre of the bark makes good ropes.—*Powell, Drs. Stewart. Ain's. Mat. Med. page.* 118. *O'Shaughnessy, p.* 228.

HELICTIS, (Gray), a genus of the mammalia belonging to the order Carnivora. The species inhabit eastern Asia, and have the general appearance and colouring of Mydaus combined with a dentition resembling that of Gulo or Mustela, but differing from both the latter genera in the large internal lobe of the upper carnivorous tooth. The genus is thus characterised by Dr. Gray:—

Incisor (primores) $\frac{6}{9}$: canines (laniari) $\frac{1-1}{1-1}$; molars $\frac{5-9}{5-6}$

Head elongated, feet short; soles of the feet nearly naked to the heel; toes 5—5; claws strong, the anterior ones long and compressed. Tail cylindrical and moderate. There are two species, H. moschata from China, and H. Nepalensis from Nepaul. Their order may be thus shown;

Order Carnivora.

Tribe Plantigrada
Fam. Ursidæ, Bears.
2 *Gen.* Ursus 4 sp.
,, Ailura, 1 sp.
Tribe, Semi-Plantigrada.
Fam. Melididæ.
5 *Gen.* Arctonyx, 1 sp
,, Melivora, 1 sp.
,, Meles, 1 sp.
,, Taxidia, 1 sp.
,, Helictis 2 sp. H. moschata: H. nepalansis.
Fam. Mustelidæ, Weasels, Martens.
4 *Gen.* Martes, 2 sp.
,, Mustela, 12 sp.
,, Lutra, 7 sp.
,, Barangia, 1 sp.
Tribe Digitigrada.
Fam Felidæ.
1 *Gen.* Felis, 14 sp
Fam. Viverridæ.
Sub-Fam. Hyeninæ, Hyænas.
1 *Gen.* Hyena, 1 sp
Sub-Fam. Viverrinæ, Civets.
7 *Gen.* 31 sp viz.
,, Viverra, 5 sp.
,, Prionodon, 1 sp.
,, Parodoxurus, 10 sp.
,, Paguma, 1 sp.
,, Artictis, 1 sp.
,, Herpestes, 12 sp.
,, Urva, 1 sp.
Fam. Canidæ. Dog-tribe.
3 *Gen.* 14 sp. viz.
,, Canis, 5 sp.
,, Cuon, 1 sp.
,, Vulpes, 8 sp.

Jerdon Mammalia, Eng. Cyc.

HELICTERES ROXBURGHII. G. Don. *Rheede.* Syn. of Isora corylifolia.—*Schott and End.*

HELILAH, Persian, Myrobalan of Terminalia chebula.—*Roxb.* Of these, are six kinds, H. zirah, the young fruit, dried, of the size of cummin seed. H. jaoi, size of a barley corn: H. zengi, size of a raisin and black like a negro: H. chini, larger than H. zengi and greenish: H. asfer, fruit near maturity and yellow: H. kabuli, the fruit at full maturity, called, also, Sarwarri Hirda.

Helilah-i-Siah. Pers. Myrobalan.
Helilaj-ul-Aswad. Arab. Myrobalan.
Helileh-i-Kelan. Pers. Myrobalan Terminalia chebula.
Helilaj-ul-Kabuli. Arab. Terminalia chebula. Myrobalan

HELIOCLES, one of the Greek rulers in Bactria. See Bactria, Greeks' of Asia, Kabul.

HELIOPHILA, of the Cruciferæ, a genus of pretty annuals, natives of the Cape of Good Hope, colours, purple, blue, violet and white, raised by seed, in pots, and may afterwards be placed out in borders.—*Riddell.*

HELIOPOLIS or Baalbec, the Balith of Scripture and Heliopolis or Temple of the Sun of the Greeks, is now a ruined town. It is built on the lower slopes of the Anti-Libanus, 43 miles N. W. of Damascus in lat. 34° 1' 30" N., and long. 36° 11' E. The date of its origin is unknown, but Antoninus Pius built a great temple there. It was sacked in A. D. 748 by the mahomedans and finally pillaged in A. D. 1400 by Timur; and now contains about a hundred Arab families, cultivators and herdsmen who reside in a quarter surrounded by a modern wall. The great temple of the sun and its buildings are at the western end, outside the modern walls. There were rows of pillars in the Corinthian order of architecture, almost all of which have now fallen, as also, have the roofs of great courts, one of them 144 feet square, and vaulted passages. On the east is a court 230 feet by 118 feet, which had arches on its western and northern sides. Human sacrifices were discontinued here in the time of— ?

HELIOPSIS PLATYGLOSSA, Cass. Syn. of Guizotia oleifera.—*D. C.*

HELIOTROPE or Bloodstone, a quartzose mineral which occurs abundantly in the trap rocks of the Dekhan.

HELIOTROPE, flowering plants, should be grown in a soil more approaching to sand than clay, easily cultivated in pots, or the flower beds, propagated by cuttings in sand under glass; they require to be protected from the hot winds.

HELIOTROPIUM, a genus of plants of the Natural order, Boraginaceæ, of which several species are grown in India.

brevifolium.	malabaricum.	roxburghianum.
coromandelianum	marifolium.	scabrum.
curassavicum,	parviflorum.	supinum.
europæum.	peruvianum.	zeylanicum.
indicum.	ramossissimum.	
linifolium.	rottleri.	

HELIOTROPIUM CORDIFOLIUM. Mol. Hindicum. Linn. Syns. of Tiaridium indicum.—*Schm.*

HELIX, a genus of land snails very numerous in India. See Helicidæ.

HELL, amongst jews, christians, mahomedans and hindus, a place of after punishment to which the souls of wicked people are sent. Mahomedans call it by the Hebrew and Arabic term Jahanam—the hindoos Narakam. Amongst the Japanese Gokuja, or Hell, or as it is otherwise called Roja, is the cage. By this they mean their prison, which stands about the middle of the town, at the corner of a descending street.—*History* of Japan Vol. I. p. 261.

HELLEBORUS NIGER.

Khértik, Kherbeck Kurbec-ul-aswad. Ar	Schwartz Neisswargel, Ger.
Neiswurtel, Dan	Kuddu, Guz, Hind.
Kalikutki, Duk. Hind.	Kherbeck us Siah, Pers.
Black Hellebore Eng.	Helleboro, Port.
Christmas Rose, ,,	Kataka-rohini katuruni, Sans. Tam. Tel
Hellebore, Fr.	Calurana. Singh

Under the native names, two kinds of hellebore which are commonly met with in the Indian bazaars are brought from Nepaul and the Red Sea. The roots of both plants are used in medicine, they are much used by carriers, and occasionally by native practitioners as a powerful cathartic in maniacal and dropsical cases. The roots of one kind occur in pieces of four to six inches, are black all through their substance, externally of a grayish colour, with numerous joints. The second variety is in similar pieces, but of a whiter colour internally. Black hellebore is indigenous to the Alps, Pyrenees, and Apennines, and is also cultivated in Great Britain White hellebore grows in Switzerland, and the mountainous parts of Germany.—*Faulk. O'Shaughnessy, page* 168.

HELIOS. The sun god, See Ra.

HELLENES. See Kelat p. 490.

HELLENIA ALLUGHAS, Linn. Syn of Alpinia allughas.—*Roscoe.*

HELLENIA GRANDIFLORA. Retz. Syn. of Costus speciosus.

HELLENIC or Pelasgic Greeks. See Greeks: India pp. 312, 314.

HELLUS, one of the Coleoptera of Hong Kong.

HELLWATER, a narcotic spirit distilled in Java from the fleshy part of the fruit of Arenga saccharifera,

HELMAND, the Etymander of the classics and Hætumat of the Vendidad, rises in the southern slopes of the Kouen-lun mountain near the Kalu Pass. It has, near it, the town of Bamian 10 000 and Cabul 6,400 feet above the sea; Koh-i-Baba peak 17,000 and its course is S. Westerly, receiving tributaries which rise near Candahar, the latter town being 3,480 feet. It is separated from the valley of the Indus by a meridional chain that runs from near the Koh-i-Baba peak, due south the Indian Ocean. The Helmand takes a S. W. direction and in its course receives the rivers that pass Candahar. The Helmund is very rapid, especially in winter after the floods. At Girishk it is from sixty to ninety yards wide. Its whole course is 650 miles. Rising in the Pughman range lat. 34° 40', lon. 68° 2'; at an elevation of 10,076 feet above the sea, it runs westerly to Pullaluk; and northwesterly into the Hamoon marshy lake, and that of Duk-i-Teer

by numerous channels. At 25 m. below Girishk it receives the Urgundab, 450 m.; At Girishk, 350 m. from source, its banks are about 1,000 yards apart but in spring it spreads beyond these limits; depth 10 or 12 feet, with a rapid current. At Pullaluk it was crossed by Christie, who found it, at the end of March, 400 yards wide, and very deep. The Persian authors generally write its name as Heirmund. It flows through Seistan, part of which arid province is fertilized by its streams, and empties itself into the lake of Zerah. Pottinger says, about two days journey for a horseman to the westward of Dooshak, it forms a lake, which, at some seasons overflows its banks, so as to extend eighty or ninety miles in length, and thirty or forty in breadth. The Etymander of the ancients is a fine river, and is the only one between the Tigris and the Indus to which these words can be applied. After the junction of several small streams coming from Koh-i-baba, situated at a short distance west of Kabul, it runs from north-east to south-west a length of two hundred parasangs; at first in a deep channel through scarped rocks, its bed obstructed by enormous blocks, through the mountainous country of the Parapamisus inhabited by Hazarah Pusht koh. At 10 or 12 parasangs above Ghirisk it begins to flow over a sandy and gravelly bed and through a flat country with a channel less confined. It is then turned to account, and irrigates by artificial means the meadows and arable land in its vicinity, until, nearly exhausted by the soil, it reaches at its extreme limit on the south the Meshila-Seistan, or lake of Seistan. Several inhabited islands, and some of them, like Kaleh-i-Bist, fortified, are in the middle of the stream, the aspect of which from one extremity to the other is picturesque and sometimes majestic.—*Malcolm' History of Persia Vol.* I p, 3 *Pottinger's travelsBeloochistan and Sinde* p. 316 *Ferrier Journ.* pp 428, 420. See Aria Palus.

HELMSMAN. ENG.

Sikanni. HIND. | Jurumudi. MALAY.

Sikani, is from Sukhan, a helm, sukhani a helmsman

HELOT, modern India is largely inhabited by hindus proper and helots or out castes who have become completely or partially amalgamated into hindu society. The superior helot classes, all over northern India cultivate to a considerable extent either on their own account or as the servants of others.—*Mr. Campbell.*

HELOPIDÆ, one of the Coleoptera of Hong-Kong.

HEMA PUSHPAKAMU. TEL. Michelia champaca.—*Linn.*

HELRA, HIND. Boerhaavia elegans.

HEMAPUSHPIKA, S or pachcha adavi molla. Jasminum chrysanthemum, R.

HEMATORNIS. The Cheela eagle of Ceylon, is a different bird from Hematornis cheela of the Dekkan, most probably the Falco bido of Horsfield of Java and Sumatra. *Tennant's Sketches of the Natural History of Ceylon p.* 63.

HEMAVETY, See Oriza sativa.

HEMBAKO. The Tibetan name of the territory in Ladak, which the Kashmirians call Dras. See India p. 337.

HEMBAR, PANJAB. Ulmus campestris. L.

HEMEDOUN. See Samarcand.

HEMEROCALLIS FULVA.

Brown Day Lily. ENG. | Nurgus, Gool-nurgas. HIND

Narcissus of India cultivated as a flowering plant. The Narcissus fistulosus is also cultivated in European gardens.—*Gen. Med. Top.* p. 189.

HEMECERCUS, a genus of birds of the *Fam* Picidæ.

Sub-fam. Campephilenæ, 6 gen. 16 sp. viz., 1 Campephilus, 2 Hemicercus, 4 Hemilophus, 3 Chrysocolaptes, 2 Brachypterus, Tiga.

Sub-fam. Gecininæ, 4 gen. 19 sp. viz., 12 Gecinus, 1 Gacinculus, 3 Meiglyptes, 3 Micropternus.

Sub-fam. Picinæ, 2 gen. 15 sp. viz., 1 Dryocophus, 14 Picus.

Sub-fam. Picumninæ, 2 gen. 3 sp. viz., 1 Picumnus, 2 Sasia,

Sub-fam. Yunginæ, 1 gen. 1 sp. viz., 1 Yunx torquilla.

Sub-fam. Indicatorinæ, 1 gen. 1 sp. viz., 1 Indicator xanthonotus. See Birds, page 470.

HEMICHROMIS a genus of fishes.

FAM. 5 Chromides as under.

Gen. 2 Etroplus, 15 Chromis, 2 Sarotherodon, 4 Hemichromis, 17 Acara, 1 Theraps, 26 Heros, 1 Mesonauta, 1 Petenia, 2 Uaru, 1 Hygrogonus, 4 Cichla 9 Crenicichla, 3 Chætobranchus, 2 Mesops, 7 Satanoperca, 1 Geophagus, 1 Symphysodon, 1 Pterophyllum.

HEMICYCLIA, a genus of moderate sized trees of Ceylon. H. Gardneri. *Thw.*, not very abundant: H. lanceolata. *Thw.*, grows at Caltura, Ceylon, and H. sepiaria. *W. & A.*, 'Weera-gass.' *Singh.*, is abundant in the hot drier parts in the Peninsula of the island. 287. *W. Ic.*

HEMIDACTYLUS TRIEDRUS, a pretty little white and spotted lizard of Labuan. It is one of the Geckotidæ, a natural family of Saurian Reptiles, belonging to Gray's sub-order Pachyglossa, and the Nyctisaura. The following is a list of the species of

Asiatic Geckotidæ, with the localities they inhabit.

Ædura marmorata, the Marbled Ædura. North Australia.
Æ. rhomhifer, the Lozenge-Spotted Ædura. West Australia.
Diplodactylus vittatus, the Yellow-Crowned Diplodactyle. Australia.
D. ornatus, the Beautiful Diplodactyle.
D. ocellatus, the Eyed Diplodactyle. West Australia.
D. marmoratus, the Marbled Diplodactyle. Australia.
D bilineatus, the Two Lined Diplodactyle.
D. lineatus, the Lined Diplodactyle. Cape of Good Hope.
D. Gerhopygus, the Naked Diplodactyle.
Phyllodactylus pulcher, the Phyllodactyle.
P. tuberculatus, the Large-Tubercled Phyllodactyle.
Ptyodactylus Gecko, the Fan-Foot. Egypt.
Uroplates fimbriatus, the Famocantrata. Madagascar.
U. lineatus, the Sharp-Tailed Famocantrata.
Caudiverbera Peruviana, the Caudiverbera. Peru.
Hemidactylus trihedrus, the Triangular-Tubercled Hemidactyle.
H. maculatus, the Spotted Hemidactyle.
H. Brookii, Brooke's Hemidactyle.
H. depressus, the Groove-Tailed Hemidactyle.
H. verruculatus, the Warty Hemidactyle. Shores of the Mediterranean; Egypt.
H. fasciatus, the Banded Hemidactyle
H. Mabouia, the Brazilian Hemidactyle. Brazil.
H. mercatorius, the Wandering Hemidactyle.
H. frenatus, the Streaked Hemidactyle. Ceylon.
H. Leschenaultii, Leschenault's Hemidactyle. Ceylon.
H. vittatus, the Streaked Cheeked Hemidactyle. Borneo.
H. Bellii, Bell's Hemidactyle.
D. Garnotii, Garnot's Doryure. South Sea Islands.
Platyurus Schneiderianus, the Platyure. Java.
Leiecrus ornaius, the Banded Leiurus. West Africa.
Crossurus caudiverbera, the Crossurus.
Boltalia sublævis, the Boltalia. India.
Peripia Peronii, Peron's Peripa. Mauritius.
Peropus mutilatus, the Peropus. Manilla.
Theconyx Seychellensis, the Seychelle Gecko. Islands of Seychelles.

Pentadactylus Duvaucelii, Duvaucel's Pendactyle. India: Calcutta.
P. Leachianus, Leach's Geeko.
Gecko verus, the Gecko. India.
G. Reevesii, Reeve's Gecko Gecko. China.
G. Chinensis, the Japan. China and Japan.
G. Monarchus, the Amboyna Gecko. Borneo.
G. Smithii, Dr. A. Smith's Gecko. Prince of Wales, Island.
G. bivittatus, the Double Streaked Gecko.
Amydosaurus lugubris, the Sombre Gecko.
Gehyra oceanica, the Oceanic Gehyra. Islands in the Pacific.
G. Australis, the Swan River Gehyra. Swan River.
Ptychozoon homalocephala, the Fringed Tree-Gecko. Java.
Tarentola Mauriana, the Tarentola. Egypt.
T. Ægyptiaca, the Egyptian Tarentola. Egypt.
T Delalandii, Laland's Tarentola. Madeira; West Coast of Africa.
T. Borneensis, the Bornean Tarentola. Borneo.
Phelsuma Cepedianus, Lacepede's Phelsuma. Mauritius.

Pachydactylus ocellatus, the Eyed Gecko. Cape of Good Hope.
P. maculatus, the Spotted Pachydactyle. South Africa.
P. elegans, the Elegant Pachydactyle. South Africa.
Sphœrodactylus sputator, the Banded Sphærodactyle. South America.
S. ponctatissimus, the Lined Sphærodactyle. Martinique.
S. fantasticus, the Black-Headed Sphærodactyle. South America.
S. nigropunctatus, the Black-Dotted Sphærodactyle South America.
S. Richardsonii Richardson's Sphærodactyle. America.
Naultinus pacificus, the Pacific Naultinus. New Zealand.
N. elegans the Kakariki. New Zealand.
N. Grayii, the long-Toed Kakariki. New Zealand.
Eublepharis Hardwickii, Hardwick's Eublepharis. Penang, Chittagong.
Goniodactylus Timorensis, Boie's Augular-Toed Lizard. India.
G. alboangularis, the White-Throated Angular-Toed Lizard. South America.
G. ocellatus, the Eyed Angular-Toed Lizard. Tobago.
Cyrtodactylus, marmoratus, the Marbled Cyrtodactyle Java, Philippine Islands.
C. pulchellus, the Beautiful Cyrtodactyle. Singapore.
Heteronota Kendallii, the Bornean Heteronote. Borneo
Phyllurus platurus, White's Phyllure. Australia.
P. Milinsii the Thick-Tailed Phyllure.
P. inermis, the Spineless Phyllure. Australia.
Stenodactylus guttatus, Wilkinson's Stenodactyle. Egypt.

HEMIDESMUS INDICUS. *Rheede. R. Brown W. Ic. Contr.*

Smilax aspera	Asclepias pseudosara, *Roxb. var.* latifolia.
Periploca Indica, *Willde.*	
Ununtamul, BENG. HIND.	Irimusu, SINGH.
Kural, „	Nunnari, TAM.
Muckwy, DUK.	Gadi Sugandhi: Nalla Sugandhi; Pala-Sugandhi; Sugandapala, Pala Chukhanderu, Tella Sugandhipala TEL.
Indian, Sarsaparilla, ENG.	
Country Sarsaparilla, „	
Magraba, HIND.	
Naru nindi, MALEAL.	
Shadipa, SANS.	

This is a common plant, all over the Indian peninsula. The root is long and slender, with few ramifications, covered with rust-coloured very fragrant bark, the odour remaining after drying, and strongly resembling that of new mown hay. The roots have long been employed on the Madras coast as a substitute for sarsaparilla, and have been also used in England and very highly spoken of. Dr. O'Shaughnessy's trials were numerous and satisfactory. Its diuretic operation is very remarkable; two ounces infused in a pint of water and allowed to cool was the quantity usually employed daily, and by such doses the discharge of urine was generally trebled or quadrupled. It also acted as a diaphoretic and tonic, and so increased the appetite that it became a most popular remedy in his hospital, the patients themselves entreating its administration and continuance. The taste and smell of the infusion are balmy and sweet; he

used it with the most decided benefit in numerous cases of the description in which sarsaparilla is generally given; indeed he considers the activity of his medicine to be much more decided than that of sarsaparilla itself. The ununtamul can be purchased in Calcutta of good quality at from two to four annas the seer No good analysis has yet been made of this drug. A volatile acid is described by Mr. Garden of London as having been obtained from the Smilax aspera, under which name it is thought H. indicus became the subject of his experiments. This is however as yet doubtful. It occurs in bundles, about a foot and a half long; smell fragrant, enduring; fracture white; boiled in water, vapour very agreeable. It is a perfect substitute for sarsaparilla. But as much of its virtues depend on a volatile principle, ununtamul should not be employed in decoction, as long boiling dissipates the active ingredient. Dr. O'Shaughnessy says the infusion is a fragrant and highly effectual alterative and diuretic, of great service in secondary, venereal affections and chronic rheumatism. It is in every respect a perfect substitute for sarsaparilla.—*O'Shaughnessy Dispensary page* 456. *Beng. Pharm.* p. 279, 301.

HEMIGYMMA MACLEODII, *Griff?*

Cordia macleodii, *Hooker*

Botku. TEL. | Deyn gan. HIND.? of Jubbulpore.

This tree is abundant in the Godavery forests near Mahadeopore: it does not extend down to the Circars. It is found near Warungul. It is also indigenous to the Jubbulpore forests, where it is called "Deyngan." Dr. Griffith described "Hemigymna Macleodii." from dried specimens and thought that the leaves were opposite (instead of alternate) otherwise his description and native name agree. It yields a very beautiful wood which would answer as a substitute for maple for picture frames, &c.—*Captain Beddome.*

HEMIGYROSA TRICHOCARPA, *Thw.*, a moderate sized tree of which one variety grows in the Central Province of Ceylon up to an elevation of 3,000 feet; another variety grows in the hot, drier parts of the island.—*Thw. En. Pl. Zeyl.* i. p. 56.

HEMIONITIS CORDIFOLIA. In Tenasserim, near the sea shore, this species of mule fern with cordate fronds is sometimes seen.—*Dr. Mason.*

HEMIPODIUS DUSSUMIERI, a bird belonging to the family Perdicidæ. See Birds.

HEMIPTERA, of the Hemiptera, several genera occur in India. Amongst others, are Cantuo ocellatus, Leptoscelis marginalis, Callidea stockerius, &c., &c Of the aquatic species, the gigantic Belostoma Indicum attains a size of nearly three inches. Some of them are most attractive in color, a green one, often seen on leaves is quite inoffensive, if unmolested, but if irritated exhales an offensive odour.

Bugs belong to the Hemiptera and insects known as coffee bugs have in recent years attracted much attention from the anxiety and losses they have occasioned to the coffee planting interests, and from which planters are subjected to great losses, against which seemingly at present they have no means of protecting themselves.—*Tennent's Ceylon.* See Bugs · Insects.

HEMIRAMPHUS, a genus of fishes of the Family Scombresocidæ in which the genera are 46 Belone, 5 Scombresox, 40 Hemirhamphus, 1 Arrhamphus, 44 Exocœtus.

Hemiramphus macrorhynchos a native of the Bay of Bengal, near Pondichery, has an elongated body and proboscis like member proceeding from its mouth.

Hemiramphus Russelli. CUV. and VAL. Toda pendek (Pendek, short.) The Malays thus denominate all the species of Hemiramphus, to distinguish them from those of Belone (Toda) of the Malays. At Pinang this species is numerous at all seasons, but larger individuals occur at irregular intervals. They appear at European tables under the appellation of "Guard fish."—*Cantor. Hartwig.*

HEMITRAGUS JEMLAICUS a mammal of the goat tribe, See Capreæ: Mammalia.

HEMITRAGUS QUADRIMAMMIS. HODGS. Syn of Capra jemlaica.—*Ham. Smith.*

HEMLOCK. Conium maculatum.

Rosh, HEB | Rash, HEB.

a poisonous plant, of Europe, preparations from which are used in medicine. See Conium.

HEMP. Cannabis sativa.—*Linn. var.* C. Indica

Kinnub,	AR	Ganja,	MALAY.
Hamp,	DAN.	Bung,	PERS.
Sunn?	DUK.GUZ HIND.	Konope,	POL.
Kinnup, Hinnup,	DUT.	Konapli,	RUSS.
Chanvre,	FR.	Konopel,	"
Hanf,	GER.	Bhanga, Gangica,	SANS.
Kannabis,	GR.	Canamo,	SP.
Canape.	IT.	Hampa,	SW.

In the export commerce of India, hemp is a term applied to the fibres of several distinct plants, all of them valuable as cordage materials. The true hemp of Europe, is the fibre of the Cannabis sativa of botanists, which is chiefly grown in Russia and is sent to the other European countries for cordage, canvas and towelling. Hemp ap-

pears to be a plant of the Persian region, where it is subjected to great cold in winter, and to considerable heat in summer. It is however difficult to say of what country the plant is a native: Willdenow says Persia; Gmelin says Tartary; while Thunberg found it in Japan. It has thus been able to travel westerly into Europe, and easterly into Japan; so that the varieties produced by climate have by some been thought to be distinct species, the European being called C. sativa, and the Indian C. indica. It is believed to be originally a native of Asia and its Greek and Latin name Cannabis is supposed to be derived from the Arabic "Kinnub." Herodotus mentions it as a Scythian plant. Bieberstein met with it in Tauria and the Caucasian region. It is well known in Bokhara and Persia, and is abundant in the Himalaya. In Britain the prices of the cleaned fibre range from £15 to £45 the ton and in the years 1847 to 1851, the imports into Britain ranged between 40,578 to 53,063 tons annually. These quantities are stated from Poole's Statistics of commerce but Dr. Royle gives the following as the quantities of hemp imported into the United Kingdom:—

	1847	1848	1849	1850	1851
From Russia, Cwt	544,844	540,207	641,548	614,535	672,342
,, British territories in East Indies	185,788	258,239	360,362	399,345	590,923

Since the year 1855, in consequence of a war with Russia, true hemp has been more largely produced in other countries, and other fibres have been utilized, so that many fibres have come to be known in commerce under this name, and the value of all other fibres is estimated from their greater or lesser resemblance to hemp, and especially to Russian hemp. Though grown for the commercial purposes of Europe, principally in Russia, it is common in Egypt, Turkey and every part of Asia, but while in European countries it is cultivated only for its ligneous fibre, so extensively employed in the manufacture of the strongest ropes, and of coarse but strong kinds of cloth, in addition to its fibrous products, it is much cultivated in the oriental countries to obtain the intoxicating leaves, called 'Ganja,' from which 'Bhang' and "subjee" are produced, and the resinous substance, called 'churrus.' The mode of cultivating for each of its products is however different. The plant requires exposure to light and air, and is therefore sown thin or transplanted out when it is cultivated for its resinous and

intoxicating secretion, while the growth of fibre is promoted by shade and moisture, which are procured by thick sowing.

Hemp is an annual plant from 3 to 10 feet high, with the males and females on seperate stems. The finest quality of hemp and that which brings the highest price, being sold at 50s. per cwt., when the best Russia brings only 47 shillings, comes from Italy, though French, English and Irish hemps are much esteemed. The Russian hemp grows best in a friable soil of moderate richness. Hemp is grown everywhere throughout India, and in the Himalaya up to 10,000 feet, and with care in the selection of the soil and in its preparation, it might be made successfully to compete with the Russian, Polish and Italian hemps. Dr. Roxburgh's opinion is favorable as to its cultivation in the plains, and Dr. Royle recommends its cultivation both during the rainy and the cold weather season, the latter being so similar to that of the summer culture of European countries and points to Rohilcund and neighbouring hills as well suited for its extension.

It is from its possessing a remarkably tough kind of woody tissue capable of being manufactured into linen and cordage, that hemp is best known; and for its good qualities in this respect it is unrivalled among the many plants possessing similar properties. The hemp fibre of India is extensively used for the manufacture of twine and rope, coarse cloth, sacks and bags. In a Minute, published by the Madras Government (9th September, 1854 for the express purpose of directing attention to the fibrous productions of that presidency, the exports are given as valued at the following sums, in the respective years from 1847 to 1852, excluding Coir and Coir rope. The year selected above, in consequence of the published accounts of the three Presidencies being incomplete, is that in which the exports were the smallest.

	Hemp.
1847-48	Rs. 19,819
1848-49	,, 23,242
1849-50	,, 23,076
1850-51	,, 10,577
1851-52	,, 46,683

The following are the values of the hemp, coir, and coir rope exported from Madras as shown by the Sea Custom Returns.

	Hemp. Rs.	Coir and Coir Rope. Rs.	Total. Rs.
1847—48	19,819	27,937	47,756
1848—49	23,242	1,38,617	1,61,859
1849—50	23,076	2,08,704	2,31,780
1850—51	10,577	2,46,852	2,57,429
1851—52	46,683	2,42,019	2,88,702

Under the general title hemp including sunn and jute, from India, and that known as Manilla hemp, the quantities received in Britain were as under.

	From Russia Tons.	*All other parts* Tons.	*Total importation* Tons.
In 1851	33,229	31,442	64.671
1852	27,198	26,516	53,714
1853	41,819	21,323	63,142
Total	...102,246	79,281	181,527
Average	... 3,4082	26,427	60,509

Russia supplied considerably more than half the entire importation, realizing in one year, upon 42,000 tons at peace prices, averaging £35 per ton, a market value of nearly £1,500,000. In the Himalayas, the true hemp fibre is separated for economic purposes, and was exported from India to England during the last war. At the Madras Exhibition of 1855, the best and cleanest sample was sent from Nellore: this plant does not thrive in Southern India so well as in the North-West Provinces, and the colder parts of Bengal; it there produces a strong fibre suited for cordage and weaving, but in Southern India the fibre deteriorates, and has little strength, it grows best at altitudes of 3 to 7000 feet.

In China, hemp is cultivated in the provinces north of the Meiling, but the plant also grows in Fuhkien; the grass cloth made from it is not so much used for common dresses as cotton and silk. There are three plants which produce a fibre made into cloth known at Canton, under this commercial name, viz. the Cannabis sativa or hemp the Urtica nivea, a species of nettle grown about Suchan, and the Sida tiliæfolia near Tientsin-fu. A gigantic species of Cannabis hemp growing from ten to fifteen feet in height is in China a staple summer crop. This is chiefly used in making ropes and string of various sizes such articles being in great demand for tracking the boats up rivers and in the canals of the country.

Churrus.—In certain seasons and in warm countries a resinous juice exudes and concretes on the leaves, slender stems, and flowers. Separated and in masses, this juice constitutes the churrus of Nipal and Hindostan, called kirs in Bochara, and to this, the type or basis of all the hemp preparations, are the powers of these drugs attributable. In Central India, the Saugor territory and Nipal, churrus is collected during the hot season, men clad in leathern dresses run through the hemp-fields, brushing against the plant with all possible violence; the soft resin adheres to the leather, and is subsequently scraped off and kneaded into balls which sell at from five to six rupees the seer. A still finer kind, the Momeea or waxen churrus, is collected by the hand in Nipal, and sells for nearly double the price of the ordinary kind. In Nipal, the leathern attire is dispensed with, and the resin is gathered on the skins of naked coolies. In Persia, it is stated by Mirza Abdul Russac, that the Churrus is prepared by pressing the resinous plant on coarse cloths, and then scraping it from these and melting it in a pot with a little warm water. He considers the Churrus of Herat as the best and most powerful of all the varieties of the drug. It is said also that when the bhang leaves are picked off and the stalks remain, the little knots which occur wherever a leaf issues from the stem, are picked and collected as ganja and these contain much resin.

Ganjah.—The dried hemp plant which has flowered, and from which the resin has not been removed, is called Ganjah. It sells for twelve annas to one rupee the seer in the Calcutta bazaars. It yields to alcohol twenty per 100 of resinous extract, composed of the resin (churrus), and green colouring matter (chlorophylle.) Distilled with a large quantity of water, traces of essential oil pass over, and the distilled liquor has the powerful narcotic odour of the plant. The ganjah is sold for smoking chiefly. The bundles of ganjah are about two feet long and three inches in diameter, and contain twenty-four plants. The colour is dusky green—the odour agreeably narcotic—the whole plant resinous, and adhesive to the touch. According to Mr. McCann's notes, the Ganjah consumed in Bengal is chiefly brought from Mirzapur, and Ghazeepur being extensively cultivated near Gwalior and in Tirhoot. The natives cut the plant when in flower, allow it to dry for three days, and then lay it in bundles averaging one seer weight, which are distributed to the licensed dealers. The best kinds are brought from Gwalior and Bhurtpore, and it is also cultivated, of good quality in a few gardens round Calcutta. In Jessore, the drug is known to be produced of excellent quality, and to a very considerable extent of cultivation.

Bhang.—The larger leaves and capsules without stalks are called "Bang, Subzee, or Sidhee." They are used for making an intoxicating drink, for smoking, and in the conserve or confection termed Majoon. Bang is cheaper than ganjah, and though less powerful, is sold at such a low price that for one pice enough can be purchased to intoxicate a "habituated person." Sidhee, Subjee, and Bang (synonomous) are used

with water as a drink, which is thus prepared:—About three tola weight (540 troy grains) are well washed with cold water, then rubbed to powder, mixed with black pepper, cucumber, and melon seeds, sugar, half a pint of milk, and an equal quantity of water. This is considered sufficient to intoxicate a habituated person. Half the quantity is enough for a novice. This composition is chiefly used by the mahomedans of the better classes. The same quantity of Sidhee is washed and ground, mixed with black pepper, and a quart of cold water added. This is drank at one sitting. This is the favourite beverage of the hindus who practice this vice, especially the Brijobassi and many of the Rajpootana soldiery. (*Williams' Middle Kingdom, p.* 106. *Powell's Hand-book* 296. *O'Shaughnessy, p.* 582.)

Sunn. In notices of Indian fibres we frequently meet with the word Sunn, as indicating a particular kind of Indian fibre. Sometimes we find it called Indian Hemp: and we may often see hemp enumerated as one of the exports from India. At other times the same or another fibre is mentioned by the name of brown hemp. These various names are sometimes applied to the fibre of one or of two different plants, or are employed to distinguish the fibre of three distinct plants all of which are grown for their fibres, and have been, and might be exported from India, though only two of them are now usually to be found among the exports. In the exports from the different Presidencies of India, it is very difficult to distinguish these different kinds of fibre, inasmuch as the same name, hemp, is applied to the exports from all the three Presidencies; but speaking generally, the Sunn (Crotalaria juncea) is chiefly exported from all the three Presidencies, and one kind of Brown hemp (Hibiscus cannabinus), along with the other kind, Taag, from Bombay.—(*Royle Fib. Pl. p.* 352.)

Jubbulpore hemp is being extensively cultivated and already established as an article of commerce in India and highly esteemed by good judges in Britain.

Sunn Hemp, (Crotalaria juncea), called also, Sunnub, Wuckoonar, Shanal or Jute gramee, is largely cultivated in the Madras Presidency for the manufacture of rope, string and gunny bags. This fibre is not so strong as many others, but it is well suited for the manufacture of gunny bags and paper, and is sometimes sold as Jute. The fibre of the Sunn or Taag (Crotalaria juncea) is often called Indian hemp, but incorrectly. It is the kind most generally cultivated all over India on account of its fibre, and is that usually mentioned in the exports from Calcutta under the name of hemp, but also as Sunn. The plant may be distinguished by its flowers being of a bright yellow colour, and of the form of the pea and of the laburnum, while the leaves are entire and lanceolate.

The Ambaree.—(Hibiscus cannabinus) Mesta paat of Bengal, and Palungoo of Madras, is also very generally cultivated all over India, and exported of very good quality from the west side of that country. Its leaves are both entire and lobed, its flowers are large, and in shape resemble those of the mallow, the hollyhock, and the cotton plant, of a sulphur-yellow colour with a dark brown centre. The fibre of this plant is like that of Jute, sometimes called paat, and also Indian hemp. It is often confounded with that of the Sunn, as it is one of the kinds of Brown hemp of Bombay, though the two plants differ much from each other.

The strength of fibres is a point of very great consequence. The difference in strength between the best and ordinary Russian hemp is in the proportion of 5 to 4 and sometimes 6 to 4, and the strength of the best Russian hemp to the best Sunn bears a proportion of 6 to 4.

Dr. Royle had equal weights and equal lengths of several of Indian fibres taken, their ends tied and fixed in a vice, and then the number of pounds ascertained with which each broke. In these experiments St. Petersburgh clean Hemp, broke with 160 lb.

A fibre from Travancore, called Wuckoo... ...	,,	175
Yercum fibre... ...	,,	190
Jubbulpore Hemp... ...	,,	190
China grass, from China,	,,	250
Rheea fibre or China grass, from Assam, ...		320
Wild Rheea, also from Assam...	,,	343

Hemp from Kote Kangra, in the Himalayas, bore 400 lb. without breaking. Amongst thirteen samples of the 2-inch rope, the Deyrah hemp stood the fifth in strength and the twelfth in elasticity. But hemp of far greater strength is produced in the native hills of the plant. Mr. Williams, of Jubbulpore, gave to Dr. Royle, in the year 1853, a sample of hemp, which he stated had been forwarded to him by D. F. Macleod, Esq., as the produce of Kote Kangra, in the Sikh Himalaya. This, Dr. Royle has called Kote Kangra hemp, not breaking with a weight of 400lb., when China-grass from Assam broke with 320lb. and Petersburg hemp with only 160lb. It appeared to all the practical men who examined it, as the strongest

fibre with which they were acquainted. Dr. Jameson himself had brought Kote Kangra hemp to Mr. Macleod's notice, not produced in the Kangra district, but in Kooloo and Lahoul, which are a little farther in the interior.—*Royle, Fibrous plants, p.* 277. *Journ. Agri-Hortic. Soc.*, iii, pp. 224-227. *Drs. Roxb. Fl. Ind. Voigt.—Royle's Fibrous Plants*, p. 277, 352. *O'Shaughnessy Bengal Dispensary*, p. 582. *Mr. Powell's Handbook Economic Products Panjab* p. 296 *Madras Exhib. of* 1857. *Jur. Reports. Cat Calc. for Exhib. of* 1862 *Fortunes Tea districts* p. *Williams Middle Kingdom*, p. 106. *Dr. Stewart Punjab Plants: Birdwood Bombay Products. McCulloch.*

HEMP, DEKHANI. Eng. also Hemp leaved hibiscus. Hibiscus cannabinus.

HEMP SEED, and oil.

Sunn-ki-bing, Hind. | Chenivi, Fr.

The seeds of the Cannabis sativa, var. C. Indica, are albuminous and oily, and entirely devoid of all narcotic properties. They are crushed for oil-the Gannja yennai, Tamil, in many parts of the country. In Russia. the oil is much used for burning in lamps, but it is unknown to the natives of India. At the Madras Exhibition of 1855, three specimens were exhibited, one of a deep green colour from Tanjore, another of an olive green, sent by Lieut. Hawkes, and the third in the Madras Tariff.

HEMUZ. Guz. also Hemuj. Guz. Hind.? Myrobalan.

HENBANE SEED.

Buzir-ul-bung,	Adas, Jav.
Bung, Sikran,	Hyosciamus niger semina. Lat.
Urmanikon, Ar. Pers.	Adas pedas, Malay.
Khorasani ajwain, Duk. Guz. Hind,	Khorasani, Singh.
Jusquiame, Fr.	Khorasani omam, Tam.
Bilsenkrout, Ger.	

The seeds of the henbane plant have the odour of the plant and an oleaginous bitter taste; an oil is obtained from the seed. See Hyosciamus —*Faulkner.*

HENDERSON. Dr. of the Bengal Medical Service, travelled in disguise as a Syed from Lodiana, 1835, and passed by way of Mundi, Zanskar or Lahul to Ladak; and Iskardo, descending over the dangerous pass of Alunipilah and by Burzil or Astor to Guryo and Kashmir. He again travelled to Dir and Bajawur, but was there plundered and he returned to Lahore, where he died of fever in February 1836. He was the first projector of the Agra Bank.

HENDON, see Raffles.

HENERY, an islet in the harbour of Bombay: is united on the northward to Trombay and Salsette, as these are united to each other by bridges and embankments and to the southward to Old Woman's Island Calaba? Henery, and Kenery? with little rocks and islets of lesser note and name, in the harbour.—*Carter's Geology.*

HENGA, Hind. A harrow, but known locally by various other names, as Sohaga, Mye, Myra, Sirawun, Putoee. Puhtau, Putela, Patree, and Dundela. *Elliot, Sup. gloss.*

HENGCHUNG HAPO—? China grass or Rheea, Citrus aurantium.—*Linn.*

HENG-MAU *Burm.*

HENICOPERNIS LONGICAUDA, New Guinea kite.

HENLE, In 1841, there was issued at Berlin, the Systematische Beschreibung der Plagiostomen, by Dr. J. Muller and Dr. J. Henle which included several of the genera and species of the fishes of the seas in the South and East of Asia.

HENNA. Eng. Hind. Pers.

Lawsonia alba, Lam. L. inermis.

Urkan,	Ar.	Daunlacca,	Maleal.
Mehndi,	Beng. Duk. Guz. Hind.	Sakachera,	Sans.
		Maritondi,	Singh.
Egyptian privet,	Eng	Marudani,	Tam.
Henna tree,	,,	Goranta chetta,	Tel.
Camphire of the Bible	,,	Iveni,	,,

This is the camphire of the English Bible, and the cypress shrub of the Greeks and Romans, is a fragrant plant when in flower. The cypress plant says Rosenmuller, "is held in particularly high esteem by the Greeks, the Arabs, and the Turks; and they think that they make an agreeable present when they offer a person a posy of its flowers. This plant, Sonini observes, is particularly agreeable to the eye and the olfactory organs, of which the coloring of the flowers, is soft, they spread fragrance to a great distance, in India hedges formed of it are common. The fresh leaves, beat up with catechu,

——"Imbue
The fingers' ends with a bright roseate hue,
So bright that in the mirror's depth they seem
Like tips of coral branches in the stream.

This use of the leaves is as old as the Egyptian mummies, and is still practiced by Southern Asiatics.

A reddish brown substantive dye, is procured from the leaves, the mahomedans in India, Persia, Arabia and other countries, use the shoots for dyeing the nails, tips of the fingers and toes, and palms of the hands red. It is employed in the East for dyeing ordinary stuffs; and the extract of the flowers, leaves, and shoots, is used by the hakeems in lepra, and in obstinate cutaneous diseases.—*Faulkner, Mason.*

HENNA. Singh. Crotalaria juncea.

HENNA GORIVI, Can., Ixora parviflora, *Vahl.*

HENNA-UL-KORESH. Arab. Lichen rotundatus.

Kal pashi: Kull pashi, Tam | Rati-panchi, Tel.

HENNIP. Dut. Hemp.

HENO. Sp. Hay.

HENSLOWIA PANICULATA. *Migu.* Anambo. Burm. A reddish colored wood of British Burmah, not straight grained, used occasionally for cart wheels, mostly for firewood. In a full grown tree on good soil the average length of the trunk to the first branch is 50 feet and average girth measured at 6 feet from the ground is 9 feet.—*Dr. Brandis, Cal. Cat. Ex.* 1862.

HENZA, Burm. A large golden figure of the sacred bird, is in front of the throne of the king of Burmah. The word is of Sanscrit origin, Hanza, a goose. The Henza is regarded as the king of birds. It is perhaps a mythicised swan.—*Yule's Embassy, p.* 85. See Hansa, Hensa.

HENZADA, a town in Pegu on the right bank of the Irawaddy.

HEO-TAU—? Malacca canes.

HERA, a Babylonia goddess, the prototype of the Juno of the Romans and of the Egyptian Hora.

HERAR, Hind. Agaricus campestris.

HERABOL. Guz. Hind. Myrrh.

HERACLIDÆ. The first eleven kings, the Heraclidæ of Lacedæmon, commencing with Euristhenes (1078 before Christ), average thirty-two years, while in republican Athens, nearly contemporary, from the first perpetual archon until the office became decennial in the seventh Olympiad, the reigns of the twelve chief magistrates average twenty-eight years and a half. Colonel Tod surmises analogies between the Hercules of the east and west. Amidst the snows of Caucasus, Hindu legend abandons the Hercula race, under their leaders Yoodishtra and Buldeva: yet if Alexander established his altars in Panchalica, amongst the sons of Pooru and the Hericula Col. Tod thinks that no physical impossibility exists that a colony of them, under Yoodishtra and Buldeva, eight centuries anterior, should have penetrated to Greece? When Alexander attacked the "free cities" of Panchalica, the Pooru and Hericula who opposed him evinced the recollections of their ancestor, in carrying the figure of Hercules as their standard. Comparison proves a common origin to Hindu and Grecian Mythology; and Plato says the Greeks had theirs from Egypt and the East and Colonel Tod thinks that the Heraclidæ may be a colony of the Hericula, who penetrated into the Peleponnesus (according to Volney) 1078 years before Christ. The Heraclidæ claimed from Atreus: the Hericula claim from Atri. Euristhenes was the first king of the Heraclidæ: Yoodishtra has sufficient affinity in name to the first Spartan king, not to startle the etymologist, the *d*, and *r*, being always permutable in Sanscrit. The Greeks or Ionians are descended from Yavan, or Javan, the seventh from Japhet. The Hericula are also Yavan claiming from Javan or Yavan, the thirteenth in descent from Yayat, the third son of the primeval patriarch. The ancient Heraclidæ of Greece asserted they were as old as the sun, and older than the moon. This boast may conceal the fact, that the Heliadæ (or Surya vansa) of Greece had settled there anterior to the colony of the Indu (Lunar) race of Hericula? In all that relates to the mythological history of the Indian demi-gods, Buldeva (Hercules). Crishna or Kanya (Apollo), and Boodha (Mercury) a powerful and almost perfect resemblance can be traced between those of Hindu legend, Greece, and Egypt. (Buldeva the god of strength) Hericula, is still worshipped as in the days of Alexander; his shrine at Buldeo in Vrij, (the Suraseni of the Greeks), his club a ploughshare, and a lion's skin his covering.

A hindu intaglio represents Hercules exactly as described by Arrian, with a monogram consisting of two ancient characters now unknown, but which Colonel Tod found wherever tradition assigns a spot to the Hericula; especially in Saurashtra, where they were long concealed on their exile from Delhi. This he decides to be the exact figure of Hercules which Arrian describes his descendants to have carried as their standard, when Porus opposed Alexander. The twenty-eighth prince, Khemraj, was the last in lineal descent from Parikhita, the grand nephew of Yoodishtra. The first dynasty lasted 1864 years.—*Tod's Rajasthan*, Vol. I, p. 51-55.

HERACLEUM, a genus of plants of which several species grow in the Himalaya, one of these, the Padalli or Poral, is collected for the winter fodder of goats, and is supposed to increase the milk. Wight in Icones gives H. pedatum.

HERA-KASIS, also Hera-tutia. Guz Hind. Sulphate of copper. Green vitriol Copperas.

HERACULA, See Heraclidæ; Saraswati.

HERA KHOND, See Heera khand, Ousley.

HERAT. When the Dourani empire, created by Ahmed shah, Abdali, was lost by his

grandsons and parcelled out among the Barukzye brothers, shah Kamran managed to maintain a precarious footing at Herat. He was the son of Mahmood and, therefore, nephew of Zeman shah, shah Shuja-ool-moolk, and Feroz-ood-deen, and the last remaining representative of the Suddozye princes in Afghanistan. Herat was all that remained to him of the empire of his family. Kamran was cruel and dissipated and his minister, Yar Mohamed Khan, was even worse. Dost Mahomed Khan was ruling at Kabul, and his half brother Kohun-dil Khan ruled at Candahar. Dost Mohamed Khan was the son of Phound Khan, Barukzye. On 23rd November 1837, Mahomed shah, king of Persia, laid seige to Herat in pursuance of his ambitious policy for the reconquest of Afghanistan. It was on this occasion that Herat sustained a memorable ten months' siege, and all the efforts of the Persian king to capture it, aided by the advice and direction of Russian officers, were defeated principally by the efforts of a young British officer, Lieut. Pottinger of the Madras Artillery. Shah Khamran and his minister, however, continued his intrigues with Persia, and the envoy Major d'Arcy Todd withdrew. On the occurrence of the disasters in Cabool, Yar Mahomed was relieved of all apprehension of the interference of the British government, and in 1842 strangled his sovereign, shah Kamran, usurped the government of Herat, and professed himself a dependant of Persia. The policy of Yar Mahomed was to maintain himself in real independence, while soothing the shah of Persia by empty acknowledgments of allegiance. On his death in 1851, his son Syud Mahomed Khan succeeded him only to be deposed in 1855, and succeeded by Mahomed Yusoof, grandson of Feroze, grand nephew of shah Zeman. Mahomed Yusoof was afterwards deposed and Isa Khan succeeded but under him Herat fell to the Persians and he was murdered within a few weeks by a party of Persian soldiers. By the Treaty of Paris concluded between England and Persia on the 4th March 1857, the Persians were required to evacuate Herat. Before they withdrew, they installed sultan Ahmed Khan, better known by the name of Sultan Jan, as ruler of Herat, and the British Government did not refuse to recognise him as de facto ruler. Shortly after, sultan Jan attacked and took Furrah, but the ameer of Cabool immediately collected his forces to resent this aggression. He retook Furrah, on the 29th June, and on 28th of July, laid siege to Herat. After a siege of ten months, during which sultan Jan died, the ameer took Herat by storm on 27th May 1863. He died eleven days afterwards, and was succeeded in the government of Cabool by his son Sher Ali Khan, who placed his own son Mahomed Yakoob Khan in charge of the captured city. Herat has thus been again annexed to the Afghan dominions. Herat is also called Heri, and the river on which it stands is called Heri-rud. This river Heri is called by Ptolemy Αριοι, by other writers Arius; and Aria is the name given to the country between Parthia (Parthuwa) in the west, Margiana (Marghush) in the north, Bactria (Bakhtrish) and Arachosia (Haraiwatish) in the east. It is supposed to be the same as the Haraiva (Hariva) of the cuneiform inscriptions, though this is doubtful. The importance of its situation is very great, and it has always exercised considerable influence over the affairs of Central Asia. It is the Haroya of the Vendidad, and has endured more than 40 sieges in ancient and modern times. The most polished court in the west of Europe could not at the close of the 10th century, vie in magnificence with that of Herat. *Treaties Engagements and Sunnuds*, Vol. VII, pp. 165, 168 and 169. *Prof. MaxMuller's Lectures*, pp. 234 and 235. See India, 336. Jet, Jews. Kabul, pp. 433, 440. Kalmuk, Kandahar, Kazlbash, Khuml, Kob, Kuvir or Kubeer, Mongol.

HERBA MÆRIORIS ALBA. Rumph. Syn. of Phyllanthus niruri.

HERBA MÆRIORIS RUBRA, Rumph. Syn. of Phyllanus urinaria.

HERBE-A-BALAIS. Fr. of Maur. Sida retusa.—*Linn.*

HERBELOT, d' author of dissertation on the mahomedan conquerors of India.

HERBERT, Captain J. D. Author of Mineral productions of the Himalayas in As. Res. 1833, vol. viii, part 1, 216.—Course and levels of the Sutlej, Ibid, 1825, vol. xv. 339. Coal within the Indo-Gangetic mountains, Ibid, 1828 vol. xvi, 397,—Gypsum in the Indo-Gangetic mountains, Ibid, 1833, vol. xviiii. part 1, 216,—Tour through Kumaon and Ghurwal in Bl. As. Trans. 1844, vol. xiii. part 2. 734.—Geological map of Himalaya survey, Ibid, 1844, vol. xiii. part 1, 171.—*Dr. Buist.*

HERBERT, Sir Thomas, a cadet of the Pembroke family, who travelled in the east, and wrote "Travels into Africa, Great Asia, and some parts of the Oriental Indies and Isles adjacent, London, 1834.

HERBERTIANUM, *Wall.*

Pa-daing, Burm. | Yæ pa daing, Burm.

HERCULES, according to Herodotus, was the father of Belus, the father of Ninus, and lived about 900 years before Herodotus. Herculus is supposed, by Tod, to be Baldeva, son of a prince of Mathura and nephew of Koonti the mother of the Pandua. Baldeva is still worshipped, as in the days of Alexander at Buldeo, in Vrij, his club a ploughshare, and a lion's skin his covering. Baldeva was cousin of Krishna who with Yudishtra, after Krishna's death, travelled to the north and reached Greece. Tod regards Hericula,—Hercules, as a generic term, for the sovereigns of the race of Heri, but used by Arrian as a proper name. A section of the Mahabharat is devoted to the history of the Hericula, of which race was Vyasa. Arrian notices the similarity of the Theban and the hindu Hercules, and cites, as authority, the ambassador of Seleucus, Megasthenes, who says: "he uses the same habit with the Theban; and is particularly worshipped by the Suraseni, who have two great cities belonging to them, namely, Methoras (Mathoora) and Clisoboras." Diodorus has the same legend, with some variety. He says: "Hercules was born amongst the Indians, and like the Greeks they furnish him with a club and lion's hide. In strength (bala) he excelled all men, and cleared the sea and land of monsters and wild beasts. He had many sons, but only one daughter. It is said that he built Palibothra, and divided his kingdom amongst his sons (the Balica-putra, sons of Bali.) They never colonized; but in time most of the cities assumed a democratical form of government (though some were monarchical) till Alexander's time. The combats of Hercules, to which Diodorus alludes, are considered by Tod to be those in the legendary haunts of the Hericula, during their twelve years exile from the seats of their forefathers. Bunsen, however, observes that, Hercules, according to Arrian, had a daughter when he was advanced in years; and, being unable to find a husband worthy of her, he married her himself, that he might supply the throne of India with monarchs. Her name was Pandea, and he caused the whole province in which she was born to receive its name from her." According to Bunsen, the Phœnician Hercules is fabled to have wrestled with Typhon, (the sun at the meridian) in the sand, as Jacob did with Elohim in the dust. Hercules, like Jacob, was wounded in the encounter in the thigh, and like the son of Isaac received the name of Palaimon or wrestler. Usov was a hunter like the rugged Esau, and wore skins of beasts; in both stories the elder brother separated from the younger. Acrisius, the Phrygian Saturn, wrestled with his twin brother Protæus, in his mother's womb, as Jacob did with Esau. Esau also was, in early times, interpreted by the Jews as Zamael, Satan, old serpent, wild boar. The brothers Osiris and Set Typhon, of the Egyptians, sons of Kronos, had a similar contest and in the Phœnician myth of Pygmalion and Sichæus. In the Egyptian legend, Hypsuranias and Usov, as wind and fire, is exactly like that of Set, Typhon, and Osiris.

Hercules is supposed by Bunsen (iv, 210) to be Israel, and his brother was Usov-Ares and the pillars under which they were worshipped were called after their names. The Phœnician pillars of Hercules were called Hamunim, Hamon in the Hebrew is a pillar. Hercules was worshipped in the island of Tyre, in the two pillars and the foundation of Tyre and discovery of the art of navigation are expressly attributed by the classics to Hercules and the legends regarding him are considered by Bunsen (iv. pp. 211-14) to be mixed up with the history of the Jewish patriarchs; Jacob, grandson of Abraham is, spiritually, the true wrestler with God (Yisrael.) The epithet of Edom was given to the wild indomitable Usov, and Set, Seth, the oldest mythological type of Western Asia, are met with in Egypt and in the same form. As a Grecian hero-deity, the legend regarding him is not historical. It is supposed to be of Egyptian origin, and to be the same as Gigon. The Egyptian Hercules was named Chensu or Khensu, written Sen, and the name of the twenty-sixth king of the 1st Egyptian dynasty was Herakles Harpokrates. One of the pillars in the temples of Hercules at Tyre was lighted by day, the other by night; upon an altar of Hercules—Buzygos at Rhodes, one of the two sacrificial oxen was offered up amidst imprecations, probably to Adonis the god of spring as the ass or dog was to Typhon. The Tyrian Hercules was the same as Moloch, the King, Baal-Moloch, Malakh-Bel as he is called in the coins. No statues were erected to him at Cadiz or in Tyre, but in Tyre, he was worshipped with eternal fire, which lighted up the temple by night from the reflection on the columns of Smaragdus, dogs were sacrificed to him as well as to Hecate and Melekhet-Artemis. In Babylonia, their neck or backbone (Isa. 66, 3.) as well as the first born of the ass, if they were not redeemed, was according to the law of Moses (Ex. xiii, 13; also xxxiv, 20), broken in honour of him. The principal sacrifices offered to Hercules-Usov, as well

as to his mythical companion Melekhet-Artemis were human beings. In Laodicea, they might be ransomed by a doe, as Diana accepted that animal instead of Iphigenia. The wild boar was also sacred to the same goddess. And, in like manner, in another myth, another Artemis caused the delicate vernal Adonis to be slain by a boar instead of by Mars as he is usually said to be. At Carthage, the practice of sacrificing their favourite children, and those of the highest rank continued down to their latest wars. Hercules of the Phœnicians was called Melkarth. The Grecian Hercules, is described as becoming insane, and burning his own children as well as those of his twin brother Iphicles, and murdering his guest Iphitus. But, in Asia, the ruthless god sometimes also required this atroceous sacrifice. In Amathus, Malika (Moloch), 'the inhospitable Zeus,' sarcastically called Jupiter Hospes, had his bloody altar before the temple of Adonis (Lord) and Baaltis (Queen). So had Saturn in Arabia whom Nonnus compares with the Syrian god. These sacrifices were offered on occasions of great misfortune but as a matter of course when there was excessive heat.

Bunsen quoting Megasthenes, (III, 525—531) mentions the Indian tradition, of Hercules, as reigning in India fifteen generations after Dyonysus. He built Palibrotha and other cities, had numerous sons, to each of whom he left an Indian kingdom, and a daughter Pandœa to whom he likewise bequeathed a realm. Bunsen, following Lassen says he was chiefly worshipped in the Suras-Sen country and identifying him with Krishna, says he founded Mathura.—*Tod's Rajasthan, Vol.* I. p. 30. *Bunsen*, IV, 20-214. *Bunsen*, III, 525, 531. IV. 210-214. See Kabul, Polyandry, Saraswati, Yavana.

HERCULES BELUS of Cicero is supposed to be the Osiris who invaded India, but his progress extended only up to the Indus.

HEREAR DU, a deity of the Korambar.

HERENSO. Sans. Pisum sativum.

HERI a tribe of mahomedan rajpoots chiefly found in Juspoor a pergunah of Moradabad. See Burwae.

HERI a name of Krishna. According to a hindu legend, related by Colonel Tod, he accompanied Ramesa to Lunka, as did the Egyptian Apollo, Rameses-Sesostris, on his expedition to India: both were attended in their expedition by an army of satyrs, or tribes bearing the names of different animals: and as we have the Aswa, the Takshac, and the Sassu of the Yadu tribes, typified under the horse, the serpent, and the hare, so the followers of Surya, of which Rama was the head, may have been designated Rishi and Hanuman, or bears and monkeys. The distance of the Nile from the Indian shore forms no objection; the sail spread for Ceylon could waft the vessel to the Red Sea, which the fleets of Tyre, of Solomon, and Hiram covered about this very time. That the hindus navigated the ocean from the earliest ages, the traces of their religion in the Indian Archipelago sufficiently attest. The coincidence between the most common epithets of the Apollos of Greece and India, as applied to the sun, are peculiarly striking. Heri, as Bhan-nath, the lord of beams, is Phæbus, and his heaven is Heripur (Heliopolis), or city of Heri. Helios was a title of Apollo, whence the Greeks had their Elysium, and the Heripur or Bhan-t'han (the abode of the sun), is the highest of the heavens or abodes of bliss of the martial Rajpoot. Hence the eagle (the emblem of Heri as the sun) was adopted by the western warrior as the symbol of victory. Heri, Crishna, familiary Kaniya, was of the celebrated tribe of Yadu, the founder of the fifty-six tribes who obtained the universal sovereignty of India; and descended from Yayat, the third son of Swayambhuma Manu, or "The Man, Lord of the earth," whose daughter Ella (Terra) was espoused by Budha (Mercury), son of Chandra (the Moon), whence the Yadu are styled Chandravansi, or "children of the moon."—*Tod's Rajasthan Vol.* i. p. 532-545. See Krishna, Lakshmi, Pandu.

HERI RUD, or Hury river, has a course of about 600 miles. It rises in the Hazareh Mountains, lat. 34° 50, lon. 66° 20, 9,500 ft. above the sea. Its course is generally westerly to Herat, where it turns northwesterly, forming a junction with the Moorghab; the united stream is ultimately lost in the desert of Khorasan. At Herat, it was formerly crossed by a brick bridge, but three out of thirty-three arches being swept away, communication is intercepted in time of inundation. It is remarkable for the purity of its water.

HERITIERA, Species.

Pinlay kanazoe. Burm.

Common in the delta of the Irawady, in British Burmah, wood used for house posts and rafters, and for firewood for the manufacture of salt. The tree is nearly related to the "Soondree" of Bengal. A cubic foot weighs lbs. 66. In a full grown tree on good soil the average length of the trunk to the first branch is 30 feet and average girth measured at 6 feet from the ground, is 6 feet.—*Dr. Brandis, Cal. Cat. Ex.* 1862.

HERITIERA.

Ka-na-zo, BURM. | Soondree Tree, Anglo, BENG.

This, in Burmah, is a much larger tree than in Bengal, chiefly found on the tide waters. Fruit hangs in loose bunches, size of grapes, very pleasant, one seed. Leaves large, alternate, smooth, green on the upper side, and silvery white beneath. Timber, hard, straight-grained, elastic, and durable; used for millwork, spokes, shafts, oars, &c. There are several species of this valuable genus of trees.—*Malcom's Travels in South Eastern V Asia, I. p.* 282.

HERITIERA ALLUGHAS, *Linn.* Syn, of Alpinia allughas, *Roscoe.*

HERITIERA ATTENUATA furnishes one of the best and most plentiful of the jungle fruits of Burmah. It grows in bunches resembling large grapes, is agreeably sub-acid, and when ripe, of a yellowish hue. The tree is small, and when arrayed with these long golden bunches it is very beautiful. It would be quite an acquisition to gardens both for ornament and utility.—*Mason.*

HERITIERA FOMES Syn of Heritiera minor.

HERITIERA LITTORALIS, *Ait.*; *D. C.*; *Roxb.*

Balanopteris tothila, *Gærtn.*

Sundri. BENG. | Kon-zo-za-loo. BURM.
Ka-na-zo. BURM. |

Grows in the Mauritius, the peninsula of India, in the Sunderbuns ?, common in the Rangoon district, and along the sea-shore in Amherst, and Tavoy, found very abundant on Pannat Island and all the Mergui Archipelago, also all along the coast of Amherst province. When seasoned, it floats in water. Maximum girth four cubits, maximum length thirty feet. It is used for boats, boxes, planks of houses, &c., is a very light wood, scented, durable and tough. And is recommended for fuzes beyond any other wood from Amherst, Tavoy or Mergui, also for helves, and for gun-stocks. Strongly recommended for packing cases of all descriptions.—*Voigt, Dr. McClelland, Captain Dance. Riddell.*

HERITIERA MACROPHYLLA.—*Wall.*

Looking Glass Plant. ENG.

Has small yellow flowers.

HERITIERA MINOR, *Lam; D. C.; Roxb.*

Heritiera fomes, *Willde, Buch., D. C.*
Balanopteris minor, *Gaertn*: D. C.

Soondree. BENG. | Kun-na-zoo. BURM.
Ka-na-za. BURM. | Kon-nay-zow.

A gloomy looking tree that may be distinguished from all others for many miles distant. It is remarkably characteristic of a peculiar soil. Wherever the tides occasionally rise and inundate the land, this tree is sure to be found throughout the whole Tenasserim coast, but it is never found at home, either on the high dry lands on the one hand, nor in the wet mangrove swamps on the other. It is the tree which was described by Dr. Buchanan Hamilton, who accompanied Symes' embassy, as Heritiera fomes. It grows in the Sunderbuns, and is used in Calcutta for firewood. Both the Heritiera minor and H. littoralis are common in the Rangoon district, along the creeks, and H. minor furnishes the Soondree wood so well known in Bengal for its strength and durable qualities. Although so common on the Bengal coast, as to give name, as Captain Munro thinks, to the Sunderbuns, yet the tree grows much larger in the Tenasserim Provinces, and affords finer timber. It is indigenous in the Mayngee forests and on the choungs Kayoo, Thabyeed and Thunat, and in some sections is quite abundant. In Tavoy, it is a large tree furnishing very hard and durable wood. In Amherst, Tavoy and Mergui its maximum girth is 2 cubits and maximum length 15 feet. It is very abundant, but straggling; found in Martaban, and on both sides of the Moulmein river, and all along the sea coast; an unlimited supply of it is procurable. When seasoned, it floats in water, and is tough, light and durable. Indeed, it is the toughest wood that has been tested in India. When Rangoon teak broke with a weight of 876 lbs. Soondree sustained 1,312 lbs. It is not an equally durable wood, but stands without a rival in strength. It is used for boats, also piles of bridges, boxes ? and many other purposes. It is recommended for helves, but should be killed a twelvemonth before being cut down, or otherwise should be seasoned, by keeping, after it has been cut down. Dr. Wallich says it stands unrivalled for elasticity, hardness, and durability, and adds that "if not extensively employed for the construction of naves and felloes of gun carriages, it is solely because pieces of adequate dimensions are not procurable." But Dr. McClelland's informants asserted, that immense quantities, sufficient for such purposes, are obtainable here. Dr. Wallich adds that the charcoal made from it is better than any other sort for the manufacture of gunpowder.—*Dr. McClelland in Selec. Records Government of India, Foreign Dept. No. IX., p.* 43, *Dr. Mason, Captain Dance, Voigt.*

HERMÆUS. See Greeks, Kabul.

HERMELIN. GER. Ermine.

HERMINE. FR. Ermine. ENG.

HERMIPPUS. According to Pliny the Zendavesta seems to have been translated by

Hermippus into Greek about the same time as the Septuagint translation of the Bible. Hermippus is supposed to have been the peripatetic philosopher, the pupil of Callimachus, and one of the most learned scholars of Alexandria.

HERMIT-CRAB. The common English name for the well-known Pagurus crustaceans, that occupy the empty turbinated shells of testaceous molluscs. The fore part of the body, is armed with claws and covered with a shield, but it ends in a long soft tail provided with one or two small hooks.—*Hartwig.* See Crustacea.

HERMODACTYL. This medicinal plant of the later Greeks and Arabs, forms the sweet and bitter suranjan of the Arabs, and are supposed to be species of the genus Colchicum. The Persians name the sweet Surinjan, shirin and Surinjan tulk is the bitter. Irvine says it is the bulb or cormus of an uncertain species of Colchicum. In the medicine shops of India generally, there are sold soorinjan tulk, or bitter, and S. shirin or mild, both identical with the Hermodactyls of the ancient Arabian and Greek writers. Their origin is unascertained, but they are doubtless referable to some species of colchicum. The tasteless variety is about one inch long and the same in breadth, heart-shaped, rather flattened, grooved at one side, convex at the other. They are not wrinkled, are easily broken and form a white powder. The bitter kind is smaller, and has a striped appearance. Pereira describes one of Dr. Royle's specimens as yellowish, somewhat transparent, horny, and striped lengthwise. No satisfactory experiments, whether chemical or clinical, have been yet made with this article. In some trials which Dr. O'Shaughnessy made with an acetous tincture of the soorinjan tulk he was led to believe it possessed of all the virtues of the dried colchicum of Europe. It certainly deserves careful and extensive examination.—*O'Shaughnessy, page* 661. *Irvine.*

HERMON. Between Mounts Hermon and Tabor a valley runs towards the Jordan, *Skinner's Overland Journey Vol.* I, p. 277.

HERNANDIA GUIANENSIS. *Aub.*, syn. of H. sonora. L.

HERNANDIA SONORA, *Linn.*

H. guianensis, AUB. | Bong-ko. JAVAN.

A tall, erect, tree of the West Indies, of Ceylon, the Moluccas and the Fiji islands, in the last, forming one of the sacred groves—a complete bower. The wood is so very light and takes fire so readily from a flint and steel, that it may be used as tinder. The bark, seed and young leaves are cathartic. The juice is an effectual depilatory, removing the hair without any pain.—*Ains., O'Shaughnessy, Voigt, Seeman's Fiji Islands, Eng. Cyc. W. Ic.—Thw. En. pl. Zeyl. p.* 258.

HERODIAS, a genus of birds of the order Grallatores ; as under

Sub-fam. Ardeinæ, 1 gen. 7 sub. gen. 19 sp. viz. 4 Ardea: 6 Herodias, 1 Butorides ; 1 Ardeola; 1 Nycticorax ; 1 Tigrisoma, 1 Botaurus; 4 Ardetta.

Herodias alba: the Ardea Alba ; or 'Great White Heron,' of Europe, Asia, N. Africa: very rare in Britain : very common in India, though the race is considered different by some.

Herodias bubulcus the Ardea russata ; or 'Buff-backed Heron.' of Europe, Asia, N. Africa, exceedingly rare in Britain : very common in India.

Herodias garzetta the Ardea garzetta ; or 'Little Egret.' of Europe, Asia, N. Africa: exceedingly rare in Britain : very common in India. Three specimens observed of an Egret in winter dress seemed to differ only from ordinary Herodias garzetta in having black toes.

HERODOTUS, a Greek historian who travelled in Egypt and Persia and visited Tyre B. C. 460. He never gives us to understand that he was able to converse in any but his own language. Herodotus, is called the Father of History. He relates that, after Cyrus had conquered a large portion of Asia, his third successor Darius Hystaspes, extended his conquests towards the Indian Peninsula.—*Bjornstjerna's British Empire in the East* p. 93. See Hindu. Khuzistan. Kooffa. Sakya muni. India.

HERONRY about fifty miles from Madras, and twelve miles from Chingleput, in a south easterly direction, is a small village called Vaden Thaugul, which means, literally, "Hunter's Rest," from vaden, "hunter," and thangul, "rest." To the south of the village lies one of those small tanks called Thaugul by the Tamil ryots, implying a water-rest or temporary reservoir, from which the village derives its name; but why Vaden was added to it is not known. It is possible that, from its being the resort of numbers of birds, the people connected it with the term vaden, or "hunter," a name given to a rude class of people in Southern India who are known as hunters and bird-catchers, but who have never been found residing here. The area comprised in the tank is about four acres and a half (thirty cawnies.) From the north-east to the centre of the bed of the tank there are some 500 or 600 trees of the Barringtonia racemosa, from about 10 to 15 feet in height, with circular,

regular, moderate-sized crowns ; and when the tank fills, which it does during the monsoons, the tops only of the trees are just visible above the level of the water. This place forms the breeding-resort of an immense number of water-fowl ; and herons, storks, cranes, ibises, water-crows or cormorants, darters, paddy-birds, &c., make it their rendezvous on these occasions. From about the middle of October to the middle of November small flocks of twenty or thirty of some of these birds are to be seen, coming from the north to settle here during the breeding-season. By the beginning of December they have all settled down ; each tribe knows its appointed time and arrives year after year with the utmost regularity within a fortnight, later or earlier, depending partly on the seasons. Some, from the lateness at which they arrive, appear to have come from great distances. They immediately commence building their nests or repairing the old ones, preparatory to depositing their eggs. When they have fully settled down, the scene becomes one of great interest and animation. During the day the majority are out feeding, and towards evening the various birds begin to arrive in parties of ten, fifteen, or more, and in a short time the trees are literally covered with bird-life ; every part of the crown is hidden by its noisy occupants who fight and struggle with each other for perches : each tree appears like a moving mass of black, white, and grey ; the snowy white plumage of the egrets and curlews contrasting with, and relieved by the glossy black of the water-crows and darters and by the grey and black plumage of the storks. The nests lie side by side, touching each other ; those of the different species arranged in groups of five or six, or even as many as ten or twenty, on each tree. The nests are shallow, and vary in inside diameter from 6 to 8 inches, according to the size of the bird. The curlews do not build separate nests, but raise a large mound of twigs and sticks, shelved into terraces as it were ; and each terrace forms a separate nest ; thus eight or ten run into each other. The storks sometimes adopt a similar plan. The whole of the nests are built of sticks and twigs, interwoven to the height of 8 or 10 inches ; with an outside diameter of 18 to 24 inches, the inside is slightly hollowed out, in some more and in others less, and lined with grass ; reeds and quantities of leaves are laid on the nests. In January the callow young are to be seen in the nests. During this time the parent birds are constantly on the wing, moving backwards, and forwards, in search for food, now returning to their young loaded with the spoil, and again, as soon as they have satisfied their cravings, going off in search of a further supply. About the end of January or early in February the young are able to leave their nests and scramble into those of others. They begin to perch about the trees, and by the end of February or the beginning of March those that were hatched first are able to take wing and accompany their parents on foreign expeditions ; and a week or two later, in consequence of the drying up of the tanks in the vicinity, they begin to emigrate towards the north with their parents and friends, except perhaps a few whose young are not as yet fledged, and who stay behind some time longer. Thus, in succession, the different birds leave the place, so that it is completely deserted by the middle of April, by which time the tank also becomes dry ; and the village cattle graze in its bed, or shelter themselves under the trees from the scorching heat of the midday sun, while the cow-boys find amusement in pulling down the deserted nests. The villagers, hold an agreement, from the nabob's ancient government, which continues in force by a renewal from the British government, that no one is to shoot over the tank, which is strictly enforced, and the birds continue in undisturbed possession of this place as a favourite breeding resort every winter or monsoon. The natives understand the value of the dung of the birds in enriching their rice-fields ; and when the tank becomes dry, the silt deposited in its bed is taken up to the depth of a foot, and spread over the rice-field ; consequently they are careful not to disturb the birds.

Dr. Shortt visited the trees on the 8th March 1864, on a raft pushed along by two fishermen swimming one on either side, their heads only visible above. As he approached the trees the birds at first remained quite unconcerned, but as he got nearer they began to look on with amazement at a scene which was evidently new to them ; then they rose en masse over head, and uttering piercing cries, some, with threatening gestures, rested a moment on the adjoining trees, and then took to their wings again : although so crowded, they performed their evolutions with the greatest nicety and dexterity, never interfering with each other's movements. Some ascended to a great height, and were hardly perceptible in the air, while others gyrated immediately above their heads ; many crowded on adjoining trees, and witnessed the intrusion with dismay.

On a previous occasion, in January 1864, he was alone on the raft; most of the young of the Water-crows, Storks, Herons, and Darters were fully feathered, and were able to scramble to other nests, and some to the tops of trees; a few nests containing eggs, and some few callow young. The Water-crows and Darters, young as they were, immediately took to the water and dived out of sight. On the second occasion, in March, the young of the Ibises were fully feathered, as were also a few grey and purple Herons and Darters; two or three nests only contained eggs, and some few callow young. The following is a detailed account of the nests, and of the number of eggs, or young, found in each nest.

The small Grey and Black Stork, Leptoptilos Javanica ?; Tamil name, Nutha cootee narai; literally "Shell-fish-(Ampullaria) picking Crane" were the most numerous; their nests were two feet in diameter, and contained three eggs or young. The eggs were of a dirty-white colour, of the same shape, but not quite so large, as those of the Turkey. The young when fully feathered were in prime condition. The flesh is eaten by mahomedans and pariahs. The bird keeps entirely to marshy fields, edges of tanks, &c., it never approaches towns. Some half-dozen or more of these birds may often be seen in the morning sunning themselves with outstretched wings in the dry fields. They only differ from the Adjutant (or Leptoptilos argala) in size and colour. These nest early, and the young are firm on the wing in the month of February.

The Ibis or Curlew, Ibis falcinellus; Tamil, Arroova mooken, literally "Sickle-nosed," which name they take from their long curved beaks. The nests of this bird contain from three to five eggs, and he found from three to four young in each nest. The eggs resemble in size and shape a medium-sized hen's egg, but are of a dirty-white colour. The birds are white, with black head, feet, and neck, and have a long curved black bill. The head and neck are naked, and the tail-feathers, of rather a rusty-brown colour; the lower sides of the wings, from the axillæ to the extremities, are naked; and the skin in the old birds is of a deep scarlet colour; in the young this is absent, although the part is naked. The young are fully fledged in March, and take to the wing in April.

The Grey Heron, Ardea cinerea; Tamil, Narai, sometimes Pamboo narai, or Snake Crane; has a similar nest, built of twigs, containing sometimes two, sometimes three eggs. Dr. Shortt only found two young in the nests; they are fledged from January to April, according to the time of depositing their eggs, which some do earlier than others. The eggs are of a light-green colour; they are not so large in circumference as a large sized hen's egg, but are longer, with the small end sharp.

The Purple Heron, Ardea purpurea; Tamil, Cumbly narai, or Blanket Crane. Nest the same; deposits two to three eggs, of same size and colour as last; seems to rear only two young. The young are fully fledged in April.

Ardea nycticorax; Tamil, Wukka. Nests are built after the same fashion, but smaller in size, and contain five eggs; hatches four or five young; eggs the size of a bantam's, and of the same shape. The young are fledged in April. This is the Nycticorax griseus, *Linn.*

The Cormorant, Graculus pygmæus; Tamil, Neer cakai, or Water-Crow. Nest the same as the others, built of sticks; deposits three or four eggs, and rears three or four young, which are fledged and on the wing in January; eggs like those of a small-sized bantam's, rather sharp-pointed at small end, with a slight greenish tinge. This is the Graculus sinensis, *Shaw.*

The Large Cormorant, Graculus Sinensis; Tamil, Peroon neer cakai, or Large Water-crow. Builds a very rude nest, chiefly formed of sticks; lays four eggs, and rears two, three, or four young. The eggs are the size of a medium-sized domestic hen's egg and have a slight greenish tinge; the young are fledged sometimes in January, sometimes in March, according to the time of their nesting. These birds, as well as G. pygmæus are to be seen fishing in the tank itself; and the rapidity with which they find their prey, by diving, is wonderful. This is the Graculus carbo, *Linn*

The Darter, Plotus melanogaster; Tamil, Pamboo thalai neer cakai, or Snake-headed Water-crow. Nest same as last; three, sometimes four eggs of same size and colour; young fledged and on the wing, some in January, others not till April.

Dr. Shortt captured the young of all the birds described. The villagers of Vaden Thangul, told him that the Pelican sometimes comes and breeds here, as also the Black Curlew. Occasionally different kinds of Teal, Widgeons, &c., are said to nest in the rushes that bound the inner surface of the tank bund.

The Egrets, or Herodias garzetta, bubulcus, and intermedia, were congregated in very large numbers, and roosted on the trees at night; but they do not nest, which seems singular. The natives had observed this,

and he found it to be the case. Yet of all the birds that assemble here, these occur in the greatest number. Ardea alba, or Herodias alba, and H. intermedia are also found here; and the natives say that they breed.—*Dr. J. Shortt M. D. F. S. S. in Linnean Society's Journal.*

HENLE. In 1844, there was issued at Berlin, the Systembung der Plagiostomen, by Dr. Henle, which included several of the genera and species of the fishes of the seas in the South and East of Asia.

HERMANN, Paul, a medical man in Ceylon, furnished the materials of the Thesaurus Zeylanicus of the elder Burmann, published in Holland and, afterward, of the Flora Zeylanica of Linnæus, *II. et Th.* p. 46.

HERON. Anapha Heb.

HERPESTES. Illiger.

Ichneumon, Lacepede, Geoff. | Mangusta. Oliver.
Mongoose, Eng. | Mangouste, Fr.

Order, Carnivora.
Tribe Plantigrada.
Fam. Ursidæ, Bears.
2 *Gen.* Ursus 4 sp
„ Ailura, 1 sp.
Tribe, Semi-Plantigrada.
Fam. Melididæ.
5 *Gen.* Arctonyx, 1 sp.
„ Melivora, 1 sp.
„ Meles, 1 sp.
„ Taxidia, 1 sp.
„ Helictis 2 sp. H. moschata: H nepalansis.
Fam. Mustelidæ, Weasels, Martens.
4 *Gen.* Martes, 2 sp.
„ Mustela, 12 sp.
„ Lutra, 7 sp.
„ Barangia, 1 sp.
Tribe. Digitigrada.
Fam. Felidæ.
1 *Gen.* Felis, 14 sp.
Fam. Viverridæ.
Sub-Fam. Hyeninæ, Hyænas,
1 *Gen.* Hyena, 1 sp.
Sub-Fam. Viverrinæ, Civets.
7 *Gen.*. 31 sp. viz.
„ Viverra, 5 sp.
„ Prionodon, 1 sp.
„ Parodoxurus, 10 sp.
„ Paguma, 1 sp.
„ Artictis, 1 sp.
„ Herpestes, 12 sp.
„ Urva, 1 sp.
Fam. Canidæ. Dog-tribe.
3 *Gen.* 14 sp. viz.
„ Canis, 5 sp.
„ Cuon, 1 sp.
„ Vulpes, 8 sp.

The Herpestes is a genus of digitigrade carniverous mammalia and the Egyptia species, the H. ichneumon, has been noticed by writers from the earliest times, its combats with snakes and its alleged attacks on crocodiles, having been mentioned by Aristotle, Diodorus Siculus, Pliny, Strabo, Ælian and others. Like the mongoose of India, the Ichneumon of Egypt is frequently domesticated and their search for snakes, for food, is continuous. Some doubts exist as to the number of species in the East Indies, seemingly owing to the variation in the colouring of their furs, H. fasciatus and H. gambianus are noticed by Mr. Bennett.

There are said to be four species in Ceylon, H. vitticollis, H. griseus, H. flavidens and H. rubiginosus and the two latter are thus described:—

"H. flavidens, *Kelaart* Yellowish-brown. Hair annulated with brown and yellow rings, tips yellow. Tip of tail reddish. Muzzle blackish. Face brown, slightly ferruginous. Ears fulvous, thickly clothed with hair. Feet blackish, soles $\frac{3}{4}$ band. A full grown specimen obtained at Kandy measured as follows: Length of head and body $16\frac{1}{2}$ in.; tail $12\frac{1}{4}$ in.; sole 3 in.; palm $1\frac{3}{4}$ in.; * * * The species was supposed hitherto to be only a variety of H. griseus, but there are strong characteristic differences between the two; the golden-yellow rings and tips of hair are very marked. Generally found in the higher parts of the island but one was obtained of a very deep brown and yellow colour from Newera Elia.

H. rubiginosus, Kelaart, Docta, Cingh. Nearly as large as H. vitticollis, reddish and ferruginous brown. More of the red on the head and outer sides of legs. Hair annulated black and white and terminating in long reddish points. Muzzle flesh colored. Sides of nose and circle around the eyes of a light rusty colour. Feet black, tip and tail black. Whatever the former may be, that here described would seem to be identical with H. Elliot', *Jerdon Mammalia, Eng. Cyc.*

HERPESTRIS BROWNEI. Nutt. H. cuneifolia. Pers. Syn. of H. monniera.—*H. B. and Kunth.*

HERPESTRIS MONNIERA.—*H. B. and Kunth.*

Herpestris Brownei, Nutt.	Monniera cuneifolia. Mich.
Herpostris procumbens. Spreng.	Monniera Brownei. Pers.
Herpestris cuneifolia. Pursh.	Gratiola portulacacea. Weinm.
Bramia Indica. Lam.	Gratiola monnier a. Linn. Rh. Roxb.
Calytriplex obovata, Roiz & Pav.	
Shwet chamini. Beng.	Jelabrimmi. Sans.
Adha birni. Hind.	Nir-pirimi. Tam.
Beami. Maleal.	Sambrani chettu. Tel.

This creeping plant grows in many parts of India, near streams and tanks, in moist places and the jointed root, stalks, leaves, and blue bell flowers are all used in the medicines of the native physicians.—*Ainslie Mat. Med. Useful plants.*

HERPESTRIS PROCUMBENS. SPRENG. Syn. of Herpestris monniera.—*H. B. and Kunth*

HERPETON, a genus of harmless snakes of the order Ophidia, suborder Serpentes Colubrinæ non-venenati, and Family Acrochordidæ, as under.

FAM. ACROCHORDIDÆ.
H Acrochordus Javanicus, *Hornst.* Penang.
„ Chersydrus granulatus, *Schneid.*
FAM. HOMALOPSIDÆ.
„ Cerberus rhynchops, *Schn.* Bengal, Moulmein Andamans.
„ Homalopsis buccata, *Linn, Kuhl.* Martaban.
„ Herpeton tentaculatum. *Lacep.*
„ Tytheria Hypsirhinoides, *Theob.* Andaman.
„ Hypsirhina enhydris, *Schn.* Calcutta.
„ „ plumbea, *Boie.*
„ „ chinensis, *Gray.*
„ Fordonia unicolor, *Gray.* Penang.
„ Cantoria elongata, *Girard.*
„ Ferania Sieboldii, *Schl.* Pegu.
„ Hipistes hydrinus, *Cantor.* Rangoon.
„ Gerarda bicolor, *Gray.* Bassein.

HERPHA—? Urtica heterophylla.

HERRINGS.

Haringen,	DUT.	Aringhe,	IT.
Harengs,	FR.	Arenques,	PORT. SP.
Haringe, Heringe,	GER.	Seldi,	RUS.

See Japan, p. 412.

HERRINGS' PALM KERNEL OIL. See African lard.

HERRI RUD. See Herat, Heri-Rud, Kalmuk.

HERUN, a stream in the Jubbulpoor district.

HERVARER SAGA. an ancient Icelandic history. *Edda, Vol.* II, *p.* 192.

HESIOD. See Lakshmi.

HESPERIPHONA AFFINIS, BLYTH, a bird nearly affined to H. icterioides (Coccothraustes icterioides, *Vigors*, from which the male is distinguished, — 1, by being smaller,) the closed wing measuring $4\frac{3}{4}$ inch instead of $3\frac{1}{4}$ inch and tail $3\frac{1}{4}$ inch, instead of $3\frac{3}{4}$ inch) ;—2, by the black portion of the plumage being of a deep and shining black, instead of being dull with a distinct ashy tinge ;—and 3, by having black axillaries and yellow tibial feathers, instead of yellow axillaries and black tibials, as in H. icterioides. The females are much more dissimilar: that of H. affinis having the upper parts olive-green, tinged with yellow on the collar and rump, and more brightly on the lower parts ; wings and tail black, the coverts, secondaries and tertiaries broadly margined externally with yellowish olive-green, occupying the whole outer web of the last ; crown and ear-coverts ash-coloured, passing to pale grey on the throat. Young male like the adult, but the yellow much less intense. The adult male so nearly resembles that of H. icterioides, that its distinctness would scarcely have been suspected, had it not been for the great difference of the other sex, page 179.—*Report of Mr. Blyth, Curator Zoological Department.*

HESSARU. CAN. Phaseolus mungo.

HESSONITE or Kancel stone ; Cinnamon stone. See Garnet.

HESSING. Col. his tomb is a model of the Taj. He was a Dutchman in Scindia's service who rose from a common soldier to be the governor of Agra.—*Tr. of Hind.*, Vol. I, p. 436.

HESTIA JASONIA. The Sylph, Floater, Spectre or Silver paper butterfly, is found only in the deep shades of the damp forest of Ceylon, in the vicinity of pools of water and cascades.—*Sir J. E. Tennent*, Vol. I, p. 263.

HESUDRUS, the ancient name of the Sutledge river the Hesydrus of Alexander, and the Satadru of the Vendidad. In the oldest hymns of the Veda, about 1500 B. C., we find a war-song referring to a battle fought on the banks of this river.—*Bunsen.*

HETEROLEPIDINA, a group of fishes, of the Family Triglidæ. See Fishes : Triglidæ.

HETEROPHRAGMA ROXBURGHII, *D C.*, syn. Bignonia quadrilocularis, *Roxb.*

HETEROMEROUS GENERA, of Insects, See Coleoptera.

HETEROMORPHA, a genus of birds of the Sub-fam. Parinæ, with 8 gen. 20 sp. viz., 1 Conostoma; 1 Heteromorpha, 3 Suthora : 1 Falcunculus, 10 Parus, 1 Orites; 1 Sylviparus, 1 Ægithalus flammiceps.

HETEROPODA, a class of nucleobranch oceanic mollusos, of anomalous forms, with the foot variously modified for swimming. Amongst these, the Pterosoma plana *Less.* is a transparent, delicately tinted, winged animal, thick and gelatinous, and almost invisible in the water; it is found in the seas of the eastern Archipelago. The Firola, of the same class is a transparent creature, with a long proboscis, and swims by means of a fin below. The Sagitta, or Arrow fish, one of the same class, darts through the water by sudden instantaneous jerks, it resembles a minute arrow. Its body is so transparent that its whole organization may easily be observed. Atlanta, a pretty little curly shelled nucleobranch of this class, Heteropoda, has both its shell and body transparent—all these range through the Mediterranean, Atlantic and Indian Oceans.—*Collingwood.*

HETEROPOGON CONTORTUS, *R. & S.*

Barweza	TRANS INDUS.	Suriala.	PANJ.
Sarmal	TRANS INDUS.	Surari.	„

grows on the Panjab plains generally. *Dr. J. L. Stewart, Punjab Plants p.* 255.

HET-HER, a name of Aphrodite, called also Hather and Athyr, and Hathor, an Egyptian goddess, fabled to be the daughter of Ra or the sun.

HETKARI, Mahr. Signifying down; as applied to country, down the coast to the south, a native of the country southwards of the Savitri river; a native of the southern Konkan, serving in the Maratha infantry.—*Wils.*

HETOPADESA, and Panchitantra are books in use throughout India, in all its languages, read by every hindu. They contain the original fables which Bed-pai, a brahmin, wrote for the benefit of Dabishlim, his king. They were translated into Pehlevi, in the 6th century in the time of Nousherwan, from that into Arabic by Abdullah bin Makaffa, about the middle of the 8th century, then into Persian, by Rudaki, about the close of the 9th century, who received 80,000 dirhems for his labours. About the middle of the 12th century (A. D. 1150) in the time of Bahram shah, a Persian prose translation was made and a subsequent second translation was made by Kashifi, and named the Anwar-i-Soheili. A Greek version was made by Simeon Seth, at the command of Alexis Commenes, and they appeared in Hebrew and Aramaic, Italian, Spanish, and German. The first English edition was in the 16th century, then in French in 1644, and, again in 1709, and they are the foundation of Æsop's fables.

HETRUSCAN, See Indra. Kama p. 454.

HETTEE DU-AN, See Korumbar.

HETUMAT. The tenth settlement of the Arians was in Hetumat, a district of Helmand. (xi. verse 14.) "Hetumat, the wealthy, the splendid," is the valley of the present Helmand, the Etymandor of the classics. The mischief inflicted here by Ahriman was the sin of sorcery.

HETWABHASU, Sans. from hetoo, a cause, and abhasu, an appearance, a semblance.

HENGONG, Bhot. Neopus malaiensis, *Reinwardt.*

HEUDELOTIA AFRICANA, the African Bdellium tree.—*O'Sh. p.* 287.

HEUMA or Shendu. A tribe inhabiting the hills north of Arracan. They occupy the Yeoma toung hills, on the watershed between the Meeyk-young and the drainage of the Manipur rivers. Their chiefs are called Aben, and their villages have about fifty to 400 houses. They use the trap-bow for shooting the elephant, but fire-arms are superseding the ruder weapons. They regard the sun and moon as deities.—*Latham.* See India.

HEVEA GUIANENSIS. Caoutchouc plant.

Siphonia elastica.

Trunk 17 to 20 yards high, scaly like a pine apple, very straight, branched at the summit. Incisions in the bark cause the discharge of a juice which concretes into the well known and very valuable caoutchouc of commerce, a product however of many other trees in this and allied families, for example of Jatropha elastica, Ficus Indica, Artocarpus integrifolia, Urceola elastica, &c. The juice when first obtained is white and milky, spec. gr. 1·011; spread in thin layers it quickly dries into a colourless and often transparent solid substance. Pure caoutchouc is pale yellow, inodorous, tasteless. The ordinary black colour is attributed by some writers to its being smoke-dried, but specimens prepared by mere exposure to the air, have assumed the black colour. At 32 caoutchouc is hard, at 60 to 100 flexible like leather, and exceedingly elastic and adhesive. Sp. gr. 0·938. *Shaughnessy p.* 560.

HEWAR, Mahr. Acacia leucophlæa.—*Willde.*

HEWUL, a river near Byraghur in the Almorah district.

HEWUR. Mahr. syn. of Acacia leucophlœa, also of Mimosa tomentosa.

HEYNE, Benjamin, M. D. A Madras medical officer, author of Mode of manufacturing Catechu. See Bl. As. Trans. Vol. VII, 108.—Travels in India Ibid.—On copper at Nellore, Ibid.—Tracts, Historical and Statistical on India, Lond. 1816, 4to.

HEZEKIAH, king of Judah, in the later years of his reign was coeval with Sennacherib.—*Bunsen,* III, 435.

HEZM. Pers. Wood or timber.

H'HAVIRAPATI, i. e. resolute prince, also styled Shorapati lord of the oxen, was the ruler who opposed Semiramis and drove her back across the Indus. The whole country on the right bank of the Upper Indus, the site of the present Peshawar, opposite Attok (Taxila) and still higher up, was tributary to the Assyrians, as it afterwards was to the Medes and Persians. Pliny tells us that Semiramis capitulated, here, on the Cophen (the Cabul river, the Kubha of the Rigveda) and on the black obelisk from Nineveh in the British Museum which is at least of the 9th century B. C. the Bactrian camel, is found side by side with the Indian rhinoceros and Indian elephant. According to Deodorus (II 16-19) Semiramis fitted out an armament in Bactria, and between B. C.

1235 and 1225, she crossed the Indus with a vast force. At first she drove back the opposing maharajah from the strong position that he had taken up with a vast force, especially of archers; but rallying his retreating forces, he soon drove back the Assyrians in total disorder to the river, which they had great difficulty of crossing and only after immense loss. Semiramis concluded an armistice, made an exchange of prisoners and retreated into Bactria with a third of the army which she had brought against India. At that time there must have been a supreme ruler in India, a sami rajah, with a capital in the district to the south of the Sarasvati, in the Jamna and Ganges Doab.—*Bunsen* III, 549 *and* 550.

HIA, the first Chinese dynasty, descendents of Yu, from B. C. 1991 to 1559 ruled 432 years. Its first emperor was Yu, beginning B. C. 1991.

HIA-HI, Sandwich Islands, Santalum album, *Linn.*

HIASMIN. HIND. Syringa persica! Hiasmin kharnub, Hindi, Prosopis spicigera, H. tamerhindi, Tamarindus Indica.

HIATHELEH, See Greeks of Asia.

HIATICULA, a genus of birds of the Family Charadriadæ, Dr. T. C. Jerdon, obtained in Southern India a single example of a little Australian Plover, Hiaticula nigrifrons, which figures in his catalogue as a supposed new species by the synonym H. russata. The position of this genus may be thus shown: *Fam.* Charadriadæ

Sub-fam. Cursoriinæ, 2 gen. 2 sp, viz. 1 Cursorius Coromandelicus. 1 Macrotarsius bitorquatus.

Sub-fam. Esacinæ, 2 gen. 2 sp. viz. 1 Esacus; 1 Œdicnemus.

Sub-fam. Vanellinæ, 4 gen. 6 sp. viz. 1 Hoplopterus: 1 Sarciophorus; 3 Lobivanellus.

Sub-fam. Charadrinæ, 2 gen. 2 sub-gen. 10 sp. 1 Squatarola; 2 Charadrius; 1 Eudromias, 6 Hiaticula. See Birds p. 517.

HIATILLA, or the white Huns, a tribe of Tartars who issued from the plains near the north wall of China, made themselves masters of the country of Transoxania and anticipated the irruption of those Turkish tribes, who some years afterwards expelled the Hiatilla, from the lands that they had taken from the Sacæ, or Scythians. There is every ground to conclude, that it was an army of the Hiatilla that invaded Persia in the reign of Bahram-Gor: and that it was to one of their kings that Firoz fled, *Malcolm's History of Persia Vol. 1 p.* 126.

HIBAVINIA OIL, CANARESE, under this name, there was exhibited at the Madras Exhibition of 1857, a solid oil from the Sampajey district of a clove brown colour, a small phial priced at Rupees 4½. Camujay tree oil: a small bottle, priced Rupees 6½ from the same district, was a dark gelatinous mass, of the consistence of blancmange.

HIBBAH. AR. a gift; Hibbah namah, a deed of gift.

HIBBUK. ARAB. also Hibbuk nana. ARAB. Mint.

HIBISCUS, a genus of plants, belonging to the Nat. Order, Malvaceæ or Mallow tribe about 30 species of the genus being known in the East Indies: viz.

aculeatus.	lampas.	radiatus.
bifurcatus.	lindleyi.	rosa-sinensis.
cannabinus.	lunarifolius.	scandens.
collinus.	liliiflorus.	surattensis.
diversifolius.	micranthus.	syriacus.
furcatus.	mutabilis.	sabdariffa.
genevii.	palustris.	trionum.
heterophyllus.	panduriformis.	vesicarius.
hirtus.	patersonii.	vitifolius.

Several species furnish useful, commercial products viz. cannabinus; sabdariffa, vesicarius: Rosa-chinensis, vitifolia; lampas: esculentus; strictus, tiliaceus; furcatus; collinus; ficifolius. In the West Indies H. clypeatus and elatus are cultivated for fibres: H. manihot in Japan. H. heterophyllus in New Holland, and H. verucosus in Senegambia. Most of the Indian species might be employed for the same purposes as hemp, as the bark is tough, and may almost always be stripped off in long slips. Roxb. iii. *Voigt.* p. 116, *W. Icon.*—*Royle* (*Fib.*) *Pl. Riddell.* See Paper.

HIBISCUS ABELMOSCHUS *Roxb.* Syn. of Abelmoschus moschatus. *Mœnch.*

HIBISCUS CANNABINUS, *Linn. Roxb. W.* and *A.*

Kudrum	of BEHAR	Pulna	HIND.
Mesta pat; Nalki,	BENG.	Pat	,,
Ambaree	of BOMBAY.	Shan of Jhelum	IT.
Dekhany Hemp	,,	Palungu of	MADRAS.
Punday, and pundrica	CAN.	Pooly mungu	,,
Puli Namaji of	COIMBATORE.	Vilaiti Sun of	MUTTRA.
Ambari ki baji,	DUK.	Sankokla Patsan; Vatsan; Sunni of	PUN.
Hemp-leaved Hibiscus,	ENG.	Garnikura,	SANS.
Dekhani Hemp	,,	Palungu	TAM.
Hemp, Indian Hemp	,,	Pulachakirey,	,,
Brown Hemp	,,	Kasseri kire?	,,
		Ghongu kuru,	TEL.
		Gongura	,,

This plant is grown all over India, for its acidulous leaves which are used as a spinach, also for the fibres of its bark which are used as cordage: the cultivators sow a small quantity along the edges of the usual crops for their own use. It is sown in the beginning of the rains, and when it commences to flower, it is cut and treated exactly as the

sunn hemp from Crotalaria juncea. The proportion of fibre is about half the weight of the plant. It is used for making rope, sackcloth, twine, paper, &c. The cost of the prepared fibre is from three to four rupees per maund, according to its strength, length and cleanliness. The fibre like that of Jute is sometimes called "Paut," also, in Bombay, Dekhanee hemp, to distinguish it from taag or Concanee hemp: also Indian "hemp." Also, it is one of the "brown hemps" of Bombay, and is often confounded with the fibre of "Sunn," though the two plants greatly differ, the sunn, 'Crotalaria juncea' being known in Bombay as Taag. The length of the fibres of carefully cultivated Ambaree, is from five to six feet: they are of a paler brown than ordinary Brown Hemp, harsher in feel and stick more together; but they are divisible into fine fibrils, possessed of considerable strength, well calculated for rope making, as also for coarse fabrics. Though esteemed by some of the natives of Western India, the hemp of the H. cannabinus, is not, either in strength or durability, so good as the true hemp, or as the Sunn or Brown Hemp of the Crotalaria juncea. Its price in the British market is probably the same as that of the Jute. Hibiscus cannabinus is an erect growing plant of the height of about four feet. It is slightly prickly over the stem. The leaves have an acid taste, and are much used as a pot herb. There is a dark purplish colored species, the leaves of which are used for a similar purpose; they are both grown all the year round, and sold in the Dekhan at five seers for one pice. The strength of this fibre was tested by several scientific men, and found to be

Experiments of	Ambaree, Hibiscus cannabinus, broke with	Sunn, Crotalaria juncea, broke with
Dr. Roxburgh.	110 to 115 lbs.	130—160 lbs.
Dr. Royle..... ...	150	190
Dr. Wight.....	290	404

The exports of this fibre are not distinguished from other hemps. An excellent substitute for tow might be profitably supplied from it. The rope made of the fibre is used in the Carnatic as a substitute for the jute of Bengal the produce of Corchorus capsularis, a plant comparatively unknown in the Peninsula.—*Cal. Cat. Ex.* 1862. *M. Ex. Jur. Reports Riddell, Gardening, Royle*, p. 253, to 257, *Rox.* vol. ii, 190. *Voigt* 117 *Dr. Wight in Mad. Cen. Com. Proc.* 1851, *Dr. J. L. Stewart.*

HIBISCUS CHITLBENDA. Rox. Syn. of Pavonia odorata.—*Willde.*

HIBISCUS ELATUS. *D. C.* syn. of Paritium tiliaceum *St. Hil.*

HIBISCUS COLLINUS (Eriocarpus of *D. C.*), a native of the mountainous parts of the Northern Circars and of Peninsular India, where it is called kanda-gang, and where the natives use the bark as a substitute for hemp. Dr. Roxburgh states that there are three varieties of this plant, the double red; double yellow and double flesh red.

HIBISCUS FICIFOLIUS is a species which Dr. Roxburgh so named, and of which he received the seeds from the Moluccas. It was an annual, growing straight, very tall, often 12 to 14 feet high, with few branches. The fibres he describes as uncommonly beautiful, and rather stronger than the sunn fibre.

HIBISCUS FURCATUS.—*Roxb. W. & A.*

H. bifurcatus *Roxb.* | H. aculeatus *Roxb. Rheede.*
Konda gongura. TEL.

A very prickly plant growing in India, to a height of from 6 to 8 feet. It yields abundance of strong white flaxy fibres, but from the prickliness of the plant it is very troublesome to handle. The stems are cut when in flower, and steeped immediately.

HIBISCUS LAMPAS, *Cav*, A small tree of India, yielding fibres.—*Voigt, M. E. J. R. Wights Ic.*

HIBISCUS MACROPHYLLA—*?* is very plentiful in the forests of the Pegu and Tounghoo districts, also in Tavoy: it yields a tall slender timber, of three or four feet girth, and would do for boards and house posts. Ropes are frequently made from its bark. Wood white colour and adapted for every purpose of house building.—*Drs. McClelland & Mason.*

HIBISCUS MUTABILIS.

Thal-padmo. BENG. | Gul-i-ajaib. HIND.

The changeable rose is a large shrub, native of China, remarkable for the changes which occur in the color of its flowers, bearing white flowers in the morning, but changing to red in the course of the day: easily propagated by cuttings. The fibres of the bark were found to be of a hard nature, and of a bad colour.—*Drs. Riddell, Mason, and Stewart, Mr. R. Brown.*

HIBISCUS ESCULENTUS, *Linn.* Syn. of Abelmoschus esculentus.—*W. & A.*

HIBISCUS LILIIFLORUS. *Cav.* Lily flowered Hibiscus. A variety has flowers of a buff sallow colour.—*Voigt.*

HIBISCUS LONGIFOLIUS. ROXB. Syn. of Abelmoschus esculentus.—*W. & A.*

HIBISCUS PATERSONII, *D C.*; *Prod. I. p.* 451, *Ait.*

Lagunæa patersonia, *B. M.*

HIBISCUS ROSA SINENSIS.

White oak of Norfolk Island, a shady tree forty feet high. Its leaves are a whitish green, sepals green and petals the size of a small wine glass, pink, fading to white. It is the largest of the mallow tribe, and attains sixteen feet in circumference. In an economic sense it is said to be valueless, except for firewood.—*Keppel's Ind. Arch. Vol. II, p.* 283, *Voigt.*

HIBISCUS POPULNEOIDES ?

Thespesia populnea ?

Parispipul, HIND. | Muni ganga-ragi, TEL

Mr. Rohde names this as a species in a few gardens near Samalcottah: it flowers during the wet and cold seasons. He says that this species is immediately to be distinguished from populneus by the glands in the axils of the nerves of the leaves, their waved border and long points, and by the double integument of the capsule, the innermost of which requires force and a sharp knife to open it, whereas in populneus it is single; and can be easily broken by the pressure of the thumb and finger. This tree will answer better for avenues, parks, &c., than T. populneus, because it is much higher to the branches, consequently gives a free circulation to the air. When wounded the same yellow juice discharges as in populneus.—*Rohde M. S. S.*

HIBISCUS POPULNEUS, *Roxb.* syn. of Thespesia populnea, *Lam.*

HIBISCUS ROSA SINENSIS *Linn*

Uru; Joba, Juva, BENG.	Jaba, SANS
Jasun DUK. HIND.	Sapata cherri TAM.
Shoe flower, China Rose, ENG.	Dasana Japa pushpamu
Shem pariti, Kambang saptu, MALEAL.	Jovapushpamu TEL.

This plant is common in India; the leaves are used as emollients, anodyne and gentle aperients; the flowers are deep scarlet, and yield a very mucilaginous juice, which turns rapidly to a dark purple. Applied to soft, unsized white paper, this colour is nearly as sensitive a test for acid as the celebrated litmus. Shoe flowers are sometimes employed for dyeing lilac colour but it does not appear to be permanent, they are also occasionally rubbed on leather for the purpose of blackening and polishing. The natives make pickles of the flowers, and they are used for giving a red tinge to spirituous liquors; The petals are used in some cases to furnish a black liquid to dye the eyebrows. In Tenasserim, this bold, flaming flower is extensively cultivated.—*O'Shaughnessy*, p. 218. *Ainslie's Mat. Med.*, pp. 198 260. *Williams' Middle Kingdom*, p. 285. *Mason.*

HIBISCUS TILIACEUS.

HIBISCUS SABDARIFFA.—*Linn.*

Mesta, BENG.	Oseille MAURITIUS.
Thæmh-bau-khyen-boung. BURM.	Patwa, PANJAB.
Roselle, ENG.	Kaserikai, Pulychay kire, Shimay Kash-li kire. TAM.
Red Sorrel, ,,	
Polichi, MALEAL.	Yerra gogu TEL.

Cultivated in most gardens, for its calyxes which, as they ripen, become fleshy, are of a pleasantly acid taste, and are much employed for making palatable tarts, as well as an excellent jelly. The stem if cut when in flower and the bark stripped off, and steeped immediately, displays a mass of fibres of a fine silky nature. The leaves are used as greens, alone or mixed with others, the flowers are very pretty, often cultivated in flower beds. In the French West India islands a kind of cyder or wine is prepared from it termed Vin de Ozeille.—*Drs. Ainslie, Mat. Med.*, p. 256. *Roxb. O'Shaughnessy, Voigt. Stewart. Messrs. Brown and Jaffrey.*

HIBISCUS STRICTUS. ROXB. A native of the Rajmahl hills, with a straight stem of from 6 to 14 feet in height, and a very smooth bark. It is in blossom about the termination of the rains and the seed ripens in December and January, soon after which the plants perish, the bark abounds in flaxen fibres; beautiful, long, glossy, white, fine, and strong: sown in the beginning of the rains in beds; and when about six inches high, transplanted out in rows, about nine inches asunder, and about as much from each other in the rows. In 1801, forty square yards planted in this manner, yielded thirty-three pounds weight of very clean fibres. Dr. Roxburgh's original specimens, still in the India House, are 9 and 10 feet in length, a fibrous mass, apparently easily stript off, and composed of fine and easily divisible fibres.—*Roxb. Voigt. Royle. Fib. Plants.*

HIBISCUS SURATTENSIS.—*Linn. Roxb. W. & A. W. Ic.*

Prickly stemmed Hibiscus, ENG.	Kasal kire: Kashli-kire, TAM.
	Mulu Gogu, TEL.

A herbaceous plant with speckled prickly stems and yellow flowers; the leaves are used as greens.—*Roxb.*, III, 205. *Voigt.*, 116. *Jaffrey.*

HIBISCUS SYRIACUS *Linn.*

Syrian Hibiscus, ENG. | Oodha godhul HIND.

There are four varieties of this plant cultivated for ornament in India, two purple, a single and a double; and two white, a single and a double. The flowers are used to blacken the eyebrows and shoe leather.

HIBISCUS TILIACEUS, syn. of Paritium tiliaceum, *Ad. Juss.*

HIBISCUS TILIÆFOLIA—? Belygobel, Singh. Under these names, Mr. Mendis describes a wood of the western province of Ceylon, a cubic foot of which weighs 38 lbs. and is esteemed to last 20 years. It is used for carriages, palanqueens and carts—found near rivers.—*Mr. Adrian Mendis.*

HIBISCUS TORTUOSUS, syn. of Paritium tiliaceum, *Ad. Juss.*

HIBISCUS VESICARIUS. Cav. good samples of its fibre were exhibited as wild Ambaree, at the Madras Exhibition of 1855, by Captain Meadows Taylor.

HICK. A Ceylon wood, very hard, fine, close, very uniformly grained, heavy, ni colour resembling pencil cedar.

HICO-DEL-INFERNO. Sp. Argemone Mexicana.—*Linn.*

HIDDA or Idda, See Inscriptions p. 372.

HIDDEKEL, See Tigris.

HIDED. Arab. Iron.

HIDES.

Huiden,	Dut	Pelles,	Port
Peaux,	Fr	Kosha	Rus.
Haute,	Ger	Charma.	Sans.
Chumra,	Guz. Hind.	Pellejos, Pieles,	Sp.
Cuoja,	It.	Toll.	Tam
Balulang, Kulit.	Malay.	Tolu.	Tel.

The exports of hides from India have greatly increased since 1851. In 1858 the total import into Britain was 2,379,256 hides against 3,056,071 hides in 1857, and 2,072,864 hides in 1856. At the Madras Exhibition of 1855, the tanned hides and skins exhibited were of excellent quality and could bear comparison satisfactorily with the same kinds of leather prepared in Europe. They had been thoroughly saturated with the tanning materials, were free from animal odour, and their sections did not show the white line between the outer and inner surface, indicative in bad leathers of a hasty and imperfect inhibition of the tan liquor. The collection comprised the tanned hides of the Bison, Sambre, Bullock, Horse, Cow, Sheep, Goat, Kid, Dog and Iguana. Iguana skins which have been tanned and dyed black, or left of their natural color, are thin, even, soft, tough elastic and granular or sha-greenlike in external appearance. From the absence of gloss, the appearance of this leather is not much in its favour, but it bids fair to be a durable article for light slippers, and a good covering for the commoner kinds of instrument boxes, such as are still done over with shagreen.

Tanned and Colored Skins—for book-binding purposes and boot-linings, were generally even, soft, and pliant, and very suitable for their intended uses. Some of the colored leathers were very brilliant.

Sheep and kid skins tanned white—were exhibited in much perfection.—None of the specimens were fine enough for the better kinds of gloves, but they were all as well-suited as European skins of the kind for the purpose of the apothecary.

Parchment skins.—The parchment skins take ink very well, but were not in every respect satisfactory, and their texture was uneven.

Wash Leather.—The skins prepared with oil, in imitation of chamois or wash leather, were all excellent specimens of the kind, so far as thickness, softness, pliancy and color, were concerned. In all these respects they will bear comparison with the European article. But as every one of these leathers was tainted with the odour of the Fish Oil employed in their preparation, they could not be recommended for household purposes, such as cleaning plate, though found very suitable for cleaning brasses and harness. As potass, soda, and dry pure deodorizing air are abundant in this country, a very little additional care would ensure the production of a perfectly inodorous chamois leather.

Buff leather.—The buff leathers for accoutrement were nearly all extremely good in quality; very economical leathers for manufacturing purposes.

The best tanned leather from Buffalo, Bullock, and Cow hides, were contributed by Colonel Sheriff and Lieut. and Qr. Mr. Grant from the Horse Artillery Tannery at Bangalore. They also exhibited specimens of leather prepared from the Hog, Calf, Goat, and Sheep skins, of unexceptionable quality. Boa-constrictor skin, when tanned, makes excellent boots, much prized in England for their strength, pliability, and great beauty, as they are handsomely marked. Boots made from this snake's skin are pliable and easy to fit; perhaps owing to the accommodating nature of the snakes skin when in his live state. Boots of Norwegian manufacture, are made from the skin of a salmon. In certain of the Southern States of America, the skins of young alligators are tanned, converted into leather, and the leather manufactured into boots.

The following are the values of the exports from India of hides and skins:

1851-2	303,089£.	1856-7	572,630£.
1852-3	337,849	1857-86	39,702
1853-4	402,365	1858-95	54,680
1854-5	402,386	1859-60	444,537
1855-6	431,729	1860-16	56,629

McCulloch's Commercial Dictionary. p. 651
Cat. of M. E. J. Rep. Lond. Exhib. of 1862.

HIDJILI, a small marshy district on the western side of the mouth of the Hooghly river.

HIDJILI BADAM. Beng. Cashew Nut. Eng. Casearia elliptica. ?

HIER. Hind. Cocculus villosus.

HIERACIUM GRANDIFLORUM. One of a very extensive genus of plants adapted for rock-work, flowers of a yellow colour increased by cuttings, and the herbaceous kind by dividing the roots.—*Riddell*

HIERONIMO DE SANTO STEFANO, a Genoese merchant, who travelled to India on a mercantile speculation, visiting Calicut, Ceylon, Pegu, Sumatra. *India in 15th Cent.*

HIE-SHAN. A group of 3 islands and 8 rocks on the east coast of China, which extend 4 miles long. The southern-most is the largest and the inhabitants are fishermen.

HIGGASS. Singh. Odina wodier, *Roxb.*

HIGH ASIA, a term applied by the brothers Schlagentweit to districts in Central Asia.

HIGH PLACES, Sacred edifices were often erected by the Greeks and Romans upon elevated sites. The custom is of very high antiquity. Hector, according to Homer, sacrificed upon the top of Ida; and Abraham was commanded to offer up Isaac on Moriah. Balak is represented as selecting three elevated stations, where he sacrificed with Balaam, and probably by some sacred erection.

First station, Num. xxii. 41. "And brought him up into the high places of Baal" And he led him to the high places of his god." (Chaldee and Samaritan). "And he made him ascend Bemoth Baal." (Syriac.) "He made him ascend to the pillar or mound of Baal." (Greek.) "And he led him up to some temples of his god." (Arabic.)

Second station—Num. xxiii. 14. "And he brought him into the field of Zophim, to the top of Pisgah." "To the field of observation, to the top of the hill." (Chaldee.) "To the field of the watchers, to the top of the hill." (Syriac.) "To the field of the watchers, to the peak of observation." (Samaritan.) "To the field of observation, on the summit of a levelled place." (Greek.) "To an high place, on the top of a citadel." (Arabic.)

Third station—Num. xxiii. 28. "And Balak brought Balaam unto the top of Peor." Archæologia.

The temple, though superior to St. Paul's, was inferior to St. Peter's at Rome; the Ephesian temple being four hundred and twenty-five feet long, and the church of St. Peter eight hundred and forty Roman palms, each palm being about nine English inches.—*Milner's Seven Churches of Asia*, p. 100.

HIGH TOWNS, in Asia, along the sides of the Himalaya, are villages up to 10,000 and 16,000 feet. In America, the city of Quito 9,520 feet above the level of the sea; the city of Mexico, 7,400; the city of Miculpamha, 11,850; also the following places, situated between the two chains of Andes, in Upper Peru, at some 350 miles distance from the Pacific:—City of Puno, 12,830 feet above the sea; town of Potosi, 13,350; mines of Potosi, 16,000; Titiaca Lake, 12,760; house of Titiaca, 14,402.

HIGOS, Sp. Figs.

HI-HYA, a tribe of the Limar race, brave and valorous, their remnant exist in the line of the Nerbudda at the very top of the valley of Sohagpoor in Bhagelcund. See Sehestra, Arjuna.

HIH-YEN, Chin. Lead.

HIJAZ, See Adnan.

HIJAR-UL-BACKIR, Ar. Calculous cysticus. Gall-stone.

HIJILI BADAM, Beng. Anacardium occidentale. *Linn.* also Aleurites triloba. *Forst.*

HIJILI BADAM KA GOND, Hind. Gum of Aleurites triloba.

HIJJUL, Hind. Beng., Barringtonia acutangula, *Gaertn.*

HIJLI-MENDE, Beng. Eugenia bracteata

HIJRA, the era of the Hijra dates from the flight of Mahomed to Medina, which took place on the night of Thursday the 15th July A. D. 622. The era commenced on the following day, viz. the 16th July. The corresponding years of the Christian and Hijra eras, may easily be calculated by the following formula: it being remembered that the Christian are solar and those of the Hijra lunar years, and that 521 solar are equal to 537 lunar years.

Ex—What is the year of Christ 1734, according to the Hijra?

From 1734 A. D. subtract 621, the difference of the two eras,

Result 1113 of the Hijra in solar years.

Then, 521 : 537 : : 1113 : 1147 Hijra.—*Playfair's Yemen.*

HIJRE. Hind, a eunuch.

HIJRON KA TAEFA, hindoos turned mohurrum fakeers.

HIK-GAS, Singh., Odina wodier

HILBUYA, Ar. Cardamom, Eng.

HI-LE-AN. See Chandragupta.

HIL-I-KILAN. Pers. Bastard cardamoms.

HILLAH, its ruins are called Babel by the Arabs. The pre-eminent mounds at the site of ancient Babylon, are three in num-

ber, 1st, the Amran Hill, so named by Mr. Rich in his 'Memoir on the Ruins of Babylon' and who designates it by that appellation, from its supporting a small tomb erected to the memory of some personage of that name, said to have been a son of the caliph Ali, who fell at the battle of Hillah. But there must be some mistake in this tradition. Ali having had only two sons Hassan and Hussein. The ruins near Hillah are still, by the Arabs, designated Babel, and all historical records, as well as traditions, agree in representing these as the remains of the first city of Nimrod, the Babylon of Herodotus, Diodorus Siculus, and other historians.

Hillah lies in latitude 32° 31' 18", in longitude 12' 36', west of Bagdad; and, according to Turkish authorities, it was built in the fifth century of the Hijira, in the district of the Euphrates, which the Arabs call El-arad Babel, lying on a spot of the vast site of Babylon. The author of the Majalis ul Momenin, under the article Hillah, states that it is a large city between Kufah and Bagdad, and that the site was originally named Jamiain.

The town of Hillah, is situated upon the banks of the Euphrates, and occupies a part of the site of ancient Babylon. The western side of the Euphrates, and stretching towards Felugia, is a tract pregnant with interest; for between the last named place, and the bitumen springs of Hit, the battle of Cunaxa was fought, in which the younger Cyrus lost his life, and whence Xenophon made a retreat more brilliant than victory.—*Mignan's Travels*, pp. 254, 326. *Porter's Travels*, Vol. II, p. 252. *Skinner's Overland Journey*, Vol. II, p. 185.

HILL BAMBOO. Eng. Arundinaria utilis. *Linn.*

HILL COCOANUT. Eng. Sterculiafoliis digitatis.

HILL DHAL. Anglo-Hind. Cajanus indicus.

HILL EBONY. Eng. Diospyros lanceolata.

HILL NETTLE. Urtica pulcherrima.

HILLOOYA. Beng. Asparagus officinalis.

HILL STATES. The early intercourse of the British Government with Nepaul was exclusively of a commercial nature. British political relations with it date from the invasion of the valley by the Goorkha race under rajah Pirthee Narain. In 1767 the Newar rajah of Katmandhoo, being hard pressed by the Goork'ha, applied for assistance to the British Government. Aid was granted, and Captain Kinloch was despatched with a small force in the middle of the rainy season. He was, however, compelled by the deadly climate of the Terai to retire. The Goorkha chief, meeting but a feeble resistance, overran Nepal, and extinguished the Newar dynasty, and was eventually recognized by the British Government as rajah of Nepal. For several years previous to 1792, the Goorkha power had been extending their conquests in the direction of Thibet. They had advanced as far as Digarchi, the Llama of which place was spiritual father to the emperor of China. Incensed by the plunder of the sacred temples of Digarchi, the emperor of China despatched a mighty army to punish the Nepal rajah, and the Goorkha concluded an ignominious treaty with the Chinese within a few miles of their capital. War between the Gorkha and the British was formally declared on 1st November 1814. An arduous campaign, in which the Goorkhas fought most bravely and with much success, left the British in possession of the hills west of the Kalee, and the Goorkhas disposed to treat for peace. Negociations were, however, twice broken off by the Goorkhas refusing to comply with the demand for the cession of the Terai, and Hostilities were therefore vigorously pushed by the British Government, till the 4th March 1816, when the Nepalese commissioners delivered to Sir David Ochterlony the treaty of Segowlee duly signed and executed. The hill lands east of the Nuchee, and part of the Terai between the Nuchee and Teesta rivers ceded under this treaty, were made over to Sikkim.

The murder of Guggun Sing, a favourite of the maharani and the massacre of thirty-one of the most influential chiefs in 1846, paved the way for the rise of Jung Bahadoor to the office of prime minister, and he was created a maharajah by the maharajah of Nepal, and invested with the perpetual sovereignty of two provinces. He effected the marriage of a son and two daughters into the royal family of Nepal. During the mutiny of 1857, and the subsequent campaigns Jung Bahadur rendered assistance to the British in the re-occupation of Gorucknpore, the re-capture of Lucknow, and the subsequent capture of the rebels who infested the Terai. In consideration of these services he was created a Knight of the Grand Cross of the Bath, and under a treaty (No. LV) concluded on 1st November 1860, the tract of territory on the Oudh frontier, which had been ceded to the British Government in 1816, was restored to Nepal.

The Nepalese usually estimate the population of Nepal at 5,200,000 or 5,600,000,

but it is probably not more than 2,000,000. The city of Katmandhoo contains from 30,000 to 35,000 inhabitants. The area of the kingdom is about 54,000 square miles. Its revenue is unknown, but is supposed to be about 43 lakhs. The Goorkhas pay no tribute to the British Government, but every five years a mission is sent from Katmandhoo with presents to Pekin. Previous to the Nepal War in 1814 the Goorkhas had extended their conquests westwards as far as the Sutlej. By the 5th Article of the Treaty of 1815, the Nepalese renounced all claim to the countries west of the Kali, and the British were left in possession of the whole tract of hills from the Gogra to the Sutlej. Kumaon and the Dehra Doon were annexed to the British dominions, and the rest of the territory, with the exception of Subathoo, Raengurh, Sundoch, and a few other military posts, was restored to the Hill Rajahs from whom it had been conquered by the Nepalese. In 1847 transit duties were abolished throughout these states. A yearly sum of Rupees 13,735 is paid in compensation by Government. To all the hill chiefs, the rite of adoption has been granted.

Sirmoor or Nahun. In recognition of the services rendered by rajah Shumshere Purgass during the mutiny, he received a khillut of Rupees 5,000, and a salute of seven guns. The family is Rajpoot. The revenue of Sirmoor may be estimated at a lakh of rupees a year. The rajah maintains a small force of drilled sepoys, numbering 250 men. The population, according to the latest census, amounted to 75,595. The rajah pays no tribute, but is bound to render feudal service.

Kulloor or Beluspore The rajah of Kulloor had estates on both sides of the Sutlej. But the sunnud given to rajah Moober Chund, in 1815, confirmed to him the eastern portion only. The family is Rajpoot. In acknowledgement of his services during the mutinies of 1857, the rajah received a dress of honor of Rupees 5,000 value, and a salute of seven guns. The revenue of this state is not less than Rupees 70,000. The population amounts to 66,848.

Hindor or Nilagurh. The chief of Hindor belongs to a Rajpoot family. A sunnud was granted in 1815. The population at the last census was 49,678. The revenue amounts to Rupees 60,000.

Bussahir, a tributary state gave Rs. 3,945 as tribute. *Rawaun*, on the left bank of the Pabur, was transferred to Keonthul. The Thakoorai of Kotegurh and Koomharssein were declared independent of Bussahir.

The rajah is of a Rajpoot family, population of Bussahir, 45,025, revenue, Rupees 70,000.

Keonthul. After the Goorkha war a portion of the territory of Keonthul was sold to the maharajah of Puttiala. The chief claims a Rajput origin. He is bound to render feudal service. In 1858 the chief was created a Rajah, and received a dress of honor worth Rupees 1,000 for his services during the mutinies. The revenue of the state is Rupees 30,000, and the population by census 18,053.

Baghul. The family is Rajpoot. Revenue, Rupees 35,000, population, 22,305.

Joobul. Originally this Rajpoot state was tributary to Sirmoor, but after the Goorkha war it was made independent, and the Rana received a sunnud from Lord Moira on 18th November 1815. The revenue is Rupees 18,000, and the population, 17,262 souls. The rana pays Rupees 2,520 tribute, and is bound to render feudal service.

Bhujee, pays tribute Rupees 1,440. Revenue, Rupees 15,000, population, 9,000.

Koomharsein. This state formerly a feudatory of Bussahir, was declared independent after the Nepal war, pays Rupees 1,440 as tribute. Revenue, Rupees 7,000, population, 7,829. The family is Rajpoot, of not very high pretensions.

Kothar. The sunnud bears date the 3rd September 1815, and confirms to rana Bhoop Singh and his heirs the hereditary possessions of his ancestors, subject to the performance of feudal service, and supplying a contingent of forty begar, but subsequently commuted to a tributary payment of Rupees 1,080. Revenue, Rupees 5,000; population 3,990. The family is Rajpoot.

Dhamee. This old Rajpoot state became independent of Kuhlor after the Goorkha war. The state was bound to supply forty begar, but this was commuted to a tribute of Rupees 720. Revenue, Rupees 4,000; population, 2,853.

Bughat a hill state, the chief of which acted unfriendly during the Nepal war. He died without issue on 11th July 1839. The state was treated as a lapse, and pensions to the extent of Rupees 1,282 were assigned to the family.

Bulsun. This state was originally a feudatory of Sirmoor, but a separate sunnud was granted to it in September 1815. Its tribute payment is Rupees 1,080. Its chief is of Rajpoot origin. Thakoor Jograj, was created a rana in 1858, for services rendered during the mutiny. The revenue of the state is Rupees 6,000, and the population 4,892.

Mylog. The sunnud of this Rajpoot state dated 4th September 1815, contains

the usual conditions and the tributary payment is Rupees 1,450. Revenue, Rupees 8,000, population, 7,358.

Beejah. This petty state pays a tribute of Rupees 180. Revenue, Rupees 2,000 population, 981.

Turoch. Revenue, Rupees 2,500, population, 3,082. It pays Rupees 280 in lieu of begar.

Koonhiar state pays Rupees 180 in lieu of begar, Revenue, Rupees 3,000 population 1,906.

Mungul was an ancient dependency of Kuhlor, but was declared independent on the expulsion of the Goorkha: its tribute payment is Rupees 72. The revenue, Rupees 1,000, population, 917.

Durkotee. This petty Chieftainship pays allegiance to the British Government, and is exempted from all pecuniary liability. Revenue, rupees 500, population 612. *Aitcheson, Treaties &c.* p. 323.

HILL TOON, Cedrela serrata *Royle.*

HILL TROUT, so called, although no trout, a bony monster of a silver grey, spotted with black, will eat everything he can swallow. Is often taken with an infant brother, while spinning for his high caste neighbours, with an artificial minnow of glass, with a piece of rag, or newspaper, with bees, and dragonflies, caught off the bushes by the river, with a morsel of cabbage leaves boiled, but in general with the orthodox spinning, the winnow, or the artificial fly, made very large and showy. In Cashmeer, five bags of these fish, have been caught some weighing 7 pounds each. One seen in the market, was 12 lbs. The "Wislur" Lake, the "Dhul Lake" and the "Ghelum" all swarm with them about the mulberry trees the fallen fruits of which seem to afford them in legions a sweet and pleasant diet, if one may judge by the mighty rush ensuing on a shaking of the boughs. Boatmen avail themselves of this penchant, covering a bent pin with a plump mulberry, and dropping it incognito amid the shoal! This fish is widely distributed; abundant in the backwaters of the Ganges in the great rapids of that river far above Hurdwar and in Deyrah Dhoon; in 27°, 28' N. in the upper branches of the Burrampooter and in the Mishmee and Abor backwaters also in most of the small rivers of the Punjab, in which latter locality it does not seem to grow very large, though plentiful, owing perhaps to its being the common food of numerous fish of prey. Is abundant, though small in Central India, in Bundelcund and Jhansi Districts. Eatable, that is all that can be said; but giving good sport in its way, and yielding subsistence to the monsters of the deep, and useful in diverting their attention from mischief to their own breed. See Chiliva, Craw-fish.

HIL KILAN. Pers, bastard or wild Cardamoms.

HILO. Sp. Yarn. also Torzal. Sp. Thread.

HILSAH. A fish of the Irawadi and Ganges.

HILTITH. Arab. Asafætida.

HIMALAYA, a great mountain range, which includes the whole of the country betweenKashmir on the west and Kachar on the East: has the plains of India in the south, and on the north, those of Thibet, or Himachal, the country of snow. This tract possesses no table land, but is like a gigantic system of ravines, being throughout a series of steep acclivities, with narrow gorges and stream beds at the bottom of the ravines, and the hills ascend only to narrow ridge tops and again immediate descents. These hills have villages at every elevation, from 1,000 to 22,000 feet. The watershed of the Himalaya, on the north of the highest snow peaks, is the boundary between India and Tibet.

The Himalaya extend from the defile above Cashmere in Long, 73° 23' to the southern bend of the Tsan-po, in Long. 93-22. The range is usually divided into the Eastern Himalaya, from the banks of the Tsan-po to the course of the Kali, a river which forms the western boundary of Nepal: and the Western Himalaya, from the Kali river to the peaks of Dairmul on the Indus.

The entire length is computed at 1,500 miles and average breadth at 150 miles with a mean elevation of 18,000 feet, but there are solitary mountains and peaks rising higher.

Western Himalaya.

Jumnotri... ft.	Badrinath 22,954 ft.
Kedarnath 23,062 „	Nanda Devi 15,749 „

Eastern Himalaya.

Dhawalgiri 26,861 ft.	Mount Everest 29,000 ft.
Dava bung 23,762 „	Kanchinjinga 28,156 „

Imaus is a name by which part of the Himalaya was known to the Greeks and Romans. Pliny was fully aware of the signification of the name for he says (Hist. Nat. VI. 117) "Imaus in colarum lingua, nivorum significans." The great part of the mountains N. West from India was also called the Paropamisus or Hindoo Cush; and Imaus and Hindoo Cush seem to have been identical. The true Imaus, however, is the ridge which separates Kashmir from Little Tibet. It appears to incline, in its northern course, towards the continuation of the

Hindoo Koh and even to join it. The term Hindoo Koh or Hindoo Kush is not applied to this ridge in its whole extent, but seems confined to that part of it which forms the N. W. boundary of Kabul, and this is the Indian Caucasus of Alexander. There is, however, much confusion owing to the use of Tibetan, Chinese, and Persian names for that great mountain mass.

The Himalaya is a great mountain barrier and its name is from Hima snow, alaya abode. Natives call all the high snowy peaks of the Himalaya by the generic name Kailasa and a line of high snow peaks can be traced running nearly parallel to the plains of India, and extending from the places of passage of the Brahmaputra on the east and of the Indus on the west. But these snowy peaks are separated from each other by deep ravines along which flow large and rapid rivers.

This stupendous mass extends in an irregular curve over 22° of longitude from the defile above Cashmere, where the Indus penetrates into the plains of the Punjab, lon. 73°23'. Some of its heights are.

Dairmal, 26,629 ft.;	Kamet, 25.550
Bal Tal, 17,839;	Nanda Devi, 25,749 ft.
Ser and Mer, 23,447;	Gurla, 23,900.
Hanlo, 20,000;	Dhawalagiri, 27,600;
Gya, 24,764;	Gosaiuthan 1,924,740;
Porgyal, 22,600;	Junnoo, 25,311;
Raldang, 20,103;	Kinchinjunga 28,176.
St. Patrick, 22,798;	Chomiomo, 19,000
St. George, 22,654;	Kanchan Jhow, 22,000
Pyramid, 21,579;	Chumalari, 23,929
Gangoutri, 2 29 0621	Three peaks on lower bank of Deemree, 21,000;
Jumnoutri, 21,155	
Kedernuth, 23,062	
Badrinath, 22,954	Kailas, 22,000.

Average elevation, 18,000 to 20,000 ft. M. Everest, 29,002. Limit of perpetual snow, or congelation on S. slope. 15,000 ft. Deep narrow valleys, separated by ranges running either parallel or at right angles with the main ridge, contain the numerous sources of the rivers flowing into the Ganges, the Indus, and the Brahmapootra. The steep face is toward the plain, and to the N. the chain supports the lofty table-land of Tibet. The greater part of the giant peaks, which rise to an elevation of 25,000 or 28,000 ft., are situate not on the central axis, but to the south of it. Viewed from Patna, at a distance of about 150 miles, these mountains present a long line of snow-white pinnacles, which on a nearer approach, are seen towering above the dark line of lower but still lofty mountains. With the exception of a strip of land at the foot of the mountains, the whole of Bootan presents a succession of the most lofty and rugged mountains on the surface of the globe. It is a series of ridges, separated only by the narrow beds of roaring torrents. In the Western Himalaya, the average elevation of Cashmere valley is between 5,000 and 6,000 ft. above the sea. Huramuk Mt. 13,000. Pir-panjal, 15,000. Average of valley of Indus (N. of Cashmere vale), 6,000 to 7,000 ft. Slope from S. E. to N. W. Mountains on each side rising from 6,000 to 8,000 ft. higher. Mountains enclosing Cashmere vale are basaltic. Ranges on each side of Bultistan valley are rugged, bare, and nearly inaccessible; formation generally of gneiss; that of the valley, shingle and sand. The line of snow peaks in the western Himalay is the southern limit of the snowy range of the western Himalaya.

Western Tibet, is a highly mountainous region lying on both sides of the river Indus, with its longer axis directed like that river from south-east to north-west. It is bounded on the north-east by the Koenlun chain of mountains, by which it is separated from the basin of Yarkand. On the south-east its boundary is formed by the ridge which separates the waters of the Indus from those of the Sanpu. To the north-west and south-west its boundaries are somewhat arbitrary, unless the political division of the country be had recourse to, which, depending on accidental circumstances entirely unconnected with physical geography or natural productions, is so liable to change that its adoption would be extremely inconvenient. As limited by these boundaries, West Tibet includes the whole of the valley of the Indus and its tributaries, down to about 6,000 feet above the level of the sea, a considerable portion of the upper course of the Sutlej down to between 9,300 and 10,000 feet, and small portions of the upper course of the Chenab, of the Ganges (Jahnavi), and of the Gogra. Every part of Tibet is traversed by ranges of mountains which have their origin either in the Kouenlun on the north, or in the trans-Sutlej Himalaya on the south.

The mountain systems of East Tibet is an enormously elevated mountain mass, this is proved by the statements of many intelligent Tibetans, by the Chinese geographers, by the narrative of M. Huc, and the fact of so many of the large rivers of Asia flowing from it in several directions.

The two sections of the Himalaya furnish points of resemblance, in presenting almost insurmountable obstacles to communication between the countries which they divide, thereby separating the Boti or people of Tibet from the Hindoo family of India. Major Cunningham considers the distinction

of climate not less positively marked, both ranges forming the lines of demarcation between the cold and dry climate of Tibet with its dearth of trees, and the warm and humid climate of India, with its luxuriance of vegetable productions. Some analogy, moreover, may be traced between the drainage systems of the two sections; the one separating the waters of the Sampoo from those of the Ganges and its affluents; and the other intervening between the Indus, flowing at its northern base, and the subsequent tributaries of that river rising on its southern slope.

Any view of the Himalaya, especially at a sufficient distance for the snowy peaks to be seen overtopping the outer ridges, is very rare, from the constant deposition of vapours over the forest-clad ranges during a greater part of the year, and the haziness of the dry atmosphere of the plains in the winter months. At the end of the rains, when the south-east monsoon has ceased to blow with constancy, views are obtained, sometimes from a distance of nearly 200 miles.

The Bara Lacha range of mountains is regarded by Alexander Cunningham as the western continuation of the Himalaya. The Bara Lacha separates the Indus river from its first affluents as the Eastern Himalaya separates the Tshang-po from the Ganges.

The Western as well as the Eastern chain separate the great hindu family of India from the Bot of Tibet. Some mixed races are found to the south of each chain, as the Lahuli and Kanawari in the west and the Ghoorka and Bhutani in the east.

The inferior mountains of the Eastern chain run at right angles to its axis, whereas those of the Western chain are generally disposed in subordinate parallel ranges. There are, two distinct and independent ranges to the south of the Western Himalaya, both stretching in the same general direction from N. W. to S. E., which may be termed the Mid Himalaya and the Outer or Sub Himalaya; the term Siwalik being that applied to the lowermost sandstone ranges.

Eastward of the Subansiri river, there is probably only one range of any considerable elevation and the mountains by which the Himalaya terminate in that direction perhaps nowhere attain a greater height than eight or ten thousand feet while the valley of the Dihong or Brahmaputra is probably broad and open. These mountains are inhabited by wild and suspicious tribes.

The Siwalik is a Sub-Himalayan range of the later or tertiary formation. What is strictly called the Siwalik, extends in a north western direction from the right bank of the Ganges, and runs parallel to the Himalayan range, forming the boundary of the Doab between the Ganges and Jumna; beyond this, it skirts the Ambala and Ludhiana districts, and comes to its termination in the Hushyarpur district. Though this portion alone receives the name of Siwalik, Dr. Royle observes that hills of a precisely similar nature can be traced all along below the Himalaya from the Sutlej, as far as the foot of the Sikkim hills: and it is not difficult to conceive a continuation of them more or less continuous, and of greater or less elevation, along the whole southern frontier of the Himalayan system, a distance of nearly 800 miles. At Hardwar, the Siwalik hills form the gorge through which the Ganges issues into the plains of Hindustan. The breadth of this range is at its widest part about ten miles when it approaches the Sutlej river, and towards its termination beyond that river, the range assumes the form of little more than sandhills. The highest part of the range is about Hardwar, and to the south of Garhwal, beyond Sirmur, some of the peaks are as high as 3,000 or 3,500 feet above the sea level. The range is of tertiary formation, all alluvial, and in many places consisting of beds of gravel and rolled stones, fragments of the older formations of the Himalayan range above, consisting of granites, limestone, clay-slate, gneiss, mica-schists, &c. Besides these there are beds of loose grained sandstone, with much mica interposing, there are also beds of calcareous conglomerate and subordinate beds of clay.

The clay and sand beds of these ranges are fossiliferous: shells of the tertiary miocene period abound, but the chief characteristic fossils are the remains of gigantic mammalia, among which may be mentioned the Sivatherium, a huge creature somewhat similar to the "tapir" of modern days. The name Siwalik or Siwalik range, is derived from the hindu divinity Siva, Dr. Falconer, on his first visit to the Siwalik hills, inferred that they were of a tertiary age, and analogous to the Molasse of Switzerland. Thirty years of subsequent research by other geologists has not altered that determination, although the exact knowledge of the formation has been greatly extended. The researches thus begun were followed about the end of 1834, by the discovery, by Lieutenants Baker and Durand, of the great fossiliferous deposit of the Siwaliks near the valley of Markanda, westward of the Jumna, and below Nahun. Captain Cautley and Dr. Falconer were immediately in the field, and by the joint labors of these

four officers, a sub-tropical mammalian fossil fauna was brought to light, unexampled for richness and extent in any other region then known. It included the earliest discovered quadrumana, the Pliopithecus, and the Dryopithecus, an extraordinary number of Proboscidia, belonging to Mastodon, Stegodon, and Elephas; extinct species of Rhinoceros; Chalicotherium, Equus and Hipparion, Hexaprotodon, Hippopotamus, and Merycopotamus; Sus and Hippohyus; the colossal ruminant Sivatherium, together with species of camel, giraffe, and new types of Bovidæ; also species of Cervus, Antilope, and Capra; Carnivora belonging to the new genus Sivalarctos and Enhydriodon, Drepanodon (Machairodus), Hyæna, Canis, Lutra, &c. Among the Reptilia, monitors and crocodiles of living and extinct species, the enormous tortoise, Colossochelys Atlas, with numerous species of Emys and Trionyx; and, among fossil fish, Cyprinidæ and Siluridæ; no less than twenty five species of shells occurred, all of which but four are now extinct. The general facies of the extinct fauna exhibited a congregation of forms participating of European, African, and Asiatic types.

The Tarai is a great belt of gravel and sand, filling a trough from five to fifteen miles in length, parallel to the base of the Himalaya, to the depth of from 15 to 150 feet. It is so sickly as to be nearly without resident population; the houses of the cultivators are on the slopes of the hills. It is full of marshes. The belt of saul forest, which is waterless, is next to it towards the mountains, and is almost equally malarious: rivers disappear and pass under it re-appearing in the Tarai: it is surrounded by sandstone hills, which skirt the base of the mountains.

The Himalaya include the Simla hills, Kumaon and Nepal, but Mr. B. Hodgson applies the term sub-Himalayan to everything below the snowy range, including in this the most precipitous mountains and people dwelling in them, up to heights of 8,000 and 10,000 feet above the highest mountaineers in Europe. The low range of hills frequently separated from the Himalaya by diluvial valleys or doons, such as that of Deyra, seldom attains an elevation of more than 3,500 feet or 2,500 feet above the plains of northern India. The principal passes across this range were 2,339 and 2,935 feet before they were cut down. The second zone of mountains extending between these and the snowy range, vary in height from 5,000 to 8,000, or 9,000 feet. Within this tract is the military station

of Sabathoo, elevated 4,200 feet; many hill-forts, and the summer residences of Simla 7,486, Mussoorce 6,700, and Landour at 7,359 feet of elevation; of other heights, are the Peak of Kangchang 28,176. Ghat of Wallungchung 16,642, Ghat of Kanglachema 15,746, the former determined by Col. Waugh, the latter by Dr. Hooker. Peak of Dhavalagiri 27,000, (*Herbert.*) Of Chumalari, 24,000, (*Waugh.*) and Deodhung peak as well as Dhavalagiri are believed to rival Kangchang.

From the peak of Mono-mangli to the sources of the Gilgit and Kunar rivers, the distance is not less then 650 miles, and the chain is pierced in three places by rivers, by the Sutlej and Para, at the base of Porgyal and by the Indus, at the foot of Dyamur. The heights to the south of the Sutlej, range from 20,103 feet to 25,749, and the heights of the passes vary from 16,570 to 18,331 feet. In the western Himalaya, the snow limit ranges from 17,500 to 20,106 feet. The Himalaya, on the east, presents the lofty peaks of Kanchjinga and Dhawalagiri, which rise to more then 28,000 feet in height. The highest peak of the western Himalaya, are,

Nanda Devi, or Jawalur	25,749 ft.	Mono mangli,	23,900 ft.
Gya peak	24,764 „	Porgyal,	22,700 „

The following table by Major Cunnigham, gives a summary of the information he collected regarding the great mountain chains, in the north of the Punjab.

NAME OF CHAIN.	Its length in miles.	Elevation highest peak, in feet.	Mean height of chain in feet.	Snow line. North.	Snow line. South.
Kara Korum, or Trans Tibetan	450	21,000	20,000	18,000	18,500
Kailas, or Gangri; or Mid Tibetan	550	20,700	20,000	18,500	19,000
Trans Himalaya, or Tsho-moriri	350	21,000	19,300	19,500	20,000
Western Himalaya, or Bara Lacha	650	25,749	20,000	19,000	18,000
Mid Himalaya, or Pir Punjal	407	21,786	17,000	17,000	16,000
Outer Himalaya, or Dacla Dhar	300	16,174	15,020	The snow disappeared annually.	

The following is a table of elevation above the sea level of places between Almorah and Gangri, from Lieut. H. Strachey's Journal and Map.

	Feet.
J. Strachey's hut on Binsar, near Almorah estimated to be nearly 600 feet below top of hill (7,969 feet T.)	7,400
Khazanchi's house, near St. Mark's Tower, Almorah 50 feet below Tower (5,488 B.)	5,438
Dol Bungalow.	6,100
Dew Dhura (vulgo Dee) Bungalow	6,867
Pharka Bungalow	5,914
Lohughat Mr. Ramsay's house	5,649
Dhargara Bungalow	4,500
Iron bridge on the Sarju, 2 miles below confluence of Ramganga, estimated to be about the same height as (Rameswar, 1,587 B)	1,600
Kantaganu Bungalow	3,900
Petoragarh (Major Drummond's house) estimated 25 feet above fort (5,549 B)	5,574
Satgarh (Major Drummond's hut,) 100 feet below top of pass	5,900
Singhali Khan, (50 feet below pass)	5,600
Village of Askot, Camp 50 feet above	5,089
Garjia Ghat (estimated 35 feet below confluence of Gori and Kali, (3059 B)	2,094
Bank of Kali river under Balwakot	2,250
Dharchula, 100 feet above	2,850
Confluence of the Relagarh with Kali river.	3,794
Village of Kela	4,750
Bridge on the Dhauli under Keli	3,883
Confluence of Dhauli and Ali estimated 383 feet below, (No. 19)	3,500
(In Chaudans.)	
Village of Titila	8,000
Sosa village, (estimated 250 feet below Titila)	7,750
Rholing Dhura, top of pass, (estimated 2,000 feet above No. 21)	10,000
Bunbun Hamlet, (estimated to be about the same height as Gala)	7,500
Syankwag, crossing of the Garth, (estimated 25 feet above No. 26)	7,250
Gala Hamlet	7,500
Nirpania Dhura, top of pass, (estimated 3,000 feet above Gala)	10,500
(In Byans.)	
Golam, La, (at the great rock)	8,000
Thin Hamlet, left bank of Kali, (estimated 500 feet below Golam)	7,500
Crossing of the Najangarh, estimated 1,000 feet below Golam	7,000
Confluence of the Najangarh with Kali river, (estimated 1,500 feet below Golam).	6,500
Lamare, (on river bank)	8,000
Confluence of the Palangarh (with Kali river, (estimated 250 feet above Lamare).	8,250
Budhi village, 100 feet below	8,650
Cheto Binaik, top of pass, (estimated 1,750 feet above No. 34)	10,500
Garbia village	10,272
Confluence of the Tinkar River with Kali (100 feet above)	9,900
Changrew village, (estimated 500 feet above No 37)	10,500
Confluence of Kali with Kunti-Yankti, supposed to be the same as Webb's "Kalapem and Kali"	11,413
Mangdang, or Kunti river	11,750
Kunti village	13,000
Sangchungma encamping ground above the River.	14,000

	Feet.
Phia-mungba.	15,750
Lankpya Dhura, top of Pass, (estimated 2,000 feet above Lankpya and 1750 feet above Welshia.	17,750
(In Gnari, Gugi, Pruang.)	
Welshia.	16,000
Bhaweti, at the Darm-Sala	15,750
Lama-Choktan, (estimated 250 feet above Beaweti.)	16,000
S. E. end of Chujea Tol, (estimated same height as the Lakes)	15,250
Pass between Chujea Tol and Malang (estimated 1,750 feet above valley on either side.)	17,000
Amlong, bottom of valley.	15,250
Jungbwa Tol, bottom of valley (estimated same height as Amlong.)	15,250
Bho Lagan (Rakas Tal,) level of Lake	15,250
Gangri Mountains, average height (estimated 4,250 feet above Lakes.)	19,500
Peak of Tise (Kailas), estimated 1,500 feet above the average of the Range and 5,750 above the Lakes.	21,000
Cho Mapan (Manasarowar,) [deducting* 175 feet height of station above the Lake.]	15,250
(In Pruang.)	
Mononangli (Gurla), estimated 8,260 feet above the Lakes, and 2,500 above Kailas.	23,500
Pass between the Lakes and N. head of Pruang valley (estimated 1,000 feet above lakes)	16,250
Baldak Dharmsala, (estimated about the same as lakes)	15,250
Kardam Karh, (estimated 250 feet below No. 58 and ditto above No. 60.)	15,000
Camp in Ravine next above the great Ravine of Toiyon	14,750
Toiyon village, (estimated 250 feet below No. 60.)	14,500
Bridge over Karnib, R. between Toiyon and Tauklakarh (estimated 250 feet below Toiyon)	14,300
Confluence of Sidya-Cha with Karnali, (estimated 50 feet below Bridge.)	14,250
Takla-karh, summit of hill, (estimated 500 feet above confluence).	14,750
Maghram village (estimated 250 feet above N. 63 and ditto below No. Tsklakarh.)	14,500
Pala-Dung, (estimated 500 feet above No. Maghram.)	15,000
Ningri, estimated 100 feet above Pala Dung and 4,744 feet below top of Pass.	15,100
Lipu Lekh, top of Pass [14th October 1828? Vide Calcutta Gleanings of Science, April 1829.]	16,844
Ravine entering left bank of Kali, supposed to be Webb's ["Mandarin's camp"]	14,506
Yirkha hamlet, above Kalapani (estimated 1500 feet below Bridge over Karnali.)	13,000
Kalapani Bridge, (site not identified as there are now three bridges over the Kali in this vicinity, but supposed to be not far below Yirkha	12,742

Eastern Dal-la, 27° 52' 1"; 92° 38' 6", in Bhutan, in the immediate vicinity of the Giant's peak top of the peak is 21,435 ft. according to *Herm. Schl.*, and 21,476 feet *Pemb.* The Giant's peak; and the Eastern Dal-la are the peaks occasionally called 'Gemini' by residents of Assam who have seen the Himalaya panorama from Nanklan

in the Khassia hills. The two 'monarchs' of the Himalaya are M. Everest, the 'King of the South,' reaching an altitude of 29,002 feet; and Nunga Purbut, the 'King of the North,' between two and three thousand feet lower. A dangerous glacier at a height of 18,000 feet is to be crossed at some distance from Ladak. A recent article on the Trigonometrical Survey in the Himalaya states that the whole mountain tract of Kashmir, including Thibet and Ladak, will soon be completely triangulated, and topographically surveyed. Altogether, the area already surveyed amounts to about 40,000 square miles, and 80,000 of triangulation. Some of the peaks on the Karakoram range along which runs the boundary between Ladak and Yarkand are very high, the highest being 28,278 feet above the sea. This mountain is called K2, and towers above all the surrounding ranges, being probably the second highest in the world.

Mount Everest—highest	...	29,002 feet.
K2	..	28,278 ,,
Kinchingunga ...	...	28,156 ,,
Dhwalaghiri (long thought the highest) ...	...	26,826 ,,

Some of the highest points 22,000 feet above the sea have been reached by surveyors who are East Indians, educated in Calcutta.

The following are the latitudes and longitudes and the heights of passes over the outer Himalaya range :—

Sugla,	31° 13'	78° 29'	16,000 feet.
Kimlia,	31° 15'	78° 25'	17,000 ,,
Siaga,	31° 16'	78° 20'	16,000 ,,
Marga,	31° 16'	78° 21'	16,000 ,,
Lumbia,	31° 16'	78° 20'	16,000 ,,
Barga,	31° 16'	78° 19'	15,000 ,,
Nulgun,	31° 19'	78° 13'	14,891 ,,
Rupin,	31° 2'	78° 10'	15,480 ,,
Ghusul,	31° 21'	78° 8'	15,851 ,,
Nibrung	31° 22'	78° 10'	16,035 ,,
Gunas,	31° 24'	78° 8'	16,026 ,,
Yusu,	31° 24'	78° 4'	15,877 ,,
Sundru,	31° 24'	78° 2'	16,000 ,,
Shatul,	31° 25'	77° 58'	15,555 ,,

Between Gil git and Chittagong, there are a hundred passes through these mountains. In Kunawur there are fifteen passes, at elevations varying from 15,000 to 17,000 ft.

Population. Bhot race. From Simla, for several hundred miles to the east all the passes through the snowy range are occupied by the Bhoti. They have a monopoly of the trade across the Himalaya, are carriers, loading the goods on the backs of sheep.

From Kashmir, eastwards, all the easily accessible portions of the Himalaya are occupied by Arian hindu as far as the eastern border of Kumaon and the Kali river separating Kumaon from Nepal—the Tibetans being here confined to the valleys about and beyond the snow. People of Thibetan blood have migrated into Nepaul, throughout its whole length, and have formed mixed tribes whose appearance and language is more Thibetan than Indian, but whose religion and manners are hindu. East of Nepaul, in Sikkim and Bhutan the hindu element almost disappears, and the Thibetans are altogether dominant.

Ghoorka. In Nepaul, in the west, are the Gurang and Magar tribes, small, with features of an extreme Mongolian type, full of martial ardour and energy. They are known as the Goorkha soldiers. They have considerable intellectual ability.

The Newar of the valley of Nepaul are the cultivating peasantry, have Thibetan features with a fair and ruddy complexion. The language of the Magar, Gurang and Newar is chiefly Thibetan. Further east are the Keranti, Murmi and others.

Valleys and Rivers.—It seems to be a constant rule that the depressions of the ridges are bare and open, while the more elevated portions are covered with forest. Probably the cause of this is the greater humidity of the higher slopes, which attract the rain-clouds, while the lower ranges are dry. The currents of air which sweep up the valleys may also in part be the cause of the bareness of the ridges opposite their summits.

The North West Himalaya, generally, include the great mountainous tract from the Kabul river on the west to Simla on the east, having the Indus river and its confluents, the Pangkong lake on the north and Kangra valley on the south, a region unsurpassed in the world for its rugged, defiant grandeur, its elevation, its extent of snow covered peaks, its glaciers, its impetuous torrents, its wild animals affording game to the sportsman, its flora, its mineral wealth and its soft serene valleys. The Cabul and Indian tributaries, the Indus, the Cabul river, the Jhelum, the Chenab, the Ravi, the Beas, and the Sutlej, form seven large rivers flowing through fertile valleys. The Jhelum runs in the valley of Cashmere. The course of the Ravee and Chenab is short and their valleys small. The Beas in its upper portion forms the Kulu valley, but lower down it becomes entangled amongst the lower ranges west of Mundee whence it opens on the plains of the Sutlej. The Sutlej has a tortuous entangled course, in its upper parts, but enters the valley west

of Simla, in Sukeyt and Balaspore within these regions to the west of the Beas valley in the valley of Kangra, and the valley of Dehra or Dehra Dhoon, to the east of the Sutlej almost out of the N. W. Himalayas.

The Dhera Dhoon is a winter valley. Its length is about 45 miles and its breadth about half that. It is shut on the north by the Sewalik range rising 3,000 feet high. On the east are numerous mountains rising 7,000 or 8,000 feet, amongst them Mussuri and Landour; the Asun and the Sooswa rivers drain it. It is clear of jungle and well cultivated. The tea plant thrives and the village of Dehra is large and thriving.

In the Kangra valley, some places like Bhagsoo (Dharmsala) and the road from Kangra town; Haurabagh and Fouta-Kal are beautiful, as also are the views of the Snowy Range. Kot Kangra or Kangra town was the capital of a powerful hill state which was conquered by the Sikhs. It is 2,500 feet above the level of the sea. Bhagsoo, above Dharmsala, is 7,000 feet above the sea. Haurabagh is 7,000 feet, and Foota-kal 9,000 feet above the sea. The Kangra people are sturdy, honest and independent.

The Sutlej valley commences a few miles above Mundee and continues up for about 40 miles almost to Simla and Subathoo and has the sanitaria of Simla, Kussowli, Nag-kunda and Chor. Mundee is the chief town of the Mundee state.

The Sutlej people are amiable and gentle, free of low cunning, having the appearance of a mixed race between the Tartar and the common hill men. They are fair, well made and strong, but are filthy and indigent. The women have a toga fastened round the waist.

Nag Kunda is estimated at 9,000 feet above the level of the sea. Chor is 12,000 feet.

The Beas valley exceeds in beauty that of Kashmir. It runs from the Bajaora mountain on the north to the Snowy range on the south, a length of about 60 miles, and its heights range from 4,500 feet at the foot of the Bajaora pass to 9,000 feet at Ralhà at the foot of the Rotang pass. Saltanpur is 4,584 feet. It is the only town in the valley, and trades with Ladak, Central Asia, Mundy and Kangra. Polyandry prevails in the Beas valley, but the general immorality is ascribed to the large numbers of Yarkundi traders.

Kulu.—The poorer Kulu people wear only a blanket, wound around the waist and one end flung across the shoulders and pinned across the chest, men and women often dress alike, but the long hair of the women is plaited in one tress.

Hot springs occur at Parbutty.

Vegetation.—In the Sikkim Himalaya, the giant peaks of Donkiah, Kinchinghow (22,756) and Kinchinjinga, the third greatest mountain of the world (28,178 feet,) only surpassed in altitude by the Korakarum (28,278 feet) and mount Everest (29,002 feet) form the culminating points in this magnificently wooded region. The truly temperate vegetation supersedes the subtropical above 4,000-6,000 feet, and the elevation at which this change takes place corresponds roughly with that at which the winter is marked by an annual fall of snow. This phenomenon varies extremely with the latitude, longitude, humidity, and many local circumstances. In Ceylon and the Madras Peninsula, whose mountains attain 9000 feet, and where considerable tracts are elevated above 6-8,000 feet, snow has never been known to fall. On the Khasia mountains, which attain 7000 feet, and where a great extent of surface is above 5000, snow seems to be unknown. In Sikkim, snow annually falls at about 6000 feet elevation, in Nipal at 5000 feet, in Kumaon and Garhwal at 4,000, and in the extreme West Himalaya lower still. Gaultheria nummularia, and several other plants, extend into the N. W. Himalaya and are also found in the Javanese mountains which are nearly 3,000 miles distant and some plants have been found in intermediate localities, as the Gaultheria, which occurs along the whole Himalayan range, and in the Khasia, and which will probably be found in the mountains of the Malay peninsula and of Sumatra; and there are many other Java plants which are more uniformly spread over the hilly districts of India and Ceylon, G. fragrantissima and G. trichophylla also occur in the Himalaya, and in the interior Himalaya, are represented by a few species in the plains of the Punjab, on the outer slopes of the western Himalaya, and even on the Khasia mountains. Spiræa Kamtchatica, chamædrifolia, and sorbifolia, and Paris polyphylla, are also Siberian forms which extend into the rainy Himalaya, and Corydalis sibirica and Nymphœa pumila are remarkable instances of specific identity between Khasia and Siberian plants.

The limits of certain European plants are well defined. Myrtus communis is not found further east than Afghanistan; Nymphœa alba, Marrubium vulgare, Nepeta cataria, Potentilla reptans, and Trifolium fragiferum. have not been observed beyond Kashmir, Cratœgus oxyacantha stops in Kishtwar; Rubus fruticosus in the outer hills near Jamu; and Aquilegia vulgaris in Kumaon.

Many North African or Arabian forms such as Peganum harmala, Fagonia cretica, Balanites ægyptiaca, Acacia arabica, Alhagi, Grangea, Calotropis, Salvadora Persica, extend throughout all the drier parts of India. Oaks and Chesnuts prevail throughout the Himalaya, Khasia, and Malayan Peninsula, descending to the level of the sea in East Bengal, Malaya, Sumatra, Java, and Borneo, but throughout the Peninsula of Hindostan and Ceylon are wholly absent. Coniferæ not only inhabit high levels, (along with these oaks), but descend considerably below 4,000 feet; of these, Pinus, Podocarpus, Taxus, and Dacrydium, are all found in the Malay Peninsula and Khasia, but not one in the Hindustan Peninsula or Ceylon, though these present far more extensive and loftier mountain ranges. Cycadeæ, are absent in Ceylon, and palms and epiphytic Vacciniaceæ in that island and in the peninsula of Hindostan are comparatively rare.

In descending from Darjiling the zones of vegetation are well marked. At a little below 7,000 feet, or between 6,000 and 7,000 by

(1.) The oak, chesnut and magnolia, the main features of 7,000—10,000 feet.

(2.) Immediately below 6,500, appears the Tree-fern (Alsophila gigantea, *Wall.*) a widely distributed plant, common to the Himalaya from Nepal eastward to the Malayan Peninsula, Java and Ceylon. Dr. Hooker saw but one species in these mountains: a very similar, or possibly distinct species, grows at the foot of the outer range.

(3.) Palms, a species of Calamus, the "Renoul" of the Lepcha. The fruit of all the Calami are eaten by the Lepcha and the stems of larger species are applied to various economic purposes. This, though not a very large species, climbs lofty trees, and extends some 40 yards through the forest: 6,500 feet is the upper limit of palms in the Sikkim Himalaya, and one species alone attains so great an elevation. Four other Calami range between 1,000 and 6,000 feet on the outer hills, some of which are found 40 miles distant from the plains. Among the other palms of Sikkim is the "Simong"—a species of Caryota, which is rare, and ascends to nearly 6,000 feet.

Cultivation.—Firing the forest is so easy in the drier months of the year, that a good deal of cultivation is met with on the spurs, at and below 5,000 feet, the level most affected by the Lepcha, Limbo and Sikkim Bhothea. The term Sikkim Bhothea is applied to the more recent immigrants from Thibet, who have settled in Sikkim, and are an industrious, well conducted people. The Bhothea again, of Bhotan, to the eastward, rarely reside except at Darjiling, and bear the worst reputation (and most deservedly) of any of the numerous people who flock to Darjiling. These should not be confounded with any other Bhothean tribes of Thibet, Sikkim or Nepal. The mountain slopes are so steep, that these spurs, or little shelves, are the only sites for habitation between the very rare flats on the river banks, and the mountain ridges, above 6,000 feet, beyond which elevation, cultivation is rarely if ever carried by the natives of Sikkim. The varieties of grain are different, but as many as eight or ten kinds are grown without irrigation by the Lepcha, and the produce is described as very good (80 fold). Much of this success is due to the great dampness of the climate; were it not for this, the culture of the grain would probably be abandoned by the Lepcha, who never remain for more than three seasons on one spot. A large bamboo ("Pao," Lepcha) is the prevailing plant near the base of these valleys; it attains a height of 40 to 60 feet, and the culms average in thickness the human thigh; it is unarmed, deep green, or purplish and used as large water vessels. Besides this, there are nearly a dozen kinds of bamboo known to the Lepcha. A timber of the Himalaya, universally adopted for ploughshares and other purposes requiring a hard wood, is the "Sing-brang-kun" of the Lepcha, which ascends 4,000 feet on the mountains. In very dry soils it is replaced by "sal" (Vateria robusta), and more rarely the Pinus longifolia. Sterculiæ, of two species, are common, as Pæderia fœtida, which, as well as many Cucurbitaceæ, peppers, Gnetum, Porana, a few Convolvulaceæ and many Asclepioideæ, Hoya, &c., climb high. A troublesome dipterous insect swarms on the banks of the streams, it is very small, floating like a speck before the eye. The bite of this (the "Pipsa") leaves a small spot of extravasated blood under the cuticle, very irritating if not opened. A white flowered rue, Ruta albiflora, is sometimes cultivated, and very common; truly wild or at elevations of 3 to 7,000 feet; it is commonly used for all diseases of fowls, mixed with their food. Two species of bamboo, "Payong" and "Praong" of the Lepcha, here replace the "Pao" of the foot of the hills. The former flowered abundantly, the culms, 20 feet high, being wholly a diffuse panicle of inflorescence. The "Praong" bears a round head of flowers at the apex of the lofty branches.

A thousand feet above Punkabaree in the outer Himalaya, the prevalent timber is gigantic, and scaled by climbing Leguminosæ, as the Bauhinia and Robinia, which

sometimes sheath the trunks or span the forest with huge cables joining tree to tree. Their trunks are also clothed with parasitical orchids, and still more beautifully there, with Pothos (Scindapsus), Peppers, Gnetum, Vines, Convolvulus, and Bignoniæ. The beauty of the drapery of the Pothos leaves is pre-eminent, whether for the graceful folds the foliage assumes, or for the liveliness of its colour.

From one steppe, the ascent to Punkabaree is sudden and steep, and accompanied with a change in soil and vegetation. The mica slate and clay slate protrude everywhere, the former full of garnets. A giant forest replaces the stunted and bushy timber of the Terai Proper; of which the Duabanga and species of Terminalia form the prevailing trees, with Cedrela and the Gordonia Wallichii. Smaller timber and shrubs are innumerable; a succulent character pervades the bushes and herbs, occasioned by the prevalence of Urticaceæ. Large bamboos rather crest the hills than court the deeper shade, and of the latter there is abundance, for the torrents cut a straight, deep, and steep course down the hill flanks: the gulleys they traverse are choked with vegetation and bridged by fallen trees, whose trunks are richly clothed with Dendrobium Pierardi and other epiphytical orchids, with pendulous Lycopodia and many ferns, Hoya, Scitamineæ, and similar types of the hottest and dampest climates. The forest is truly magnificent along the steep mountain sides. The proportion of deciduous trees is considerable partly, probably, due to the abundance of the Dillenia, Cassia, and Sterculia, whose copious fruit is all the more conspicuous from the leafless condition of the plant. The white or lilac blossoms of the convolvulus like Thunbergia, and other Acanthaceæ were the predominant features of the shrubby vegetation, and very handsome. All around, the hills rise steeply five or six thousand feet, clothed in a dense deep green dripping forest. Torrents rush down the slopes, their position indicated by the dipping of the forest into their beds, or the occasional cloud of spray rising above some more boisterous part of their course.

Products and Commerce.—A range of hills, called the Garrow, the Khassia, the Jynteea, and the Naga, divides the valley of Assam from the valleys of Sylhet and Cachar, and there the tea plant thrives well, and planters and companies have established themselves, and are cultivating the plant successfully. Indeed, the tea soils of China and India are said to be almost exactly alike. At Darjiling and its neighbourhood, tea has been cultivated most successfully to a large extent, and its cultivation is rapidly increasing. Through Darjiling is the shortest mountain passage across the Himalaya into Thibet and Central Asia, and there is no doubt that a large commerce in British manufactures could be established for these countries. Mr. Moorcroft, who travelled in Thibet and Central Asia, gave it as his opinion that "it is at our option whether Central Asia shall be supplied with goods from Russia or England." The brothers Schlagintweit, corroborated that view. Mr. Bogle who was deputed by Warren Hastings to report upon the trade of Thibet, said, in 1775, that the trade must have been a very considerable one in broadcloths, and that the demand for it was still very great in his time. Dr. Hooker, in his evidence before the Colonization Committee, said there was nothing the Thibetans admired more than the cloth of his garments, and he believed, if they could obtain British woollens, they would gladly use them. The principal products of Thibet are gold, jewels, shawl-wool (the same as the Cashmere shawls are made of), ponies, immense quantities of borax, and salt. Almost all the salt consumed in the Himalaya is from Thibet, and it is brought with immense labour, upon the backs of men, women, children, and animals. When the communication is made easy and cheap from Calcutta to Darjiling, the salt of Europe will entirely supersede that of Thibet in the Himalaya, and the natives, too, much prefer it. Railroads are now in course of construction and the line between Calcutta and Darjiling may be completed in two or three years.—The plantations at present extend only as far as Debroghur, some days journey below Sudiya and from Debroghur as far as Gowhatee in Lower Assam there are immense tracts of waste land on both sides of the Berhampooter suitable for tea cultivation. The export of tea from Assam in 1856 amounted to 812,000 pounds, and from the then existing plantations it was estimated that the export in 1857 would be 1,000,000; in 1858, 1,250,000; in 1859, 1,600,000; and in 1860, 2,000,000. The brothers Schlagintweit and Dr. Hooker, stated unhesitatingly that tea of an excellent quality, could be grown all along the lower ranges of the Himalaya from the Indus to the Bramakund, a distance of more than 1,300 miles.

Languages.—No one of the nations or races of those who were occupying India and South Eastern Asia, prior to the mahomedan invasions, retain any strictly historical record of the routes by which they reached

their present localities or of the dates of their advents. Researches into the families of language to which the spoken dialects belong, and the existing physical peculiarities of the several races permit however, the belief that India and the island parts of South Eastern Asia were peopled long prior to historic times; that a succession of races, or of branches of the same human family, have entered India and in some instances become amalgamated with or been dispersed amongst the prior occupants, or have pushed them further on into less peopled or less fertile districts, or amid forest and mountain tracts. In India proper from the Himalaya to Cape Comorin, even yet, every village and every hamlet, have small bodies of predial slaves, who though possessing certain minor agricultural rights are not allowed to purchase lands; are compelled to reside outside the village walls, and are prevented quitting the locality, for they furnish the only free labour, available for the work of the field. The total number of the non-Aryan aborigines and outcastes is estimated at 12,250,000 people. On this point, Chevalier Bunsen, mentions that throughout Asia, the two great nations who once centred the one in the Altai and the pasture land towards the Himalaya, the other having its centre in the Ural mountains, appear in Asia as the subdued or primary element, as the subdued substratum of Iranian civilization, and that the aboriginal languages of India which attained their full development in the Dekhan dialects, belong to that stock.

Most of the traders of the snow valleys have some members of their families residing at Daba or Gyani on the Nuna khar lake. The great body of the hill men are Rajputs; there are a few villages of Brahmins, their residences are respectable, and occupy the more elevated portion of the village site, the huts of the Dom or Hali being on a low range. The Dom are hereditary bondsmen to the Rajputs. Basgi also dwell there, and are, both men and women, singers at the temples. The men of all castes in the hills are short and of poor physique; they look worn and get deep lined on the face at a comparatively early age. The young women are often extremely pretty, those living in the higher and colder villages, having, at 15 or 16, a complexion as fair as many Spaniards or Italians, and with very regular features. But they grow darker as they advance in years, and become very plain.

In the Himalaya, according to Mr. Aitchison, the various dialects are mixed together in great confusion; on the northern Assam frontier are found, in the following order from east to west, the Aka, Abor, Doffla, Miri, and Mishmi; next to these is Bootea, which carries us as far east as the Teesta: Sikkim, or the country between the Teesta and the Singhaleela range, contains the Lepcha and Limbu dialects. The Sikkim Terai gives us the Dhimal, Bodo or Mechi and Koch which latter also occupy the plains of Koch Bahar, and the northern parts of Runjpoor, Dinajpoor and Purneah. In Nepal, according to Mr. Hodgson and Dr. Campbell's researches, we find a perfect maze of dialects. Beginning from the Singhaleela range we find Limbu or Kiranta which goes west as far as the Dudkoosi River in longitude 86° 44', Sherwill found the Gurung in the higher parts of Singhaleela, closely connected with whom are the Murmi. Along the lower hills are the Magar, who extend to the west as far as Palpa. Somewhere about here we should apparently place the Brahmu, Chepang, Hayu or Vayu, and Kusumbha. In Central Nepal are the Newar, Pahri, and Bhramo a dialect of Magar, also the Darahi or Dorhi, Danwar, and Paksya. The Tharu live in the Terai, between Chumparum and the Khatmandoo valley, as far west as the river Gandak. These last four are classed among Indo-Germanic languages. The rest are Turanian, with more or less infusion of Hindi. The Parbattia or Paharia, a dialect of Hindi, is spoken all over Nepal and is the court language. West of this again comes the Palpa, then the Thaksya, Sunwar, and Sarpa, the dialects of Kumaon and Gurhwal, which carry us on to the Milchan of Kunawar, the Hundisi, and Tibarskad north of it. West of this come the Dogra dialects of the Punjab hills. On the Southern Assam frontier we have the numerous Naga and Singpho dialects the Mikir and Angami, the languages of the Khassia and Jaintia hillmen the Boro in Cachar, and the Garo in the hills of that name. The Kooki occupy parts of Tipperah and Chittagong and the Mug race are in Arrakan and Chittagong.

Of the Geology of the Himalaya and its subsidiary mountain ranges certain parts have been studied, especially the lower formation of the Siwalik range. Other portions of the Himalaya, together with the hills beyond Peshawur, to the Safed Koh, Hindu Kush, and Sulaimani ranges, are almost unexplored, and the only published accounts of their structure are to be found in a few scattered and brief notices in the travels of Vigne, Jacquemont and others, and in several papers of the Asiatic Society.

The Hunia find numerous fossil bones in the table land just north of the Himalaya which they call Bijli Har. Aerolites are common about the passes and Mr. Dunlop picked up several. They are called Devi gola, bullets of the goddess "Devi." A great upheavement along the line of the Himalaya has elevated a narrow belt of the plains into the Sewalik Hills (determined to be of tertiary age) and added many thousand feet to the height of the Himalaya, and facts tend to the conclusion that India had one long term and one protracted fauna which lived through a period corresponding to several terms of the tertiary periods of Europe. The density of the strata of the earth's crust under, and in the vicinity of, the Himalayan mountains is less than that under the plains to the south, the deficiency increasing as the stations of observation approach the Himalayas and being a maximum when they are situated on the range itself.

Watershed.—The Himalayan watershed has invariably been found to lie at a very considerable distance to the north of the great Himalayan peaks which, from the side of Hindoostan, seem to form the watershed. This peculiarity has been confirmed by the routes of A. Zaskari. The Himalaya give forth four great rivers, the Brahmaputra, Indus, Sutlej and Kurnali or Gogra. These are called by the Thibetans, Tam-jan-khamba, or Horse's-mouth; Singh-gi khamba, or Lion's-mouth; Laugchan-khamba, or Bull's-mouth and Mabja-khamba, or Peacock's mouth. These four great rivers drain the Kailas group of mountains. They rise close to the great Kailas Purbut.

Belts of Vegetation.—The flora of the Himalaya mountains, including that of the most northern parts of China, shows an almost complete identity with the genera found covering the elevated belt of the Himalaya. If we commence with the bases of these mountains, and pass successively through the several belts, and (analogous to what takes place between the parallels of latitude of 40° and 45°), experience the rapid decrease of mean temperatures and the quick succession of vegetable productions, we first find a vegetation similar to that of the southern provinces of India; the agricultural products consist of rice, millet, amaranth, an esculent arum, ginger, turmeric, a little cotton, and sugar at the season, succeeded by wheat, barley and buck-wheat in the cold weather months. Along with plantains, oleander, and some of the orange tribe, we meet also with some species which were long considered peculiar to China, as Marlea begonifolia and Houttuynia cordata, with species of Chloranthus, Incarvillea, and Hiptage. On ascending we pass through different gradations of vegetation until reaching the regions of the oaks and rhododendrons, which is immediately succeeded by that of pines, we meet another mild region, with a flora which must approximate to that of the mountains of the Central provinces of China, for here we find the Chinese genera, Abelia and Eurya, with Stauntonia, Kadsura, Hovenia, &c. and it is in the midst of similar vegetation that the tea plant is everywhere found. It cannot be a difficult task to transfer from one country to another, a plant which grows naturally and is cultivated extensively in one which possesses so many of the plants which are common to the two, and not found elsewhere. Dr. Royle notices at length, the similarity of products of the Chinese tea districts and the Himalaya: he says, as the camphor, varnish, wood oil, and tallow trees, constitute a part of the natural riches of China, so we have in the Himalaya and at their foot, Camphora glandulifera, containing solid grains of camphor in its wood; Melanorrhœa usitata (*Wall*) yields abundance of excellent varnish, besides Rhus vernicifera, the varnish tree of Japan, which is common in the Himalaya. Wood oil is yielded by several species of Dipterocarpus: oil is obtained from apricot seeds, and from Prinsepia utilis in China as it is in the Himalaya, and paper of the Daphne cannabina is also a product common to both as also the butter of Bassia butyracea, which abounds at Almorah.

Animal life.—Man dwells in villages up to 12,000 feet. The partridge has been observed 16,080 feet above the sea and crows and ravens 16,500. The Khaij pheasants never descend below 12,000 and high on the Kinchinghow (22,756) flocks of wild geese are seen to wing their flight.—*Powell, Hand Book Econ. Prod. Punjab, p.* 127 *and* 128. *Outer Mountains of Kemaon, by Captain Herbert in Bl. As. Trans. Vols.* xi. xii. *Royle Ill. Him. Bot.*, p. xii. *Schl. Herm. Campbell* pp. 46, 147-8, 168. *Thompson's Travels*, p. 37. *Hooker f. et. Thom. Hooker, Him. Jour.* Vol. I, pp. 103, 108, 281. *The Universal Review, No.* 3 *p.* 359. *Major Cunningham, Captain Strachey. Report Brit. Association* 1847. *Annals of Indian Administration, Vol. XII. p.* 63, 78.

HIMALAYAN ALDER, syn. of Alnus Nepalensis.

HIMALAYAN CHIRETTA. See Chiretta.

HIMALAYAM CEDAR, Cedrus deodara, *Loud.*

HIMALAYAN CHESNUT, ENG., Pavia indica, *Royle.*

HIMALAYAN FIR, Picea webbiana, *Lamb.*

HIMALAYAN GENTIAN. Gentiana kurroo. *Wall.*

HIMALAYAN HORNBEAM, Carpinus viminea.

HIMALAYAN IBEX. Capra; Ibex Himalayana. *Blyth.* See Capreæ. Mammalia.

HIMALAYAN OAK. Quercus incana. Q. incana.

HIMALAYAN RHUBARB. See Rhubarb.

HIMALAYAN SPRUCE, Abies smithiana, *Wall.*

HIMALEH. See Koh.

HIMANGSHOO. SANS. from Hima, cold, and angshoo, rays of light.

HIMANTOPUS CANDIDUS. Syn. of H. melanopterus; the black-winged stilt of. Europe, Asia, all Africa: and common in India.

HIMAUS, Rennell (p. 125-6) suspects Emodus and Imaus to be different readings of the same name; and Imaus or Himaus, to be of the same derivation as the compound Sanscrit word Himmaleh, signifying snowy region, the name at present used, and Pliny knew the meaning well. A chain anciently named Taurus, which rises in lesser Asia, and runs eastward through Armenia,—from thence deviating to the S. E., shuts up the south coast of the Caspian sea,—was continued by Ptolemy, under the names of Coronus, Sariphi, and Paropamisus, dividing Hyrcania and Tapuri, from Parthia; Margiana from Aria; and Bactria, from the province of Paropamisus: or, according to modern geography, dividing Mazanderan, or Taberistan from Cumis; the countries of Dahistan, Corcan, and Karasm, from Korasan; Balk and Gaur, from Segistan or Seistan, and finally was made to join that ridge, which, under the name of Indian Caucasus divided India from Bactria; and afterwards took the names of Imaus and Emodus, separating India from Scythia. The ridge that Mr. Forster crossed, near the Caspian sea, had a north and south direction and answers to the mountains Masdoramus of Ptolemy, which shut up the eastern side of Parthia proper, situated on the S. E. of the Caspian. The modern name of the ridge is Kara-hoody; and Mr. Forster remarks, that the elevation of it is far greater on the west, than on the east; so that the lands of Korasan, are, in general, more elevated than those towards Ispahan. The Kara-hoody mountains are those which M. D'Anville has extended to Herat and Cabul.—*Rennell's Memoir*, p. 125-6, 190.

HIMAVUT, SANS. from Hima, cold. See Inscriptions. p. 371.

HIMA VIMALA MUKTAGUNA "a string of pearls as pure as snow" is a comparison which occurs in the Mudra Rakshasha poem.—*Hind. Theat.* Vol. II, p. 182.

HIMBRO of Kanawar, Ulmus erosa, also Ulmus pumila, *Pall.* Small leaved-elm.

HIMIS, a buddhist monastry near Leh in Ladak, 12,324 feet above the sea.

HIMIS. ARAB. Cicer arietinum.

HIMSAGUR, BENG. Kalanchoe laciniata, Cut leaved navel-wort.

HIMYAR, one of the sons of Abid-us-Shams or Saba, who gave his name to the Himyaritic dynasty. The most powerful of this dynasty was Aboo Karib, commonly called Tobba, in A. D. 206, he covered the Kaaba with a tapestry of leather, and supplied its door with a lock of gold.

HIMYARITE. The term applied to the descendants of the Persian conquerors of Yemen. Himyar, was the fifth monarch from Kahtan, and gave his name to the Himayaritic dynasty, which ruled over Yemen for many centuries with varying fortune and different degrees of magnificence. This dynasty terminated on the conquest of Yemen by the Abyssinians in A. D. 525, with Dthoo Nawas the last of them, and the tyrant who destroyed the christians of Nejran by burning 20,000 in a pit, noticed in chapter 85 of the Koran, as the martyrs, the brethren of the pit. The dynasty had ruled in Yemen, for 2,000 years, and its down-fall was accelerated by the intolerance of the Jewish Tobbas. For a short time prior to A. D. 595, assisted by the Persian monarchs Nowsherwan and Kesra Parwez, the dynasty again ruled over Yemen, but were ultimately put aside by Persia declaring Yemen to be a satrapy. Himyaritic inscriptions were found by Mr. Cruttenden in the town of Senaa. They are, likewise, met with at Aden. The ancient people called Himyari by the modern Arabs were probably called Homeiri by their ancestors, as their territory corresponds with that of the Homeritæ of Ptolemy.—*Geog.* vi. 6. *Playfair's Yemen.* See Aboo Karib, Aden p. 29. India. Khadim. Samarcand.

HINAB. AR. the hemp plant.

HIN-BIN-KOMBA. SINGH. Andrographis paniculata. *Wall.*

HIND, the term India, by which this country as far as it was known, is distinguished in the earliest Grecian histories, appears

to be derived from Hind, the name given to it by the ancient Persians; through whom, doubtless, the knowledge both of the country, and its name, were transmitted to the Greeks. Mr. Wilkins says that no such word as Hindoo, or Hindostan, are to be found in the Sanscrit Dictionary. It appears that the people among whom the Sanscrit language was vernacular, styled their country Bharatan. *Rennell's Memoir*, p. xx.

HINDAULI. Pers. Syn. of Cleome viscosa.

HINDI, one of the tongues of India it abounds in Sanscrit words, and has many dialects. Speaking generally the tongues spoken in the whole of upper India, including the Panjab, from the Himalayan to the Vindhyan range, may be said to be Hindi. Also the languages of Kamaon, and Garhwal, all along the Sub Himalayan range as far as the Gogra river; the impure dialect of the Gorkha; the Brij-bhasha (or Baka as is pronounced on the Ganges,) the Panjabi, Multani, Sindi, Jataki, Haruti, Marwari and it is said Konkani. The Bengali is a form of Hindi but so highly polished as to be classed as a distinct tongue. See India. Hindoo.

HINDIKI. A name by which the hindoos in Astracan, are known; of whom there are about five hundred families. Mr. Mitchell says, that the reputation of these hindu colonists, stands very high, and that they bear a preference over all the merchants of other nations settled in this great commercial city.

HINDIYAN RIVER is navigable from the sea up to Zeitun, which latter town is only a day's journey to Beh-behan (five farsangs.) *Baron C. A. De Bode's Travels in Luristan and Arabistan*, p. 304.

HINDON. A river near Saharunpoor.

HINDOO. The recent labours of Professor Wilson, Major Cunningham, Mr. Hodgson, Chevalier Bunsen, Dr. Caldwell, Professor Muller, Professor Ballantyne, Dr. W. W. Hunter, and Mr. George Campbell and articles of deep learning and research in the Calcutta, North British, and Quarterly Reviews, all since the middle of this century added more to our knowledge of these people than had been acquired in preceding centuries, and it is from these writings that much of the present article has been gathered together. Hindoo, Native, and Native of India, are the ordinary names by which the idol worshipping people of British India are at present known, but the terms are all of very recent use. The peoples to whom they are applied are only now fusing, under the firm sway of the British rule, and never before had, nor could have had, one common designation. Bharata or Bharata vart'ha has been quoted as an ancient name, for part of the countries which Europeans include in the term India. Hindu for the people and Hindustan for the country, now so generally applied by natives as well as foreigners are possibly of Persian or Arian origin. And if the latter, the name may have some relation to the seven rivers of the Punjab, the Sabp'ta-Sindhu, which the Arians met with in their course to the south. Bharata was an ancient king of part of India and hence Mr. Wilkins derives one ancient name, rejecting of course, in so doing, the supposition that the river Indus, properly Sindhu, and commonly pronounced Sindh, either gave a name to the country or received one from it; also, of Indu, a name of the moon, being the origin of Hinda or Hindustan, the Sanskrit having no such words. (See *Hetopodesa, p.* 333.) The word may however be of some untraced foreign tongue, in which Ind or Hind or Hindu meant black, for it has long been so applied by the fairer races around to the dark coloured populations in the territories which are now comprised in British India. The Arab, the Persian, the Affghan and Sikh when speaking of the people of India, only call them "black men", and even in India the mahomedan descendents of the Arab, Persian, Moghul and Afghan conquerors use the same expressive designation, "Kala Admi," literally black man, being ever in their mouths. And hindus themselves, in their various tongues, likewise so distinguish themselves from all the fair foreigners amongst them. The African races who are brought to India, as the household slaves or guards of native princes invariably when alluding to such of their own people as are born in the country, style them Hindi. Now-a-days, too, though the idol worshipping people call themselves hindu, in this they are merely following the names given to them by their Arab, Persian, Tartar and British rulers. It is only of late, however, that even Europeans have habitually used this term, for at the beginning of the century, Gentoo was the every day name employed, though it has since gradually fallen into disuse. It, also, was derived from a foreign people, the Portuguese and was applied to the idol worshippers, like the "gens" of the Romans and gentile of the the scriptures. It never perhaps reached much beyond the sea-port towns and even there, if the better educated amongst the natives ever employed it, their doing so was merely in imitation of Europeans. And now,

too, similarly, brahmans and others when alluding to their own countrymen likewise style them hindus.

Hindoo is, however, entirely a conventional term, and does not represent a nation, a race or a religion. The great bulk of the people known by this appellation are the descendants of Scythian and Arian immigrants, who in bye-gone ages, as conquerors or in search of a milder clime, left the cold regions of the north, some offshoots moving westward and others to the south. Remnants of Scythian languages are found in Beluchistan, and the seat of the great Sanscrit speaking people was long in Kashmir, proving that one great highway to the south, had been along the valley of the Indus, through Kashmir, and the Punjab. But between the valley of the Indus and that of the Brahmaputra, there are twenty or thirty other passes in the Himalayas, through which the northern races could stream to the genial south. Amongst the first of these immigrants seemingly were the Tamil races, belonging to the Turanian or Tartar family of mankind, a body of whom seem to have followed the course of the Indus and spread themselves over the peninsula. As to the date of their advent, however, history is silent, but there seems no doubt that great branches of the Scythic stock were occupants of India, at the time that it was invaded and to a considerable extent conquered, by the Sanskrit speaking tribes of the Arian family. In the north, the subjugation or ousting of the Tamilians from all rank and power was so complete that Sanskrit forms of speech became the language of the country, and the Kashmiri, the Panjabi, the Sindi, the Guzerathi, the Mahrati, the Hindustani and the Bengali, all of them with a large admixture of Sanskrit, are sister tongues known as forms of Hindi. South of the Nerbudda, however, it is otherwise. Throughout the peninsula, the languages differ from the Sanskrit in grammar, and only admit Sanskrit words, in the same way that the Anglo-Saxon admitted terms of law and civilization from the Norman French. At the present day, the south of India more largely represents the Tartar, and the north, the Arian race. But the fair, yellow colored Arians are to be met with south even to Cape Comorin, and though mixing with the various Tamil nations, races and tribes, for at least two thousand years, in physical form, complexion, intellect and manners, the brahminical and other Arian families are as distinct as when their forefathers first came conquering from the north. The great Arian migration, however, which seems to have received its first check by the great Vindhyan range, took place between the fourteenth and eighth centuries before the christian era.

According to Chevalier Bunsen, Arya, in India, means Lord. It is not so, however, in any language now spoken, but is the Sanskrit term, Aria, a great man (plural Ariaha) which is brought into the Telugu as Aryudu, ఆర్యుడు sing. or Aryulu ఆర్యులు plural: and into the Tamil as Arian ஆரியன் sing. and Aryar ஆரியர் or Aryargal ஆரியர்கள் plural, great man, singular, great men, plural. Brahmans use it amongst and for themselves and the inferior castes invariably apply it to the members of the brahminical order and to them alone. A slokam in the Sanskrit work, the Amarakosha,

Arya vartaha punia Bhumi hi.
Mad'hiam Vindhya Himava yoho,

i. e. "the Arian country, the sacred land (lies) between the Vindhya and Himalaya," while it indicates the race, also explains the utmost limits to the north and south to which the conquering Arians extended their territory in India. Major Cunningham in his learned work on the Bhilsa topes (p. 15.) uses the term Arian in allusion to "the race of Aryya, whose emigrations are recorded in the Zendavesta, who starting from Ericene Vijo, gradually spread to the south-east, over Aryya vart'ha or Aryya-desa, the northern plains of India, and to the south west, over Iran or Persia: he adds that the Medes are called Αριοι by Herodotus. The original meaning of the word is also said to have been equivalent to Upper Noble. It has also, however, been suggested that as the Arians were originally and essentially an agricultural and therefore a peasant race, they may have derived their name from their plough. Word for word, the same term is found in several tongues. In Latin, it is aratrum, from aro, I plough. In Egyptian (in Nefruari) Ar is said to mean a plough. In Tamil it is Er ஏர், in Telugu, Araka అరక, in Sanskrit, along with Nangala or Nangara it is also called Hala or Hara ఆర and possibly the Arian race may have obtained their name from this implement of husbandry.

The Vedas.—A recent writer in the Calcutta Review remarks that their history, whilst in the Punjab, is to be found in the Vedic hymns, which good scholars are of opinion were composed mostly about fifteen centuries before Christ, but not committed to writing, and therefore not collected, until the eighth century B. C. With all their difficulties, these hymns furnish much information regarding the origin and early state of a race who have exercised a great influence on the

peoples who, along with themselves, are now designated hindus. The geography of these hymns confirms the theory that the Arian race migrated from Central Asia about seventeen centuries before Christ, entered India by the North West, dwelt during the earliest Vedic portion in the Punjab, and migrated or rather fought their way into Central India during the five centuries that succeeded. From the frequent mention of the Suraswati and other rivers, we learn that the Punjab was at one time the locality of the Vedic Aryans. The Massagetæ occupied precisely that position to which the legends of Mount Meru and its rivers (amongst the rivers the Jaxartes and the Oxus may be clearly traced) point as the cradle of the Aryan race and the early mention of the Sacæ (Sakya) and Bactrians (Yavana) as the principal foreign nations, confirms the supposition that the Arian race travelled southwards from the high lands of Central Asia, before entering the Punjab. From the Rig-Veda it is evident that at the time of its composition, the cow was not reverenced though cow-stealing was a great crime. The Arians of the Vedic period were not barbarians or nomades. In the earliest period of their migration, they had no money. Their wealth consisted of cattle, horses, sheep, goats and buffaloes, and the cow was the medium of barter. But there is also mention in their hymns of cities, of commerce, merchants and sailors, of weapons of wood and iron, of chariots, of heralds, of travellers, and inns for their accommodation, and even of the vices of primitive civilization. These migrants into India, in the time of the Vedas, we are also told, were a cow-eating and spirit-drinking people. From their hymns also we learn that they had roads and ferries; bullock-carts and waggons; they had carriages and war chariots drawn by horses, and that the carriage was made of wood with brass wheels and iron rims and pillars. It had seats and awnings, was easy going and sometimes inlaid with gold. Iron and steel were, subsequently at least, in use, for there is mention of iron armour, of arrows tipped with steel, and Porus gave thirty pounds of steel to Alexander. They had a knowledge of the sea; had halls of justice and halls and chambers of sacrifice, but apparently no temples or images. Women held a high social position. The rishi and his wife, conversed on equal terms, went together to the sacrifice, and practised austerities together. Lovely maidens joined in processions, and grown up daughters remained without reproach in their fathers' house. But we read of drunkenness, polygamy, cheating, gambling, abandoning of children, thieves, courtezans and eunuchs. Kashivat, an illustrious rishi, married ten sisters at once, and polyandry also prevailed, for in an allegory, Kashivat says, "Aswins! your admirable (horses) bore the car, which you had harnessed, (first) to the goal, for the sake of honour; and the damsel, who was the prize, came through affection to you and acknowledged your husbandship) saying, you are my lords (*Vol. I*, p. 322.) *Calcutta Review*, 1859.

It is the commonly received opinion that south of the Himalaya, the Arians were first in the Punjab and Kashmir, and afterwards in Sind, Guzerat and Delhi, and that the seat of Vedic power, faith and learning was between the Jumna and the Indus. But Chevalier Bunsen, who does not accept the ordinary calculation as to the age of the world, and regards the stated years of the patriarchs to refer, not to the duration of their lives, but to certain cycles or eras then in use, gives B. C. 10,000 to 8,000 as the date of the Arian emigration from the north-east of the primitive land;—as the close of the great plutonic disturbances of the earth and its climatic changes; and of the formation of the stem of the Arian languages in its most general sense. From B. C. 8,000 to 5,000, he gives as the period of the gradual separation of the Arian races, German, Sclave, Palasgian: B. C. 5,000 to 4,000 as the date of the gradual extension of the Irano-Arian race in Central Asia. B. C. 4,000 as that of the Arian immigration into the Indus country, and B. C. 3,500 as the age of Zoroaster's reform. According to this learned writer, their emigration from Sogd to Bactria and beyond it, after they separated from the rest of the Arian people, who shaped their course westward, took place prior to B. C. 5,000 consequently before the age of Menes. The same author is of opinion that it was about 3,000 B. C. that the schism took place amongst the Arians, when all India beyond the Sutlej adopted brahmanism, and the religious views, forms and habits of Bactria, were for ever abandoned. That they entered India as conquerors some centuries before Christ, and long swayed the fortunes of the northern part of it, is clear, but the greatly prior dates ascribed by Chevalier Bunsen, seem to require further investigation.

It is agreed that the Vedic immigrants, called themselves Arians: Indra, say the rishis, has given the land to the Arians.

Aria proper lay north-west from India, about the Arian lake latterly, but the Eastern

Medes and Parthians were its distinctive people. Latterly, Medes, Persians, and the tribes between the Medes and the Indus, were to a certain extent amalgamated under one rule, and Arians stretched loosely from the Indus to the Capsian sea. These races, in one part of their immigration, seem to have worshipped the elements but to have modified their tenets as they journeyed to the south, introducing amongst other matter, a large amount of hero-worship. It is however admitted that the Vedic Arians dwelt chiefly on the banks of the Indus and its confluence as high up as Kashmir, and as low down as Kutch and northern Guzerat. Aria-vart'ha, the Arians portion, as defined even in later times, was the country south of the Saraswati and north of the Drishadavati. (*Calcutta Review, No.* 64 *p.* 424.) Indeed it has been remarked that in the first 500 hymns of the Vedas, we can discover the eastern and southern boundaries of the Arian races, at that time. Among the enemies whom they subdued by the help of Indra, we find the Arbuda, supposed by all scholars to be Mount Aboo, on the Aravali Hills. Also Kutsa, by the help of Indra, destroyed a robber chief, named Kaya (va) whose country near the Sipha was between the Anjasi, Kulisi and Verapatni rivers (*Vol.* I *p.* 268.) The Universal Knowledge Society's Maps mention a town still called Kaya , and its vicinity, the Sipu, Bunas or Anas and Kalindi rivers, thus identifying the locality of Kuya (va) as close to Arbuda or Abu. But the localities further south, viz., Oojein, Chittore or Udipore, and the river Chumbul and the Nerbudda seem not to have become known to them then. Of the north, however, notices occur of the Jumna, Sarju, Gumti and one allusion to the Ganga. There is fighting on the Sarju between Arian chiefs, but their silence as to the great Ganges, shows that it was as yet personally unknown to them, or that they had only encountered it in its northern course. They were occupants of Cashmir, the valley of the Punjab, Sind, Guzerat and even perhaps near to Delhi, but the kingdoms of Magadha and Mithila and Ayodhia, were not then known. The seat of Vedic power and learning when at its zenith, was between the Jumna and the Indus: and all to the east of Delhi or Indraprestha, or that lay north of the 28th parallel of latitude was unknown to them. Later, in the time of Seleucus, their territory had come down to Patna. But their discovery of the great Ganges, was later than the Vedas, which only allude to the Sindu, Saraswati and the Drishadavati (Kaggar.)

Much connected with the natives of India of those days will never be known. But the powerful branch of the Arian race who passed into India between the fourteenth and eighth centuries before Christ brought with them the language of the Vedas, and as, down to the present day, all brahmans profess alike to recognise the authority of these sacred books, we witness worshippers of Siva, Vishnu and the maintainers of the Sankhya or Nyaya doctrines, all considering themselves and even each other to be orthodox members of the hindu community. It is this common recognition of that one set of religious books, which is the sole bond of union amongst the descendants of the various races and tribes professing hinduism or brahminism, who now people India. The Arians seem to have brought with them a servile race, or to have had amongst them a social distinction between the noble and the common people which has ever continued. As they conquered southwards, amongst the Tartar races whom they found in the country, they also reduced them everywhere to a state of slavery. They named them in fierce contempt Dasa or slaves and these formed the true servile race of Menu and other writers. Where the races who had preceded them retained their independence these proud immigrants styled them M'hlechha, a term which even to the present day, is intended to comprise every thing that is hateful or vile. In Vedic times, along the western coast of Hindustan dwelt, also, other races, different alike from the Scythic tribes and from the Arians of the Vedas—earlier colonizers or emigrants, most probably from Assyria and the west,—who had a civilization of their own and "iron built cities," and with whom the Pharaohs and Solomon and Hiram and the Cushite Arabs of Yemen carried on a lucrative trade by sea. This people extended gradually down the coast to Cape Comorin, crossed over to Ceylon, and crept up the Coromandel coast, till stopped by the Godaveri and Mahanadi. All the Bengal Presidency and Central India was at that time thinly inhabited by a Tartar, Sakyan, or Mongol race, coming down from Tibet, and Nepal. But so sparse was the population whom the Arians encountered that, in the Veda, Agni is represented as "the general" of *Nahusha*, the first settler, that is, they cleared the ground by burning the forests, and some fine descriptions are given of the grandeur and terror of the sight.

In the North-West were the Arians. For the earlier Arian India, one or two localities may be identified pretty nearly from the sakta or hymns of the Vedas. There is a rajah Mand-

kstri, or Mandhat; there is a city, Mandhati, still near Delhi. If the city was named from the king, it would go far to prove that in his time Hastinapur and Indraprestha were not yet founded, for which also there is Puranic authority. Again prince Bhujyu, or Bhoojyu the pirate, is plainly the name father of Bhooja in Cutch; a nest of pirates in all time. Among the many petty rajahs, (a confederacy of twenty is mentioned in the Veda, *Vol.* I, *p.* 147), one named Divodasa, called also Puru, is specially celebrated and we may gather that his kingdom coincided pretty nearly with that of Porus in the time of Alexander. He is at war with Susravas, a king whose name occurs in the Raja Taringini, as connected with Kashmir—perhaps an ancestor of the Abisares of Greek report. The Vedic name is Naja. In the Persepolitan inscription, Xerxes called himself Nagua or Nuka, the Greek Anax, and there can be no reasonable doubt, that this is the true meaning of the Naga dynasties of Cashmir and Magadha. These were kings, not snakes. The turning Naka into Naga, and then inventing a snake worship, which latterly may have become real, are quite Puranic.

It is supposed that the Vedas were composed about seventeen centuries before Christ but not reduced to writing till the eighth century. This would have admitted of much new matter being introduced when the traditions were first recorded. But a striking difference has been observed between the mythology of the Rig Veda, and that of the heroic poems and Puranas. Some of the divinities worshipped in Vedic times, are not unknown to later systems, but at first perform very subordinate parts, whilst those deities who are the principal objects of worship of the present day, are either wholly unnamed in the Veda, or are noticed in an inferior or different capacity. The names of Siva, of Mahadeva, of Durga, of Kali, of Rama, of Krishna, so far as research has gone, do not occur in the Vedas. The practice of the conquered races seems to have been to represent or regard their local deities as identical with or avatars or incarnations of the Vedic chiefs who had already become objects of worship. The Vedas mention Rudra, as the chief of the winds, collecting the clouds as a shepherd's dog does the sheep, and attending on his master Indra. The most that can be made of Rudra in the Vedas is as the father of the winds and seemingly a form either of Agni or Indra. Even in the Puranas he is of a very doubtful origin and identification; but in the present day, everywhere amongst the hindus he is identified with Siva. With the single exception of an epithet 'Kapardi,' with braided hair, of doubtful significance and applied also to another divinity, no other name applicable to Siva occurs, and there is not the slightest allusion to the form in which, for the last ten centuries at least, he seems to have been almost exclusively worshipped in India, that of the lingam or phallus: neither is there the slightest hint of another important feature of later hinduism, the trimurti, or triune combination of Brahma, Vishnu and Mah'eswara or Siva, as typified by the mystical syllable O M. (a-u-m.) although, according to high authority on the religions of antiquity (*Creuzer, Vol. I, pp.* 26 & 27,) the trimurti was the first element in the faith of the hindus and the second was the lingum. In this view, Creuzer must have intended the mixture of creeds now current in India, for the whole vedic faith had few of the elements of modern hinduism.

The gods whom the vedic hindus worshipped were Indra and Agni. Indra was the firmament, with all its phenomena. He alone held the thunderbolt, and was king over gods and men. Agni was the element of fire. All the other gods were but manifestations, or other forms, of these two. The relationship is evident between Agni and the Sun, the Surya, or Sura, or Savitri of the Vedas, and a female divinity. But Indra also is frequently identified with the Sun; indeed the twelve great deities or Aditya, are but other names of the same god as presiding over the twelve months of the year. It seems strange in the face of so significant an inference, that some of the best oriental scholars, including even the iconoclast Bently, agree in affirming that the division of the Zodiac into 12 signs was long posterior to the time of the Vedas, and that the rishi were familiar with the 27 nakshatra. The Aditya most frequently invoked are Mitra, Varuna, Aryaman, and in a lesser degree Pushan, Bhaga, Vishnu and Twashtri. There is some discrimination in these attributes: but on the whole they are pale and colourless. Pushan watches over roads and travellers, Twashtri is the Vulcan or 'smith' of the gods. Slight mention is made of Vishnu: but we have the germ of the legendary 'three steps,' being apparently simply the rise, culmination, and setting of the sun. Among the inferior deities, the Marut, or winds, hold the first place; and next to them, or nearly on the same level, the Aswini. These two,

are apparently twins or brothers, and sons of the sea (Sindhu). Sometimes, as Dr. Wilson notices, they seem to be the 'precursive rays of the sun,' at other times, perhaps the sun and moon as rising out of the sea; so that the vedic hindus evidently had settlements on the sea-coast or on some water, which they called a sea. The Aswini are almost invariably represented as having a triangular car with three wheels, drawn by asses—while their name appears to be derived from "*aswa*," a horse which would seem to identify them with the two horses of the sun. Altogether they are a perplexing pair: and the sakta or hymns addressed to them are richest of all in legend. Their connection with Indra (Jupiter,) their patronage of mariners, their twin brotherhood, the two horses and stars found on their coins, identify them with the Grecian Dioscuri, and add much strength to the theory that the Greeks were an Arian or Persian tribe originally, as their language indisputably proves. The legend of Perseus is another link in the chain. It is singular to find an exceptional and eccentric worship prevailing in countries so remote as India and Greece, while it had died out (if it ever existed) among the parent stock in the vast regions between. It can scarcely be doubted that the Aswini are connected with the primitive hindu astronomy. In the Vedas, Heaven, Earth, (Aditi and Pritivi) and ocean, are rarely invoked, and the sun has comparatively few saktas. Occasional laudations are given to rivers, especially to Saraswati; and this nature-worship extends so largely as to embrace the cow, the wood used in the oblations, and even the "*vapa*" or sacrificial post. To Usha, or the dawn, some of the most beautiful hymns in the Veda are addressed. All these deities are expressly declared to be 'the progeny of the heavens and the earth' (*Wilson's Vedas*, Vol. I, p. 276). No mention is made of the planets: for Bruhaspati, is not a planet, but 'the lord of prayer: and the moon has not even a sakta.

The worship of the Vedic race is briefly but comprehensively described by themselves, (*Asht. I, Adhy. I, Sukta* 6), where it is said, the standers around associate with (Indra) the mighty (sun), the indestructive (fire), the moving (wind), and the lights that shine in the sky.' The religion described in the Vedas was nature worship, light, careless and irreverent, utterly animal in its inmost spirit, with little or no sense of sin, no longings or hopes of immortality, nothing high, serious, or thoughtful. There was no love in their worship. They cared only for wealth, victory, animal gratification, and freedom from disease. The blessings they implore" says Professor Wilson, "are for the most part of a temporal and personal description, wealth, food, life, posterity, cattle, cows and horses;—protection against enemies, victory over them, and sometimes their destruction.'" "There are a few indications of a hope of immortality and of further happiness but they are neither frequent, nor, in general, distinctly announced."The only notice of an after life is found in the legend (for nothing is founded on it) of three brothers, called Ribhus, who for their meritorious actions were made gods—the germ of mountains of Puranic rubbish. Also, in one or two passages, Yama, and his office of ruler of the dead, are obscurely alluded to. (*Dr. Wilson*, Vol. 1, p. 25.) Yama is usually connected with the Yamuna river, and was perhaps worshipped there by a native tribe. So merely fanciful, so wearisome and monotonous, so contemptuously irreverent, are the great bulk of their prayers (to Indra especially) that professor Wilson can scarcely believe them to be in earnest. An instance of this is the hymn addressed to the goddess Anna (*Anna devati*, known in Bengal as *Anna Purna*) personified as Pitu, or material food, by the rishi Agastya. (See *Wilson's Veda*, Vol. 2, p. 192 *quoted in Calcutta Review, No.* 64. *p.* 412.) In a similar strain the Soma plant is addressed, mixed up with some curious associations, of which we have lost the key, with Soma, the Moon-god. This plant, the Sarcostemma brevistigma, is found all the way from the mountains of Mazenderan, through the Punjab and the Bolan pass to the Coromandel Coast, and Viswamitra is described as passing the Sutlej and Beyas to gather it. It was bruised between two stones; mixed with milk or barley juice, and, when fermented, formed a strong, inebriating, ardent spirit, probably not very unlike whisky. Herodotus, (*Book* I. *p.* 133) tells us that a singular custom prevailed amongst the ancient Persians "It is also" writes he, "their general practice to deliberate upon affairs of weight, when they are drunk; and then, on the morrow, when they are sober the decision to which they came the night before is put before them by the master of the house in which it was made; and if it is then approved of, they act on it; if not they set it aside. Sometimes however, they are sober at their first deliberation, but in this case they always reconsider the matter under the influence of wine." This drawing their inspiration from the bottle, as a trait of national manners, is

of the oddest. In other words they did nothing without drinking and many traces of the same habit still linger among their Indo-Germanic descendants. It appears that the rishis of the Vedas introduced this drinking custom, or belief, into religion. Indra, and all the gods are every where represented as unable to perform any great exploit without the inspiration of the Soma juice. Avatsara's account of a lady named Viswavara, who wrote or sung a hymn to Agni, and two or three more of his brother rishis (see *vol.* 3, p. 311), indicates how much these Arians were given to drinking. He says swift is the excessive and girth distending inebriation of Vishwavara (!), Yayata and Matin; they urge one another to drink: they find the copious draught the prompt giver of intoxication." "Sit down, Indra," says Viswamitra, "on the sacred grass;—and, when thou hast drunk the Soma, then, Indra, go home," (Vol. 3, p. 84). "Drink, Indra, the Soma that is effused for thy exhilaration," sings rishi Bharadwaja: stop the friendly steeds; let them loose: sitting in our society, respond to our hymns (Vol. 3, p. 454.) "Who buys this, my Indra, with ten milch kine? when he shall have slain (your) foes, then let (the purchaser) give him again to me. (Vol. 3, p. 107)." The purifying Soma, like the sea rolling its waves, has poured forth songs, and hymns, and thought. Such worship seems to explain the Greek story of Bacchus, and shows that it was not an invention merely to flatter Alexander.

These fierce conquerors soon yielded to the climate. "The shameful luxury of their princes," writes Curtius (Lib. VIII. 32) "surpasses that of all other nations. He reclines in "a golden palankeen, with pearl-hangings." The dresses, which he puts on, are embroidered with purple and gold. The pillars of his palace are gilt; and a running pattern of a vine carved in gold, and figures of birds in silver, ornament each column. The durbar is held while he combs and dresses his hair: then he receives ambassadors, and decides cases. The women prepare the banquet, and pour out the wine, to which all the Indians are greatly addicted. Whenever he, or his queen, went on a journey, crowds of dancing girls in gilt palankeens attended; and, when he became intoxicated, they carried him to his couch.'—This drunken worship, the reclining king, as Curtius paints him, borne to his couch by troops of courtesans after an orgy, and wherever he went, so attended, and so surrounded,—realize and surpass Dionysius and the Bacchanals. The Soma juice then was the oblation, or libation, of the Vedic worship (the Homa of the Parsi); and allusions to it, are met with in almost every page. The use of the Soma in their worship seems sufficient to indicate the original country of the Arians. The ritual of these old hindus however was very simple. As described in Professor Wilson's epitome of the "*suktas*," it comprehended offerings, prayer, and praise; the former are chiefly oblations and libations of clarified butter poured on the fire, and the expressed and fermented juice of the Soma plant, presented in ladles to the deities invoked, in what manner does not exactly appear, although it seems to have been sometimes sprinkled on the fire, sometimes on the ground, or rather on the kusa, or sacred grass, strewed on the floor; and in all cases the residue was drank by the assistants. There is no mention of any temple, or any reference to a public place of worship, the sacrificial chamber was always in the house of the worshipper and it is clear that the worship was entirely domestic: the worshipper himself does not appear to have taken any part personally in the ceremony; and there is a goodly array of officiating priests —seven, and sometimes sixteen—by whom the different ceremonial rites are performed, and by whom, the mantras, or prayer and hymns, were recited." *Vol.* I. *p.* 24. The priests are thus enumerated in the text of Veda:—

1. Hotri	3. Ritwij	5. Agnidhra	7. Adhwaryu
2. Potri	4 Neshtri	6 Prasastri	8. Brahman

Five classes of men are repeatedly mentioned in the Vedas, but there are no allusions to Sudra or Kshatrya. A like division, into four, classes prevailed amongst the ancient Persians; the fifth probably being captives, enemies and slaves. Arrian makes the number, seven; but by taking in or leaving out classes and professions, they could be increased or diminished. The spirit of the Veda is fiercely intolerant to all of a different faith, or who did not conform to their ritual. The rishi intreat Indra "to strip off their black skins:" but any thing like caste, in its modern sense, it utterly ignores. If such a system as caste had prevailed in those ages, it is impossible that no allusion should be made to it in full five-hundred hymns, outspoken enough on other matters. Although, however, caste may not have been mentioned in the Rig Veda, it is expressly recognised by the Yajur and other Vedas. The following tabular statement of the number of saktas in the 500 hymns translated by Professor Wilson addressed to each deity,

sets their actual and relative worship clearly before us;

Indra	178	Mitra	17
Agni	147	Varuna	20
Aswini	28	Usha	11
Marut	24	Surya or Savitri.	5
Vayu	6	Sarasvati	1
Rudra	3	Vishnu, (none in	
Brihaspati	2	the first *Ashtaka.*)	2

Total 444. This leaves less than sixty hymns for all the other denizens of their pantheon. They also worshipped "the lights of heaven" possibly the starry firmament. Scholars will recognise this as nothing more or less than the religion of the Persians when they first appear on the stage of history.

There are three lists of rishis given in the Upanishad of the Yejur Veda, called 'Vrihad Aranyaka,' each list, differing from the other. We select a few names in which the first and second agree

Atreya (Atri.)	*Asurayana* & Yaska.
Bharadwaja.	Jatukarnya.
Asuri.	*Parasarya or Parasaryayana.*
Aupajandhani.	
Srawani.	Ghrita Kausika.

Eight descents above Atreya we come to the mythological Abhuti Trastwar (Twashtri, the Vulcan of the Greeks) and the Aswini. Four descents downwards from Atreya we reach the Gotama, Bharadwaja, and Parasara or Parasarya of the hymns. In the last of the lists we find the following order.—Atreyi (Atri), Gautami, Bharadwaji, Parasari, Varkaruni, Artabhaga, but now removed by at least 40 descents from the devatas! But many of these are not the names of men but of countries. Asuri and Asurayana speak for themselves. Paras-arya is the Arian Persian or Parisi. Kausika is from Kaush or Kush in Aria; and as to the Arta-bhaga, Herodotus writes that the Persians originally were called Artoeans, from Arta (Herat): and Bhaga, in the Behistun inscription, means lord or god: so that Artabhaga is, word for word, lord of Arta (or Herat). It will be observed also that Assyria is before Persia in due chronological order. The Vedas allude also to "strong built cities" "perennial cities" "stone-built cities of the Asuras;" and, if these were in the air, as Professor Wilson observes, they could not be of much use to Divadasa and other mortal kings, to whom with all their spoil they were given by Indra.

We are led to Greece by the Aswini, and to Latium by Mena, or Menaca whose legendary springing from Indra seems at least (etymologically also) to identify her with Minerva springing from Jupiter. In

one case we have the chain complete. Anna travels east from Babylon to India; west from Babylon to Phoenicia, accompanies her sister Dido to Carthage, flies thence to Italy, and then, the Anna Purna of the hindus becomes the Anna Perenna of the Latians. Such is the Roman legend. Varuna too, rain, the sky, or hemispheric firmament resting on the waters, has obvious analogies with the Grecian Uranus. To this god, singly or associated with Mitra, are offered the rare and perfunctory prayers for protection from sin, which appear in one or two of the hymns. A common medium may be inferred and that Mena and the Aswini, Anna and Varuna were not (so to speak) indigenous. The great horse sacrifices is allowed to have been originally Turanian, whether derived directly from the Sakæ, or indirectly from Persia and Media, where the "white horse" is an important element in a campaign of Cyrus. Mr. Atkinson found traces of it still lingering on the Southern borders of Siberia. Niritti or Nairitti, the dread earth goddess, of whom terror and deprecation were the only worship, is all but certainly the evil goddess of the hill tribes to whom the Khonds till lately, offered human victims. She seems thrust by fear, rather than adopted, into the Vedic pantheon—the germ of the bloody Kali and the murderess Bhawani, in a day mercifully late, and to the Vedic men far away in the future. Did the Arians perform human sacrifices? In a legend, evidently alluding to Abraham's offering of Isaac, there is mention of a king so devoting his son. There are bonds alluded to in the Vedas, most probably, allegorical; but there is little doubt that the imagery is drawn from real human sacrifices, offered by the wild tribes in the neighbourhood to Nairitti, "with unfriendly looks," as she is expressly named in one sakta. The legend may perhaps point to an earlier practice, which Viswamitra and his party set themselves against. A god named Nairita, of a fierce and evil nature, is said to have been worshipped by the Sakæ. It appears, that there were two forms of worship in Vedic India; the one, domestic, universal, celebrated three times a day;—the other, rare and exceptional; but both blended by a compromise into one incongruous whole; and both gross and sensual almost beyond belief. The worship of the elements is clearly the national faith, with its offerings of the fruits of the earth, soma juice, barley, milk and butter. Animal sacrifice is from without, corrupted more and more and at last losing sight altogether of its original import, and coming to them perhaps from the wild no-

mades of Central Asia. The fair inference is that Indra and fire worship was the later form on Indian ground. The so called aboriginal tribes sacrifice buffaloes and other animals; but there is no trace of fire worship among them. On the other hand the Viswamitras or Agnisaras, claim the honour of having been the first to introduce the worship both of Agni and Indra, in various saktas of the Veda. However, Viswa-Mitra was not the name of a man, but of a body of immigrants, viswa-mitra, "the men, or people, of Mithra."

The Puranas do not afford any reliable information as to the state of the early occupants of India. The account which these books contain of the periods, dynasties, races, genealogies and kings of Vedic India, looks imposing, minute, and circumstantial. They describe two great dynasties of the sun and moon, branching off into separate kingdoms. Four great ages of the world, with an accurately defined list of kings for each, and these lists all so framed as in appearance to strengthen and support each other. Containing also the very names found in the Vedas, with an elaborate system of dynastic change, and of intermarriages. But the hindu of the middle ages, had an immoderate speculativeness, a love of wild extravagance, fiction and untruth. Colebroke tells us, (*Vol.* II, *p.*, 100) that the Raghava Pandivegam an extraordinary poem by Caviraj, king of poets,—is composed with studied ambiguity, so that it may at the option of the reader be interpreted as relating to the history of Rama, and other descendants of Dasaratha, or that of Yudishthira and other sons of Pandu. It tells in short, two distinct stories in the same words, as the following sentence will show.

Succeeding in youth to the kingdom of his variously valiant father, who departed for heaven, he dwelt happily in the city of Ayodya, which was adorned with elephants, and upheld the prosperity of his realm.	Succeeding in youth to the kingdom of his father Vichitravirya, he dwelt happily in the peaceful city of Hastinapura, auspiciously inhabited by Dhritarashtra.

Writers with such perverted imaginations issued the yogas and genealogies of the Puranas, the little leaven of truth in some of them, being the names of a few Vedic kings, interspersed apparently at hap-hazard. The writer of the Vishnu Purana, in such a simple matter as writing out a list of rivers, puts down all he can remember, some twice over, and then adds to it the names of about a dozen rishi, taken bodily from the Vedas. The Puranas have not only added nothing to our stock of knowledge as to the state of ancient India, but have done much to retard research. For partly from the skill and elaborateness of the fiction and partly from the mutual support, which the Puranic writers gave each other, astronomy, poetry, legend, chronology and history all helping on the deceit, modern scholars received the dynasties and the historical eras of two or perhaps three of the Yogas, as having some reality. But the Rig-Veda does not contain many of the Puranic names nor even an allusion to them. It makes no mention of Solar or Lunar races. It knows nothing, and indeed can know nothing of Ayodhya, and Kusi, and Mithila, and Vesali and Magadha, or even of Indraprestha, while the Puranas on the other hand know nothing of dynasties in the Punjab, or on the Indus.

When the Arians had advanced further and large portions of what is now termed India were under their sway, we read of one monarch with many names—Divodasa, Atithigwa, Aswateha, Prastoka, Srinjaga, and Puru. Three of these are found in one verse (Vol. 2, p. 34); "For Puru, the giver of offerings, for the mighty Divodasa, through Indra, has destroyed ninety cities. For Atithigwa the fierce (Indra), hurled Sambara from off the mountain, bestowing (upon the prince) immense treasure." Divodasa, was a warrior and a conqueror; he is described as overcoming and destroying many cities of Sambara, reserving one for his own use. He made a successful expedition as far as Parnaya (Quere the modern Purniya?). In his old age at the head of a confederacy of twenty kings, Kusta and Ayu being the chief, he leads an army of 60,00 against the mighty and youthful Sa-sravas, is defeated and compelled to submit. And a writer in the Calcutta Review (No, 64, p. 432), views this war to be the historical foundation for the traditional great war of the Mahabarata. The age of Divodasa is estimated to have been about the time of Cyrus, and the engagement described to have been with some Satrap (Kshatra-p,) left by Cyrus, when he was occupied with his great Median, Lydian or Babylonian campaigns. It may, however, have been during the rebellions and troubles of the early days of Darius Hystaspes. And by a curious coincidence, Bentley places Garga (the bard of Divodasa) in 548 B. C. and the cautious professor Wilson suspects an allusion to the buddhists, which could not be earlier than 545, B. C.

Budd'hism.—The religious opinions of the hindoos were greatly modified by the philoso-

phy introduced by Sakya Muni, which even yet forms the faith of about 220 millions of the human race. The valley of the Ganges was the cradle of Indian buddhism, and Sakya muni the founder of the new doctrines. As the champion of religious liberty and social equality, Sakya Muni attacked the brahmans in their weakest and most vulnerable points; in their impious assumption of all mediation between man and his Maker, and in their arrogant claims to hereditary priesthood. His boldness was successful, and before the end of his long career he had seen his principles zealously and successfully promulgated by his brahman disciples Sariputra, Mangalyana, Ananda, and Kasyapa, as well as by the vaisya Katyayana and the sudra Upali. At his death in B. C. 543, his doctrines had been firmly established, and the holiness of his mission was fully recognized by the eager claims preferred by kings and rulers for relics of their divine teacher. His ashes were distributed amongst eight cities, and the charcoal from the funeral pile, was given to a ninth, but the spread of his influence is more clearly shown by the mention of the numerous cities where he had lived and preached. Amongst these are Champa and Bajagriha in the east, Sravasti and Kausambi in the west. In the short space of forty-five years, this wonderful man succeeded in establishing his own peculiar doctrines over the fairest districts of the Ganges, from the Delta to the neighbourhood of Agra and Cawnpore. This success was perhaps as much due to the early corrupt state of brahmanism as to the greater purity and more practical wisdom of his own system.

From his time until the end of the long reign of Ajatasatra, 519 B. C. the creed of Buddha advanced slowly but surely. This success was partly due to the politic admission of women, who, even in the east, have always possessed much secret, though not apparent influence over mankind. To most of them the words of Buddha preached comfort in this life, and hope in the next. To the young widow, the neglected wife, and the cast-off mistress, the buddhist teachers offered an honourable career as nuns. Instead of the daily indignities to which they were subjected by grasping relatives, treacherous husbands, and faithless lords, the most miserable of the sex could now share, although still in an humble way, with the general respect accorded to all who had taken the vows. The bhikshuni were indebted to Ananda's intercession with Sakya for their admission into the ranks of the buddha community, and (*See Csoma's Analysis of the Dulva, Res. As. Soc. Bengal, vol.* xx. *p.* 90; *also Fow-kwe-ki, chap.* xvi. *p.* 101.) the pi-khiu-ni, or bhikshuni, at Mathura, in token of their gratitude paid their devotions chiefly to the stupa of Anan (Ananda), because he had besought Buddha that he would grant to women the liberty of embracing ascetic life. The observances required from the nuns are recorded in note 23, chap. xvi. of the Fo-kwe-ki. The female ascetic even of a hundred years of age, however, was bound to respect a monk even in the first year of his ordination. (*Major Cunningham Bhilsa Topes.*)

From its rise in the sixth century before Christ the doctrines of Buddha gradually spread over the whole of India. It was extended by Asoka to Kashmir and Kabul shortly after Alexander's invasion, and it was introduced into China about the beginning of the christian era by five-hundred Kashmirian missionaries. In A. D. 400, when Fa Hian visited India, buddhism was still the dominant religion, but the vaishnavas, with a mixture of the old Arian creed and the buddhist faith, were already rising into consequence. In the middle of the seventh century, although the pilgrim Hwan Thsang found numerous temples of the saivas, whose doctrines had been embraced by Skanda Gupta and the later princes of Pataliputra, yet buddhism was still the prevailing religion of the people. But though the faith of Sakya lingered about the holy cities of Benares and Gaya for two or three centuries later, it was no longer the honoured religion of kings and princes, protected by the strong arm of power, but the persecuted heresy of a weaker party, who were forced to hide their images under ground, and were ultimately expelled from their monasteries by fire. In 1835, Major Cunningham excavated numerous buddhist images at Sarnath near Benares, all of which had evidently been purposely hidden under ground. He found quantities of ashes also, and there could be no doubt that the buildings had been destroyed by fire, and Major Kittoe, who subsequently made further excavations was of the same opinion. The buddhist religion has long been extinct in British India. Its last remnants were extinguished, in blood and violence, about the fourteenth century, dying out about Trichinopoly and along the coast line from Vizianagram to Masulipatam. But it still flourishes in the countries on its north and north-east borders, in Nepal and Tibet, in Ava, Ceylon, and China, and amongst the Indo-Chinese nations of Anan, Siam, and Japan. Its followers far outnumber those

of all other existing creeds except the christian, and they form one-fourth of the whole human race.

The buddhist faith was pre-eminently a religion of mercy and peace and charity, and benevolence. It had the vital defect of not teaching or knowing God:—in the topes dedicated to the celestial Buddha, Adinath, the invisible being who pervaded all space, no deposit was made, but the divine Spirit, who is 'Light,' was supposed to occupy the interior, and was typified on the outside by a pair of eyes, placed on each of the four sides either of the base or of the crown of the edifice. But in ages of strife and violence, of deifying mortals, and of arrogant assumptions of an ignorant priesthood, a creed that taught gentleness and meekness and kindness to living creatures, must have exercised a great influence over the community, must early have gained many converts amongst the peaceable and good, and largely leavened the minds even of those who did not openly become converts; and amongst this class, must be included the entire populations from the primœval land east of the Oxus to China and Japan in the furthest east, to Singapore and Ceylon in the extreme south.

Christianity, Mahomedanism.—The doctrines of the Arian race have been further modified by other religionists. Since buddhism disappeared from India, its nations have been overrun and conquered by races professing creeds, with followers as numerous as buddhism had ever acquired. Rapid as was the progress of buddhism, the gentle but steady swell of its current shrinks into nothing before the sweeping flood of mahomedanism, which, in a few years, spread over one-half of the civilized world, from the sands of the Nile to the swampy fens of the Oxus. From the 11th century when the inroads into India, of mahomedans, began, up almost to the present time when they too as a ruling race, have in their turn almost disappeared before christians, the Semitic Arabs, the Arian Persians, the Scythic Tartars, and the Anglo-Saxons, have successively swayed the destinies of the races who are the subjects of these remarks, and each of the new comers has to some extent modified the belief and social customs of the conquered people. For, a prevailing characteristic of these races is a speculative theorising on the great end of man, his duties here and his hopes in eternity, with a disposition to asceticism, as the better means of obtaining the future rewards of a good life on earth. But great changes have been retarded by the circumstance that the mahomedan and the christian came amongst them as warriors, with all the fierceness and license which are to be found in camps—and the arrogance and contempt for strange things which youth engenders. And it is only since a few years that the voices of the meek followers of the lowly Jesus, the christian missionaries, have been heard proclaiming amongst the varied nations, and to each of them in their own tongue, the good tidings of great joy, which shall be to all people, and saying Glory to God in the highest, and on earth peace, good will toward men. But even in the short time, less than a century, during which they have been labouring, the effect on the hindu mind has been immeasurable. A great portion of this result is doubtless owing to the steady increase of schools for secular instruction in English, which have every year been on the increase and are crowded with the youth of all sects and castes and ranks. In this respect, every teacher of English is a missionary, for it is impossible for the youth of India, if educated under christian teachers by means of a christian literature, to be otherwise than christians in belief, whatever their professions may be. The first reforming sect that arose was a theist body, in Calcutta, who at present are making somewhat loud professions, a sure indication of the doubts that its followers entertain, as to the solid character of their new, or as they say, their reformed faith. And even in the case of hindus who have had no English education and have never heard the voice of the missionary, such are receiving instruction from others of their own people who have been so taught; and the mass has been so leavened that the great tendency amongst youthful inquiring minds is to accept some form of theism,—either to acknowledge one of their own deities, whether Vishnu or Siva, as the Lord of all, or adopt an ideal Supreme Being of their own creation, whom they clothe with attributes, purer, more just, and more worthy of reverence than any god which the hindu pantheon possesses.

Brahminism.—Buddhism was not finally swept away from the peninsula till about the 14th century of the christian era. For ten centuries it had been the prevailing religion of India but when the unwritten Tartar faith became corrupt and feeble, brahmanism was revived, mixed with the worship of new gods, a Siva and a Vishnu and every form of absurd fetichism gathered from local idolatries and superstitions. It is this mixture of several creeds which is now styled hinduism and its followers hindus. It is found amongst

the people in every variety of belief, from the mildest demon worship and recognition of numerous forms of gods and their idols, to a distinct theism: from the grossest ignorance and superstition to the most refined speculativeness; performed and associated with bloody and most inhuman rites, and, again, followed with the greatest tenderness for animal life. In Europe, the hindu religion is a term which is always employed in a collective sense, to designate a faith and worship of an almost endlessly diversified description. An early division of the hindu system, and one conformable to the genius of polytheism, just as at present, is said to have separated the practical and popular belief from the speculative and philosophical doctrines. And whilst the common people addressed their hopes and fears to stocks and stones and multiplied by their credulity and superstition the grotesque objects of their veneration, some few of deeper thought and wider contemplation plunged into the mysteries of man and nature and assiduously endeavoured to obtain just notions of the cause, the character and the consequence of existence. The Vedas throw little light upon the strange theology and most eccentric tenets of the present hindus. Besides being unable to find in the Vedas the true origin of caste, there cannot be found in them the primitive forms of the hindu triad, the source of the doctrine of metempsychosis, nor that combination of polytheism and pantheism which ought to have preceded the schism of the philosophical schools from orthodox brahmanism. The "North British Review" remarks that for centuries the brahmins appealed to the Vedas as their authority for every error and malpractice which they maintained: and met the arguments of Europeans, by referring to those books, which were always quoted in support of every doctrine and every practice, and to confound an opponent. It has been ceded that the laws of Menu, though excellent and authoritative in one age, were not binding in all; but the universality of Vedic precept has always been insisted on, and it was said that if a principle were not found in those books it would not be adhered to. Upon these grounds, all the institutions, social as well as religious, of modern brahmanism, might be overthrown, and in this respect, no labour has possessed such value as that given to the interpretation and criticism of those works which the present hindus assert to have proceeded from the mouth of Brahma himself. The study of the Vedas and Puranas, would serve to dissipate much of the mysterious awe with which the hindoo regards these books. The more he may read, the less respect could he feel for them. Not only is the divine origin claimed for them at once refuted by the very ordinary characters which distinguish them as peculiarly mortal, but they are not even all of them on sacred subjects. In one place we have an erratic dialogue of a loose description between a man and his wife; in another, an address to food, in another, a gambler complains of his ill luck. In one the hawk, in another the sacrificial pole, in a third the Francoline partridge, in others even the mortar and pestle, and the wheel-barrow in which the victim is brought to the sacrifice, are the subjects of laudation.

In the later hymns of the Vedas can be traced the origin of the Vishnu worship and the setting aside of Indra. But the foreign Mahadeva and Bhavani came in with the Sakæ, and mingled in their worshippings until the doctrines of Buddha, himself a Sakyan, were promulgated and held their own for nearly a thousand years, until Vishnu, Brahma, Siva, Durga, Kali, Rama, Krishna, Ganesa, Kartikeya, and a host of new divinities, prevailed about 1200 years ago, over a better faith than their own and up to the present day, enslave and degrade the hindu.

Sufficient has been given above of the religious history of the races now dwelling in India and known as hindus, to show how varied has been the origin of their present beliefs and the mind will have been prepared to find that the religions, drawn from so many sources, are even yet unfused into a homogeneous whole. Doubtless one great difficulty in the way of such an amalgamation has been the difference in race even of the brahminical teachers, for there can be no doubt that the Mahratta brahman, in physical form and mental constitution, is very different from others, if indeed he be of those Arian immigrants who crossed the Indus into north-western India. There are numerous other brahminical tribes in India, who do not intermarry, not because of any difference in their creed, but because of differences in lineage and descent. But the great obstacle in the way of amalgamation, has been the numerous languages which the peoples called hindus speak, and this of itself is indicative of the variety of races from which they have sprung. It is true that there are two learned languages, the Sanscrit and the Pali, in which the religions of the hindus and the buddhists are contained. The buddhist scriptures of Tibet, Mongolia, Pegu, Ava, Siam, Kambogia, Cochin-China and Ceylon, are all in the Pali, and the Vedas of the hindus are in a form of the Sanscrit tongue. But so igno-

rant of this language are the people of India that, in 1860, in Madras, a city of 830,000 people, five-sixths of whom are hindus, and of these about 7,000 brahman men, each of whom thrice daily repeats in prayer, the Gayatri or holiest verse of the Vedas, though it only contains fourteen words and is the most revered of their religious texts, although Mr. C. P. Brown has given it and its translation, in the last edition of his Telugu Dictionary, only two or three brahmans are acquainted with its meaning. Doubtless the same could be said of the Pali of the buddhists. With this ignorance, even amongst the learned, of the language of their holy books, how difficult must be the progress of knowledge or of reformation through the races professing hinduism, who speak Bengali, Canarese, Singhalese, Guzerati, Hindi, Kodaga, Kashmiri, Mahratta, Malealam, Rakhui, Tamil, Telugu, Tulu, Uria, and various dialects of each of these, and it is equally so with the buddhists, who speak Burmese, Chinese, Cochin-Chinese, Singhalese, Japanese, Javanese, Malay, Siamese, and Tibetan. Amongst those professing hinduism, also, there is no general teaching of the people, in the mode adopted by Hebrews, mahomedans and christians, by one of the priesthood being set apart to preach to high and low. A few pupils sit at the feet of teachers and learn from those teachers, it may be, peculiar doctrines, but there is no general instruction for the entire community whose worship consists in a ritual of prayers of the meaning of which they are ignorant, and an endless wearisome ceremonial pervading every social duty, their ignorance being such that the mere listening to or repeating the unknown words of the sacred books, is considered meritorious.

Hinduism as it is.—Coleman tells us that five great sects, exclusively worship a single deity and one recognises the five divinities: These are

1. Saiva, worshippers of Siva, in his thousand forms, who however, worship Siva and Bhawani conjointly.
2. The Vaishnava, who worship Vishnu.
3. The Surya, who worship Surya, or the Sun.
4. The Ganapatia, who worship Ganesa.
5. The Sacta, who exclusively worship Bhavani or Parvati,—the sacti, or female energy of Siva.
6. The Bhagavati, who recognise all divinities equally.

The fourth and fifth are sub-divisions, or ramifications of the first, or Saiva; of which may be traced these distinctions.—1, Saiva proper, meaning the worshippers of Siva and Parvati conjointly. 2. Lingi or Langaet, the adorers of Siva, or his phallic type, separately, and these are a very strict and rigid sect. 3. Sacta, the adorers of the Yoni of Bhavani, or her symbol, separately. 4. The Ganapatya the exclusive worshippers of Ganesa, the first born of Mahadeva and Parvati.

The second grand sect or Vaishnava, is variously divided and subdivided. First or division of Gocalast'ha, or worshippers of Gocal, or Krishna, is subdivided into three:

1. Exclusively worship Krishna and Vishnu himself: this is generally deemed the true and orthodox Vaishnava.
2. Exclusively worship Radha as the sacti of Krishna or Vishnu: this sect is called Radha Vallabhi.
3. Worship Krishna and Radha conjointly.

Second or division of Ramanuj, or worshippers of Ramachandra, is, in like manner, subdivided into three;

1. Worship Rama only.
2. Worship Sita only as his Sacti.
3. Worship both Rama and Sita conjointly.

Their theologists have entered into vain disputes on the question, which, among the attributes of God, shall be deemed characteristic and pre-eminent? Sancara Acharya, the celebrated commentator on the Veda, contended for the attributes of Siva; and founded, or confirmed, the saiva sect who worship Mahadeva as the Supreme Being, and deny the independent existence of Vishnu and other deities. Madhava Acharya, and Vallabha Acharya in like manner, established the sect of vaishnava, who adore Vishnu as God. The Suria (less numerous than the sects above mentioned) worship the Sun, and acknowledge no other divinity. The Ganapatya adore Ganesa as uniting in his person all the attributes of the Deity. As the saiva has a fourth undivided sect in the ganapatya, so the vaishnava has a fourth undivided sect in the bhagavata. And indeed, we find the sects merging into each other; for, in consequence of the interposition of Vishnu to appease a physiological difference between Mahadeva and Parvati, or the worshippers of the Linga and Yoni, his (Vishnu's) navel, says Major Moor, came to be considered as the same with the Yoni, confounding the yonijas with the vaishnava. "The vaishnava of the present day, though nominally worshippers of Vishnu, are, in fact, votaries of deified heroes. The Goculast'ha (one branch of this sect) adore Krishna, while the Ramanuj worship Ramachandra. Both have again

branched into three sects; one consists in the exclusive worshipper of Krishna, and these only are deemed true and orthodox vaishnava; another joins his favorite Radha with the hero; a third called radhavallabhi, adores Radha only, considering her as the active power of Vishnu. The followers of these last mentioned sects have adopted the singular practice of presenting to their own wives the oblations intended for the goddess; and those among them who follow the left-handed path (there is in most sects a right-handed, or decent path, and a left-handed, or indecent mode of worship) are said to require their wives to be naked when attending them at their devotions. Among the ramanuj some worship Rama only, and others both Rama and Sita; none of them practise any indecent mode of worship. And they all, like the goculast'ha as well as the followers of the bhagavata, delineate on their fore-heads a double upright line with chalk, or with sandal-wood, and a red circlet with red sanders wood, or with turmeric and lime; but the Ramanuj add an upright red-line in the middle of the double white one.

The saivas are all worshippers of Siva and Bhavani conjointly; and they adore the linga, or compound type of this god and goddess, as the vaishnava do the image of Lakshimi-Narayana. There are no exclusive worshippers of Siva besides the sect of naked gymnosophists, called Lingi; and the exclusive adorers of the goddess are the Sacta sect. In this last mentioned sect, as in most others, there is a right-handed and decent path, and left-handed and indecent mode of worship; but Major Moor mentions that the indecent worship of this sect is most grossly so and consists of unbridled debauchery with wine and women. This profligate sect is supposed to be numerous, though unavowed. In most parts of India, if not in all, they are held in deserved detestation; and even the decent sacta followers do not make public profession of their tenets, nor wear on their foreheads the marks of their sect, lest they should be suspected of belonging to the other branch of it. The saiva and sacta delineate on their foreheads three horizontal lines with ashes obtained, if possible, from the hearth on which a consecrated fire has been maintained; they add a red circlet, which the saiva make of red sanders, and which the sacta, when they avow themselves, mark either with saffron, or with turmeric and borax. "The saura or suria, are true worshippers of the Sun; and some of them, adore the dormant and active energies of the planet conjointly. This sect, which is not very numerous, is distinguished by the use of red sanders for the horizontal triple line, as well as for the circlet on their foreheads. The left-handed path, or indecent mode of worship, of the several sects, especially that of the sacta, is founded on the Tantras, which are, for this reason, held in disesteem. The worshippers of Vishnu, Siva and the Sakti, are not to be confounded with the orthodox adorers of those divinities; few brahmans of learning, if they have any religion at all, will acknowledge themselves to belong to any of the popular divisions of the hindu faith, although, as a matter of simple preference, they more especially worship some individual deity as their chosen or Ishta Devata. They refer also to the Vedas, the books of law, the Puranas, and Tantras, as the only ritual which they recognise, and regard all practices not derived from those sources as irregular and profane. These deities have their different avatars or incarnations, in all of which, except that of the Sacti themselves, they have their sacti (wives) or energies of their attributes. These have again ramified into numerous names and forms.

The great point of difference amongst the sectaries is as to the claims of respective deities to be regarded as the First Cause. Some assert that as Vishnu (the preserving spirit of God) was sleeping on the serpent Ananta, or eternity, on the face of the waters, after the annihilation of a former world, a lotus sprung from his navel. From this issued Brahma, who produced the elements, formed the present world, and gave birth to the god Rudra (or Siva) the destroyer. He then produced the human race. From his head he formed the Brahmans or priests; from his arms, the Khetries or warriors; from his thighs, the Vaisyas or merchants; and from his feet the Sudras or husbandmen. If inquiry be made of a Vaishnava, or one of the exclusive adorers of Vishnu, he will not fail of exalting the object of his own adoration to the throne of the one only Almighty Being; and with that view will call him Narayana, although in fact such name is not strictly applicable to that being, but to his spirit, if such a personification can be conceived. The Goculast'ha, a branch of the Vaishnava, will similarly exalt Krishna, the exclusive object of their adoration; and in other personages we are scarcely able to distinguish the persons of Narayana and Brahma. On the other hand, many of the hindu sects seem to have originated in a great measure, out of opposition to the brahminical order; teachers and disciples are chosen from any class and the distinction of castes is, in a great measure,

sunk in the new one, of similarity of schism. The ascetics and mendicants, also, in many instances, affect to treat the brahmans with particular contempt and this is generally repaid with interest by the brahmans. A portion, though not a large one of the populace, is still attached to the Smarta brahmans, as their spiritual guides and so far distinct from any of the sects: whilst most of the followers even of the sects, pay the ordinary deference to the brahminical order and especially evince towards the brahmans of their own fellowship, of whom there is generally abundance, the devotedness and submission which the original hindu code so perpetually inculcates. Excluding those hindus who may be regarded as the regular worshippers of recognised gods, the following is an enumeration of the several sectaries of each class, and to them we refer for separate notices of their origin and tenets.

Vaishnava sects.

1. Ramanuja or Sri Sampradayi or Sri Vaishnava.
2. Ramanandi or Ramawat.
3. Kabir Panthi.
4. Khaki.
5. Maluk Dasi.
6. Dadhu Panthi.
7. Raya Dasi.
8. Senai.
9. Vallabha Chari or Rudra Sampradayi.
10. Mira Bai.
11. Madhawa Chari, or Brahma Sampradayi.
12. Nimawat or Sanakadi Sampradayi.
13. Vaishnava of Bengal.
14. Radha Vallabhi.
15. Sak'hi Bhava.
16. Charan Dasi.
17. Harischandi.
18. Sadhua Panthi.
19. Madhavi.
20. Sanayasi, Vairagi and Naga.

Saiva sects.

1. Dandi and Dasnami.
2. Jogi.
3. Jungama.
4. Paramahansa.
5. Urdhaba'hu, Akas Muk'hi and Nak'hi.
6. Gudara.
7. Ruk'hara, Suk'haras and Uk'hara.
8. Kara Lingi.
9. Sanyasi.

Sakta sects.

1. Dakshini.
2. Vami.
3. Kanchebiya.
4. Kararia.

Miscellaneous sects.

1. Ganupatya.
2. Samapatya.
3. Nanik Shahi, of seven classes, viz.
   a. Udasi
   b. Ganjbakhshi.
   c. Ramrayi.
   d. Suthra Shahi.
   e. Govind Sinhi.
   f. Nirmala.
   g. Naga.
4. Jaina of two principal orders,
   a. Digambara.
   b. Swetambara.
5. Baba Lali,
6. Pran Nathi.
7. Sadh.
8. Satnami.
9. Siva Narayini.
10. Sunyabadi.

Amongst other Saiva sectarians we have the following.

Aghori.
Avadhuta.
Gudara.
Kanchelia.
Bhakta.
Brahmacha.
Kerari.
Nakhi.
Paramahansa.
Dakshina.
Dandi.
Dasnami.
Saurapata or Saura.

Most of these comprise a number of subdivisions, and besides these acknowledged classifications, many individual mendicants are to be found all over India, who can scarcely be included within the limits of any of them, exercising a sort of independence both in thought and act, and attached very loosely if at all to any of the popular schismatical sects. Some of the popular works of the hindus adopt a different classification and allude to 96 prashada or heresies, which are thus arranged:—viz. Amongst the

Brahmans	24	Saura	18
Sanyasi	12	Jangama	18
Viragi	12	Jogi	12

Mythology of the Hindus.—Amongst the hindus, mythology is all pervading. Their history, science, literature, arts, customs, and conversation, are replete with mythological allusions. A respectable knowledge of their pantheon is consequently an almost indispensable preparatory acquirement to the study and comprehension of nearly every thing which relates to them. The mythology of India, has done much to explain that of Greece and Scandinavia as will be seen by the following list of the principal of the hindu deities of the present day, and their principal analogues.

Vaitarini, in the hindu pantheon, has its supposed analogue, in the river Styx.

Durga	analogue of Juno.
Narada	God of Music = Mercury.
Krishna,	= Apollo.
Bhawani	= Venus.
Kali or Durga	Proserpine,
Agni,	Vulcan-Fire. Ignis.
Swaha,	Vesta, his wife.
Aswini. Kumara.	Castor and Pollux.
Aruna,	= Aurora.
Atadeva	= Diana.
Kuvera,	Plutus, the god of riches.
Ganesa,	A member of the hindu pantheon male minerva.
Indra,	God of firmament = Jupiter.
Varuna	God of Water = Neptune.
Prithivi	Goddess of Earth = Cybele.
Viswakarma,	Architect of Gods = Vulcan.
Kartikeya or Skanda,	God of war = Mars.
Kama,	God of love = Cupid.
Surya or Arka	The sun = Sol.
Hanuman son of Pavana,	The Monkey God = Pan.
Rama,	The God of Wine = Bacchus.
Heracula	A Hindu deity = Hercules.
Aswiculapa,	Æsculapicus? = Genii.
Vayu,	Æolus.
Sri,	Ceres.
Anna Purna,	Anna Perenna.

Vahan or Vehicles of the hindu gods.—Several animals are appropriated as the vahan or vehicles to the mythological personages of modern hinduism. The swan, eagle and bull, appertain respectively to Brahma, Vishnu, and Siva, and are severally denomi-

nated Hanasa, Garuda and Nandi. Ganesa, eldest son of Mahadeva (Siva) and Parvati, the elephant-headed god of prudence and policy, rides a rat supposed to be a very sagacious animal—Kartika, their second son, the generalissimo of the celestial armies, mounts on a peacock. Indra, the powerful regent of the firmament, the Jupiter Pluvius of the hindus, rides the elephant Iravatam, symbolical of might. Varuna, genius of the waters, bestrides a fish; as doth also Ganga, the prime goddess of rivers—Kama Deva, the god of love, is carried by a lory, or parrot: Agni, god of fire, by an ardent ram.

Sakti or goddesses.—The hindu goddesses are uniformly represented as the subordinate powers of their respective lords: thus Lakshmi, the consort of Vishnu the preserver, is the goddess of abundance and prosperity; Bhavani, the wife of (Siva) Mahadeva, is the general power of fecundity; and Saraswati, whose husband was the creator, Brahma, possesses the powers of imagination and invention, which may justly be termed creative. She is, therefore, adored as the patroness of the fine arts, especially of music and rhetoric; as the inventress of the Sanskrit language, of the Devanagri writing characters, and of the sciences which writing perpetuates: so that her attributes correspond with those of Minerva Musica of Greeee or Italy, who invented the flute, and presided over literature.—*Coleman*, p. 125.

The saivaism and vaishnuism described above, from the writings of Coleman, Major Moor and Professor Wilson are the common every day religions of the bulk of the hindu populations. But the internal beliefs of the worshippers have no such community, and their various tenets must be sought for under the history of their several sects. A saiva sect the Satnami profess to adore the true name, the one God, but they nevertheless recognize the whole hindu pantheon, and pay reverence to what they consider manifestations of his nature visible in the avatars, particularly Rama and Krishna. The Saud or Sadh, on the other hand, utterly reject all kinds of idolatry, are pure deists with a simple worship. Between these unitarian sects and such as adore every deity, there is the utmost diversity of theory and practice. The fusing of their creeds, doctrines and customs is continually going on. Major Moor tells of a mahomedan butcher at Poona, who occasionally supplied the residency with meat, being asked if he would kill a calf, he started back with horror at the proposal, ejaculating a prayer to be forgiven for having even heard it. Many mahomedans of India borrow from the hindus ceremonies that are celebrated with festivity. They take an active part in the gambols of the Huli, and even solicit the favours of the Indian Plutus at the Diwali. Many hindus on the other hand join in the festival of the moharam. The bridal procession of the mahomedans, on the fourth day, with all the sports and gambols of the Chaut'hi, is evidently copied from the similar custom of the hindus. The mahomedans have adopted the premature marriage of infants, and hindus largely imitate the mahomedan seclusion of their wives. (*Colebroke, As. Res.*, Vol. VII, p. 307.) A mahomedan is forbidden to eat meat which has not been killed by one of the faithful; who is directed to 'halal,' or sanctify, the animal by turning its face toward Mecca, and while the blood is ejected, to repeat their creed, or profession of faith—"There is no deity but God, and Mahommed is the prophet of God,—or a short prayer. Many mahrattas, and other hindus, pleased with the ceremony, bring their sheep, fowls, &c., to mahomedans to be made 'halal,' and then eat them with increased satisfaction. Junctions of any sort, especially of waters, are held sacred by hindus, and above all, the union of the sacred rivers, Ganga and Yamuna or Jumna near Allahabad: the latter river having previously received the Saraswati below Delhi, so that, in fact, all three do unite at this famed sangam or confluence. But the hindu poet, feigns a subterrane flow of the Saraswasti, and a mystical union at the sacred point, where bathing is deemed peculiarly efficacious, and where zealots are persuaded that suicide is of a most meritorious description. Major Moor, once saw, (p. 429) at Poona, a well modelled group in clay, where Rad'ha's locks, tripartite, were plaited into the mystical Triveni by the amorous Krishna, who sat rapturously admiring the work of, and in, his hands. The Triveni or three plaited locks, is, in hindu mythology, the mystical union of these three sacred rivers, the Ganges, Jumna and Saraswati, severally the consorts, or energies, of the three great powers; and a female triad, similar to that of the trimurti or male powers. Coleman also, says (pp. 394, 398) that the Triveni, or three plaited locks, is allegorical of the holy rivers Gunga (or Ganges), Yamuna (or Jumna) which join near Allahabad, and the Saraswati, which is also supposed to join the other two under ground. A person dying near the imagined confluence of the three streams, or even of those of the Gunga and Yamuna, attains immediate beatitude, consequently self or self-permitted immolation, suttees, &c., are meritorious on this peculiarly holy spot and

where the juncture occurs, at Allahabad, of the Jumna and Ganges multitudes of pilgrims annually resort to bathe. Numerous other rivers are, however, held sacred by the hindus, viz., the Godaveri, the Sindhu or Indus the Krishna or Kistna and the Brahmaputra.

The hindus have reverence for the impressions of feet. On the top of Adam's peak, in Ceylon is a natural hollow artificially enlarged, said to be the impression of a foot, of Budda'ha called however by the hindus, Sripada, or Sripad, meaning the divine footstep, Vishnu having, they say, alighted on that spot—in his Avatara of Rama, although mahomedans and christians have also claimed that foot-mark as of their religious relics. Hindus make pilgrimages to the Sripad, in Ceylon and in other places, where similar proofs of an avatar or descent have been discovered.

The Mahrattas, make images in honour of deceased ancestors, and of their guru, or spiritual instructors: but brahmans are said to discourage this idolatrous propensity. These Lares, or Penates, or Lemures, for the household gods of the hindus partake of the characters assigned by the European heathens of old to those different descriptions of departed spirits, are easily confounded with the variety of forms in which Bhairava appears. Nat and Vira ('nat'ha,' lord, 'vira,' brave), are epithets that Major Moor heard brahmans apply to such domestic images, which others have called of Bhairava; while, to many other images in use they seem altogether at a loss what epithet to apply.

Devil and Spirit worship.—It would lead into too great detail to attempt a notice of the multitudinous religious customs of the hindus, but the Rev. Dr. Caldwell, has so well described the extravagant Devil or Demon worship of the Shanar race in the south of India, that it may here well find a place in illustration of the varieties of forms in which, what is supposed in Europe to be called hinduism, appears. He tells us that every hindu work containing allusions to Native life, and the dictionaries of all the hindu tongues, prove the general prevalence of a belief in the existence of malicious or mischievous demons, in demoniacal inflictions and possessions, and in the power of exorcisms. But the Shanar race systematically worship the demons in which they believe. Their devil temples are called "Pe-'Koil." Some of them, especially those erected to the sanguinary form of Kali, are small mean tomb-like-buildings with an image at the further end of the cloister. But the majority of the devil-temples are of a still more primitive construction. A heap of earth raised into a pyramidal shape and adorned with streaks of white-wash, sometimes alternating with red ochre, constitutes, in the majority of cases, both the temple and the demon's image; and a smaller heap in front of the temple with a flat surface forms the altar. In such cases a large conspicuous tree—at amarind,—an umbrella tree, or even a palmyra whose leaves have never been cut or trimmed—will generally be observed in the vicinity. This tree is supposed to be the devil's ordinary dwelling place, from which he snuffs the odour of the sacrificial blood and descends unseen to join in the feast. The devil pyramid is sometimes built of brick and stuccoed over; and when thus built of coherent materials it rises into something of the shape of an obelisk. The angles of the pyramid are made to correspond with the cardinal points. Its height rarely exceeds eight feet and is generally less than five. This pyramidal obelisk is a distinguishing characteristic of devil-worship, and appears to have no compartment in brahmanism or any other *ism* in India. Dr. Caldwell, often wished to discover what was supposed to be signified by this peculiar style of image; but never met with any one who could give him any information. Sometimes the worshippers go to the expense of building walls and a roof for the permanent accommodation of their demon, with a porch for the musicians. The devil in this case being of brahminical lineage, they generally erect an image to his honor, in imitation of their brahminical neighbours. Such images generally accord with those monstrous figures with which all over India orthodox hindus depict the enemies of their gods, or the terrific forms of Siva or Durga. They are generally made of earthen-ware, painted white to look horrible in hindu eyes; with numerous upraised hands and instruments of torture and death in each, and the representation of infants crushed between their teeth; or with buffalo-heads and huge spiked clubs. In every such case the artist borrows his realization of the fiend's character from images invented and patronized by the brahmans themselves. In the worship of the aboriginal Shanar devils, the pyramid mentioned is the nearest approach to an image which Dr. Caldwell observed. It is worthy of remark that every word which denotes an image is of Sanscrit origin, and as such must have been introduced from the brahmans. Two particulars connected with devil-worship, are essential features of the system, namely, devil-dancing and the offering of bloody sacrifices. This demono-

latrous creed is found in all the hill-regions, and amongst all the semi-civilized or migratory tribes who have not yet been enslaved by the higher castes and completely subjected to brahmanism, and prevails more or less throughout India especially as allied with the worship of the female powers of Siva, and in its most primitive shape, it still forms the creed of the greater part of Tinnevelly and Travancore. And though brahmans despise both devils and their worship, as also the worship of the village gods called Amman, in times of calamity, the brahmans do not hesitate to worship the Amman and even make offerings to demons, though by stealth or through the medium of other persons. Emigrants from the Telugu country, who form a considerable portion of the population in some parts of Tinnevelly, have generally become worshippers of devils. But the system more usually followed by this class is the worship of the satellites of the brahminical deities, or that of the female energies. Such devils, in the proper sense of the term, as they are found to worship, are of Tamil origin, as their names denote, and were probably worshipped at first from a wish to conciliate the gods of the soil. The origin of the Shanar demonolatry lies in the unknown depths of antiquity, an antiquity apparently equal to that of the worship of the elements or the heavenly bodies. If the allusions contained in the Vedas to the victories gained by the elementary deities over hostile fiends be considered mythic representation of historical facts, the worship of devils would seem to have been anterior to the Vedic system itself. Of elementary worship there is no trace whatever in the history, language, or usages of any portion of the Tamil people. The emigration of the brahmans to Peninsular India appears, consequently, to have been subsequent to the first great change in their religious system. The religion they introduced was probably a rudimental form of saivaism, with a tendency to the mystical and mythological system of the Puranas. There is not the least reason to suppose that the Vedic or elementary system was ever known in the Tamil country either as an indigenous religion, or as introduced by the brahmans. The brahmans were doubtless the civilizers of the Tamil people; and the traditional leader of their migration, Agastya, is said to have reduced the Tamil language to order and to have given it a Grammar, yet not one of the old Tamil-names of the elements, the heavenly bodies, or the operations of nature is masculine or feminine, as they are in Sanscrit, in accordance with the elementary doctrines of the Vedas; and there is not the least trace of the elements, or powers of nature, having at any time been considered as personal intelligences. The inventors of both the Vedic and the demonolatrous systems seem to have been equally destitute of moral sentiments. Each adored power not goodness, operations not virtues; but whilst the former deified the operations of nature, the latter demonized the powers of heaven. It appears very improbable that demonolatry originated in any form of brahmanism, though it may be true that from time to time, especially after the lapse of elementary worship into mysticism and of hero worship into terrorism, a few brahminical ideas have been added to the demonolatry of the Shanar race and a few of the demons who were formerly independent may have been taken into the service of the petty divinities; there are traces amongst them of a vague traditionary belief in the existence of a god: but the term in use also signifies ruler or lord, and they ascribe to him the punishments which overtake the wicked; monstrous births and prodigies, and on the death of a child they abuse him for his want of mercy and blindness in slaying the infant. Hence, it may be inferred that they regard the ruler or lord as the author of life. Their literature is either of brahminical origin or it is confined to the recital of the praises of demons, the power of incantations and the virtues of medicines. They nominally acknowledge as deities some of the brahminical mythologies: but they know only their names and a few popular myths or deified heroes. Dr. Caldwell, with one exception, has not discovered the least vestige of their acquaintance with the pantheistic notion, so popular with Tamil poets, that God is an all pervading essence without qualities or acts. Notwithstanding their traditional use of the name of one god, practically the Shanar race are destitute of the belief in God's existence, and their only real faith is in demonolatry. They do not appear to believe in any future state or any state of rewards and punishments. When a person has died a sudden, untimely or violent death, especially if in his life time he had been remarkable for crimes or a violent temper, his spirit is supposed to haunt the place where his body lies, or wanders to and fro in the neighbourhood, as a newly born demon, an aerification and amplification of the bad features of the deceased persons character, a goblin which with the acquisition of super human power, has acquired super-human maliguity. A few of the

Shanar race, however, imitate the brahminical practice of ceremonies for the dead; and similarly a few are believers in the metempsychosis. The brahminical deities that have obtained a place in their esteem are honored merely with a passing bow and an annual festival. They attend the festival of Subramanya, the second son of Siva, at Trichendoor, and Shasta, the Hari-haraputra of the brahman, and the guardian of boundaries and protector of paddy fields, is worshipped to a considerable extent in his official relations. But it is demons, devils or fiends, of unmixed malignity, spirits of a jealous, watchful and vindictive temper that they worship with earnestness and assiduity as the worship of their every day life. It is that which governs their minds, sways their wills, and influences their characters, and which they have recourse to in sickness and loss. A large portion of the devils are of purely Shanar or Tamil origin and are totally unconnected with brahmanism. A few of their demons are forms of Kali, or rather that of Amman, the earth goddess whom the people of Southern India who follow brahmanism, have consented to regard as Kali, and whose worship is performed by a particular class of sudra priests. Their devils were originally human beings who in their lives had made themselves objects of dread, or who met a violent or sudden death, and are therefore of both sexes of all ranks, and of native or foreign origin. But all of them are powerful, malicious and interfering; and all desirous of bloody sacrifices and frantic dances. The temples or images built to the honor of the different demons, also differ—as do also the insignia of the priests, who variously prefer for the sacrifice, a hog, a goat, or a cock, and Pariar demons, invariably require ardent spirits. The majority of the demons are supposed to take their abode in trees. Some wander in uninhabited wastes, or seek shady retreats. Demons occasionally take up their abode in houses, and it often happens that a devil will take a fancy to dispossess the soul and inhabit the body of one of his votaries; in which case the personal consciousness of the possessed party ceases, and the screaming gesticulating, and pythonizing are supposed to be the demon's acts. Every malady however trivial is supposed by the more superstitious to be inflicted by a devil, and a sacrifice is necessary for its removal; but the unusual severity or continuance of any disease, or the appearance of symptoms which are not recorded in the physician's shastra, are proofs of possession of which no Shanar can entertain any doubt. The medical science

of so rude a people not being very extensive cases of unquestionable possession, are, as they think, of frequent occurrence. When a woman is heard to laugh and weep alternately, without any adequate cause, or shriek and look wild when no snake or wild beast can be perceived, a Shanar can only suppose a devil to be the cause of the mischief. The Native doctor, himself a Shanar, is sent for to give his advice. He brings his library with him, (he can't read, but it is all safe in his memory,)—his "complete science of medicine in one hundred stanzas, as revealed by the sage Agastya to his disciple Pulastya;" but in vain he recites his prescriptions, in vain he coins hard words. As no description of hysterical complaints is contained in his authorities, what can he do but decide that a devil has taken possession of the woman, and recommend that a sacrifice be offered to him forthwith, with a cloth and a white fowl to the doctor? Sometimes the possession takes the shape of a stroke of the sun, epilepsy or catalepsy, a sudden fright, mania, or the vertigo and stupor caused by an overflow of bile. But any ordinary disease, when it seems incurable and the patient begins to waste away, is pronounced a possession. Sometimes the friends are not desirous of expelling the evil spirit all at once, but send for music, get up a devil-dance, and call upon the demon to prophesy. This is particularly the case when some member of the family has long been sick, and they are anxious to know what is to be the result of the sickness, and are wishing and waiting for a demon's visit. If they desire to expel the devil, there is no lack of moving ceremonies and powerful incantations, each of which has been tried and found successful innumerable times. If the devil should prove an obstinate one and refuse to leave, charm they never so wisely, his retreat may generally be hastened by the vigorous application of a slipper or a broom to the shoulders of the possessed person, the operator taking care to use at the same time the most scurrilous language he can think of. After a time the demoniac loses his downcast, sullen look. He begins to get angry and writhe about under the slippering, and at length cries, "I go, I go." They then ask him his name, and why he came there. He tells them he is such and such a devil whom they have neglected ever so long and that he wants an offering: or he calls himself by the name of some deceased relation who as they now learn for the first time, has become a demon. So soon as the demon consents to leave, the beating ceases; and not unfrequently immediate preparations are made

for a sacrifice, as a compensation to his feelings for the ignominy of the exorcism. The possessed person now awakes as from a sleep and appears to have no knowledge of anything that has happened.

Native christians sometimes become similarly possessed but the missionaries have found the attacks always yield to Tartar emetic. The demons are frequently contented with inflicting minor injuries. The failure of rain; a blight on the crops, accidents, diseases which befal cattle, losses in trade are all considered instances of a demon's malevolence. A people hear a strange noise at night and immediately they see a devil making his escape in the shape of a dog as large as a hyena, or a cat with eyes like two lamps. In the dusk of the evening devils have been observed in a burial or burning ground, assuming various shapes one after another as often as the eye of the observer is turned away; and they have often been known at night to ride across the country on invisible horses, or glide over marshy land in the shape of a wandering, flickering light. In all their journeyings they move along without touching the ground: their elevation above the ground being proportioned to their rank and importance. Dr. Caldwell has known a village deserted and the people afraid even to remove the materials of their houses, in consequence of the terror caused by stones being thrown on their roofs, at night, by invisible hands. Demons more malicious still have sometimes been known under cover of the night to insert combustible materials under the eaves of thatched roofs. Even in the day time, about the close of the hot season, when the winds fail, they may often be seen careering along in the shape of a whirlwind, catching up and whisking about in their fierce play every dry stick and leaf that happens to lie in their path. In short, the demons do much evil, but no good. They often cause terror but never bestow benefits, or evince any affection for their votaries. They must be placated by sacrifice because they are so mischievous; but there is no use of supplicating their favour. If in any case the hope of obtaining a benefit may seem to be their votary's motive in worshipping them; further inquiry proves that it is under the supposition that the demon's malignity stands in the way of what would otherwise be obtained as a matter of course. Natives think that Europeans have no reason to fear from demons and a similar exception is sometimes made in the case of the mahomedans. The god worshipped by the mahomedans is supposed to be more powerful than the demons, and able to protect his worshippers from their assaults. The demonolaters seem to consider European christians as secure from danger. They suppose them even more than a match for any of the poor black man's goblins. In consequence of this immunity, whilst the servants and followers of a European are exposed to many alarms, their master neither sees nor hears any thing unusual. When it is determined to offer a sacrifice to a devil, a person is appointed to act the part of priest. Devil-worship is not, like the worship of the hindu deities, whether supreme or subordinate, appropriated to a particular order of men, but may be performed by any one who chooses. This priest is styled a "devil-dancer." Usually one of the principal men of the village officiates; but sometimes the duty is voluntarily undertaken by some devotee, male or female, who wishes to gain notoriety, or in whom the sight of the preparations excites a sudden zeal. The officiating priest, whoever he may happen to be, is dressed for the occasion in the vestments and ornaments appropriate to the particular devil worshipped. The object in view in donning the demon's insignia is to strike terror into the imagination of the beholders. But the party-coloured dress and grotesque ornaments, the cap and trident and jingling bells of the performer, bear so close a resemblance to the usual adjuncts of a pantomime that a European would find it difficult to look grave. The musical instruments, or rather the instruments of noise, chiefly used in the devil-dance are the tom-tom, or ordinary Indian drum, and the horn; with occasionally the addition of a clarionet when the parties can afford it. But the favorite instrument, because the noisiest, is that which is called the bow. A series of bells of various sizes is fastened to the frame of a gigantic bow; the strings are tightened so as to emit a musical note when struck; and the bow rests on a large empty brazen pot. The instrument is played on by a plectrum, and several musicians join in the performance. One strikes the string of the bow with the plectrum, another produces the base by striking the brazen pot with his hand, and the third keeps time and improves the harmony by a pair of cymbals. As each musician kindles in his work and strives to outstrip his neighbour in the rapidity of his flourishes, and the loudness of the tone with which he sings the accompaniment, the result is a tumult of frightful sounds, such as may be supposed to delight even a demon's ear. When the preparations are completed and the devil-dance is about to commence, the music is at first comparatively slow, and the dancer

seems impassive and sullen, and either he stands still, or moves about in gloomy silence. Gradually, as the music becomes quicker and louder, his excitement begins to rise. Sometimes to help him to work himself up into a frenzy he uses medicated draughts, cuts and lacerates his flesh till the blood flows, lashes himself with a huge whip, presses a burning torch to his breast, drinks the blood which flows from his own wounds, or drinks the blood of the sacrifice, putting the throat of the decapitated goat to his mouth. Then, as if he had acquired new life, he begins to brandish his staff of bells and dance with a quick but wild, unsteady step. Suddenly the afflatus descends. There is no mistaking that glare, or those frantic leaps. He snorts, he stares, he gyrates. The demon has now taken bodily possession of him; and though he retains the power of utterance and of motion, both are under the demon's control, and his separate consciousness is in abeyance. The by-standers signalize the event by raising a long shout attended with a peculiar vibratory noise, caused, by the motion of the hand and tongue, or the tongue alone. The devil dancer is now worshipped as a present deity, and every bystander consults him respecting his disease, his wants, the welfare of his absent relatives, the offerings to be made for the accomplishment of his wishes, and, in short, everything for which superhuman knowledge is supposed to be available. As the devil dancer acts to admiration the part of a maniac, it requires some experience to enable a person to interpret his dubious or unmeaning replies—his muttered voices and uncouth gestures; but the wishes of the parties who consult him help them greatly to interpret his meaning. Sometimes the devil dance and the demoniacal clairvoyance are extemporized, especially where the mass of the people are peculiarly addicted to devil-worship, and perfectly familiar with the various stages of the process. In such cases, if a person happen to feel the commencement of the shivering fit of an ague or the vertigo of a bilious headache, his untutored imagination teaches him to think himself possessed. He then sways his head from side, fixes his eyes into a stare, puts himself into a posture, and begins the maniac dance; and the by-standers run for flowers and fruit for an offering, or a cock or goat to sacrifice to his honor. The night is the time usually devoted to the orgies of devil-dancing. And as the number of devils worshipped is in some districts equal to the number of the worshippers, and as every act of worship is accompanied with the monotonous din of drums and the bray of horns, the stillness of the night, especially during the prevalence of cholera or any other epidemic disease, is frequently broken by a dismal uproar, more painful to hear on account of the associations connected with it, than on account of its unpleasant effect on the ear and nerves."—*Dr. Caldwell.*

Daily life of the hindus.—Having sketched the origin of the various rites now forming the religion called hindoo, and the differences in the forms of idol worshipping which are to be found it may be interesting to conduct one of this faith from the cradle to the grave.

Childhood.—The ceremonials observed on the birth of children, at the commencement of their education, on investiture with the sacred thread, communication of a gayatri, or initiatory sentence, in their marriage ceremonies and those adhered to on the occurrences of a death in a family, have now a general resemblance among, or are more or less imitated by, all castes, classes and ranks. On the birth of a brahman child, the ceremony called "Putrotsavam" is performed and on this occasion, the father presents sugar and sugar candy to relatives and friends. On the 11th day, the mother is anointed with the oil of the oriental sesamum. This practice of anointing with oil, is wholly confined to the hindu community, the mahomedans whether of India or Western Asia are not acquainted with it, and it may therefore be surmised that the Arab descendants of Ismail separated at an age when the ancestors of the Hebrew people had not adopted the rite. It is probable that the Hebrews learned the practice in Egypt or from their Assyrian neighbours and that the anointing of kings which European nations have adopted was handed down through the Old Testament. On the same day (11th) the "Punyahavachanam" or the purification rite for the mother and house is performed. It is then that the child receives its name,—that of some one of its grand, or great grand parents,—by the father writing it three times, with a golden ring, in unhusked rice, spread on a plate. This naming is called "Namakaranam", and is followed by the guests bestowing blessings on the young one, as they scatter rice, coloured with turmeric, over it and the mother who are seated in the midst of the assembly. The father then distributes money to the poor, and entertains relatives and friends. On this night, for the first time, the child is put into the cradle by the female guests, some of whom sing religious songs while others rock the little one, and at the close, the assembly are dismissed after being presented with betel-

nut, plaintains and boiled pigeon pea, Cajanus Indicus. The birth of a girl is less a source of rejoicing because of that part of the hindu creed which lays down that parents and other ancestors attain Swarga-locum or Indra's heaven, through a son's efforts. Each new moon, as also on the occurrence of an eclipse, either of the sun or moon, also, at the summer and winter solstices, their "utrayanam" and "datchanayanam" every caste hindu, whether brahman, chetria, vaisia or sudra, offers the "Tharpanam" or water sacrifice, in the names of his deceased father, grand-fathers, great grand fathers, and their wives, seeds of the oriental sesamum being mixed with the water. It is as a means of continuing this ceremony, that hindus long to have a son born to them as, in their creed, it is taught that the manes of ancestors are gratified by the "Tharpanam." At five months of age, the ceremony called "Choulam" occurs, and the lobes of the ears are pierced with a small thin gold ring. When six months old, "Anaprasanam" or giving rice for the first time, is a social and sacred rite, at which, as also at "Choula," relatives and friends are entertained. The first occurrence of the birth day is celebrated. The child is anointed and decorated with jewels; relatives and friends are entertained and in the evening the child is carried to a temple and presented to the deity of their sect. As the second anniversary draws near, or about that time, the boy's head is shaved on a propitious day, which affords another opportunity for feasting friends. When five years old, the father fixes on an auspicious day and entrusts his son to a teacher. The instructor writes the alphabet or rather engraves it with an iron style, sometimes set in silver or gold, on a leaf of the palmyra tree, which is then coloured with turmeric. The leaf is placed on unhusked rice spread over the floor, and the teacher, whatever the sect or caste of the pupil be, invokes the god "Vigneswara" to smooth the difficulties in the way of the child's studies. Then, holding the boy's fore-finger, he thrice traces with it the forms of the vowels in the rice, teaching the boy their sounds. The pedagogue is presented with a new cloth and some money, and dismissed, after which relatives and friends are entertained. On the seventh or ninth year, the "Upanayanam" is performed, on which occasion, the family priests; 'Upa-d'hay-ya Sanscrit, Upa-dhialu, Telugu causes the boy to offer a burnt offering "Homam" to the entire pantheon of gods, by pouring ghi 'clarified butter' over the fire. He then invests the youth with the zandiyam, the zonar or sacred cord, letting it fall from over the left shoulder to the right side. He subsequently teaches the Gayatri to the boy, if he be of the brahmanical order, as also the morning, noontide, and evening prayers, the due attention to which is considered sufficient to remove all sins committed during the day and night. The Gayatri or Gayatri mantrum of the brahminical or priestly order, is never pronounced aloud—and it is exceedingly rare that any brahman can be induced to divulge it. Its literal translation is "Om! earth, air, heaven, Om! Let us meditate on the supreme splendour of the divine sun; may he illuminate our minds." It is considered the most venerable text of the Vedas, and the common belief in and reverence for it, is the bond of union amongst the entire priestly order. With this ceremony, the boy is considered to be born again and he is of the Punar Janma or twice born. This is the spiritual birth of the hindu or his regeneration, for, until this time, the uninitiated youth though of the brahminical class, is only, so far as his right to perform religious ceremonies is concerned, regarded in the light of a sudra. If the youth who has now been initiated into the mysteries of the brahminical order, be set apart for the sacerdotal office of the priesthood, he is further marked on the muscular part of both arms, by being branded with the sanku or chank and the chakram or disc of Vishnu. This is called the "chakrankitam." From this time, however, he is ranked as a bramhachari, or of the order of bachelors, for he has now entered on his religious life, the whole of the days of a spiritual brahman being apportioned into four religious stages, viz; that of the Bramhacharyam or bachelor-hood; Grahastasramam or the married state: Vanaprastam, the living in solitude with his family; and Sannyasam or the abandonment of all worldly matters. A bachelor's dress differs from that of a married man in so far as he does not wear the dhoti, but only a wrapper round the lower part of the body: he is prohibited from eating betel, and continence is enjoined. Among other hindu castes, the bram'hachari ceremony, is performed at any time prior to the celebration of marriage, but their gayatri is from the Puranas, not the Vedas.

Marriage.—There is no time fixed for the marriage of sons. It is performed at any time from infancy, as the parents may please. But amongst the priestly and mercantile orders, the brahmans and vaisia, as also among the goldsmiths, girls must be married before they attain puberty. The

brahmans believe that they would be as if guilty of murder if they allowed a girl to grow up before being married. And in southern India they, as also the goldsmith tribe or race or caste, regard such an occurrence with so great horror that they consider it would be incumbent on them, if it happened, but which is invariably guarded against, for all the family to drown themselves. At length, the marriage time comes. Children have no voice in the matter of their marriage. When parents are desirous of having their sons married, they institute inquiries amongst their relatives or friends not of their own 'gotram' or tribe. They visit her parents in a propitious hour, and request their daughter in marriage for their son. The parents of the girl make inquiries as to the character of the boy, and, if satisfied, they promise their daughter for him. It is not customary for a girls' parents to go seeking for a husband for their daughter. When so far arranged, if the girls' parents be poor, they may perhaps stipulate that jewels and money shall be presented to their daughter, at the marriage time. But this practice which is a remnant of the ancient custom of purchasing a wife, is gradually dying out with all but the humbler people. Now a days, a rich hindu would disdain to receive money from the parents of their son-in-law, for giving their daughter to him, and many tribes, for India contains the descendants of numerous distinct races, repel with disdain any insinuation of their readiness to sell their daughters. Indeed son's-in-law do now, occasionally, receive some dower of money or property with their brides. But the former practice of disposal of their female children, is clearly marked in their marriage law, in which a girl who quits her father's house for her husband, in another family, ceases to be an heir of her own parents, though she acquires rights in the property of her new home.

When all the preliminary arrangements are settled, a day is fixed for the performance of the marriage: preparations are made by the father of the girl, who invites relatives and friends to be present on the occasion, the invitations being usually communicated verbally, but sometimes by letter. On the day preceding that of the marriage, by the "Snat'haka Varattam," the youth is relieved of his bachelor-hood, the ceremony on this occasion consisting in the Homa or fire sacrifice and giving of charity. On the marriage eve, the bridegroom accompanied by his parents, relatives and friends, goes in procession to the bride's house, and presents her with a new cloth of some value; with the jewels that may have been before agreed on; betel nut is handed to the guests, and friends and relations are entertained. The poor brahmans, too, are remembered on the occasion, the money gifts to whom are called Datchana. The wedding day at length arrives, but with emotions very different from those of the principal actors in ancient hindu times, for now-a-days, both bride and bridegroom are usually quite infants—and if not both so, the bride with most tribes certainly is. Tribes of sudras, however, and a fair intellectual literary race called Kait, who claim their origin from a deified mortal called Chatr-goputr, also many of the Pariar tribes, allow their girls to grow up and remain in their fathers' house without any feeling of shame being associated with the practice. And the Vedas teach us, that in their times, virtuous maidens remained unmarried in their fathers' house long after they had grown up. On the wedding-day, the bride and bride-groom, are anointed with oil, (the Abhiangana-s'nanam), are dressed in their best and decorated with jewels. The father of the bride has erected a temporary canopy in the court of his house, beneath which she is seated beside her groom, and the family priest commences the ceremony by causing them to make a burnt offering by the Homa sacrifice, of pouring ghee into the fire,—whilst the priest utters a mantram. At the same instant, by the Navagraha Aratanam, and Asht'ha dik palaka aratanam, a series of incantations, they bring Indra, Varuna, Agni, Yama, &c., from Sorgalogum and locate them in any casual article, in some part of the house.

When seated, the girl is formally given to the husband (Kania-danam) literally spinster giving: a priest blesses some water in a small vessel, and the father of the girl taking this and his daughter's right-hand places them together in the bridegroom's right-hand, saying I do this that my father, grandfathers, and great grand-fathers may attain (Sorga) heaven. The bridegroom then rising and standing before the bride, amidst the deafening din of tom-toms, ties round her neck the mangala sutram, a thread coloured with turmeric to which a golden jewel called Bottu or Tala is attached. Sandal wood paste, perfume, and flowers are presented to the guests, betel-nut is offered to all relatives and friends and money presents are made. The married couple receive 'Asir-vadam' benedictions and congratulations from the assembly, and as they prostrate themselves at their parents feet, their parents bless them.

The prostrations are also occasionally made at the feet of other near relatives who likewise bestow a blessing. Amongst the brahmans, the ceremonials of the marriage are continued for five successive days, and for three days, or one day, or seven days, with other castes. On the fifth or last day the gods who were brought from Sorga into the bride's home and have been daily worshipped there, are released. Four earthenware pots placed beneath the pandal or canopy are filled with rice highly coloured with turmeric and a Brahman sitting near, by motions from his hands, affects to feed the located gods (Navediam) and then release them. This is the Naka balli, or offering of victims, to the gods of Sorga-locum. And now the parents of the newly married couple, as also relatives and friends, interchange presents and make gifts to the young people. In the evening of that day, the bridegroom takes his wife home. This is done in procession, in which parents and relations join, and is treated as a religious ceremony called "Grahapravesam" or house entering, immediately after which the bride and bridegroom are seated in the middle of the floor, the father of the girl presents them with new clothes, and the relations and friends are feasted. After remaining three days in her husband's home, the girl is taken back to the house of her parents with whom she lives, making only occasional visits to her husband's residence, until puberty. On this event, her father sends word to her husband who presents gifts to the bearer of the happy tidings, fixes on an auspicious day to bring his wife home and intimates the date to his father-in-law. The latter prepares a cot or bed, candlestick, cooking utensils, chairs, boxes and other household fittings, also buys new clothes for his daughter, whom they convey to her husband's house for good, and an entertainment is given to all relatives and friends. Her parents remain in the house with their laughter and son-in-law, for two or three days, and before taking leave of them they give them some advice for their guidance.

Married life.—From this time, the young wife lives with her husband, in subservience to her mother-in-law, or sister-in-law, whichever be the head woman in her new home. As a young thing, she cannot have much to say; but her little ways and tiny talk are at an end, and it is even, on many occasions, considered highly indecorous for her to speak at all. She cannot speak to her husband in the presence of his father or mother or other people, and partly from shame-facedness, partly from fear of them, her husband rarely speaks to his wife in their presence. This intense reserve goes off greatly, as they grow older, but in no instance, perhaps, does the hindu wife ever attain to the same freedom of speech with her husband, as marks the intercourse with the young wife in a mahomedan family, where they are sometimes married equally young, and where their innocent prattle is the very life of the household. At home, however long she be a wife, a hindu woman never eats till her husband finishes his meal, she rises and stands in a respectful attitude if her husband or his parents or brothers enter the house, and at all times addresses them in a low tone of voice and speaks slowly. And so long as the husband's mother, or his sister is the head of the house, the husband communicates his wishes as to what he wants his wife to do, not to her directly, but through his mother or sister. Abroad from home, the hindu husband and wife may at all times be seen walking along the roads, but the wife never presumes to walk at the side of her partner. She is always a pace or so behind and a little at the side. If they be out on matters of business, the wife continues all along the road, to prompt her husband as to what he is to say, or do, but the instant that the place of business is reached, she falls off to a distance and never presumes to take any part in the discussion. In a poor family, the wife, as in all countries, has to perform the entire domestic duties of the household, but with richer people who keep servants, the wife's labours are restricted to superintendence, attention to her children, sewing and other female acquirements. They are in this social respect much in the position that Europe was a few hundred years ago. But there is this difference, that scarcely a hindu wife is able to read or write or even permitted to learn. Lately, in the presidency towns, a few female schools have been established by the better educated hindus, who are desirous that the next generation shall receive educated partners in their homes. But in all India, out of a population of nearly one hundred millions of hindus, there were not, perhaps, in 1860, three thousand girls, of the higher hindu castes, under tuition. The younger men are averse to the continuance of the intense restraint hitherto imposed on their homes and are breaking through it, but these are almost solitary exceptions to the vast mass. Brahman girls are forbidden to be educated at all, and those who urge education on them are opposed by the women themselves who will exclaim what! would you make us as dancing. girls! the educational efforts having only hitherto been

directed to such unfortunate sisters, from the fear, and it is shared with many men of the hindus and mahomedans, that education may tempt, by giving facilities, to vice. In this, they evidence a great ignorance of human nature, a more enlarged knowledge of which would convince them that only the training of the moral faculties can uproot vice which, where the evil desire prevails, no restrictions can restrain. The utmost that a brahman woman learns are the songs and hymns sung by women in their own houses, during marriages and other festivals. The hindu wife, bred from her childhood in the strictest seclusion; consigned at an early age to the care of a husband of whom she can have previously known little or nothing, and who is often as dependent upon others as herself—she leads a life of mysterious quietude, varied only by the rites of religion and the ordinary events of the family. Of the world around her she knows nothing. All her thoughts and feelings, joys and sorrows, desires and affections, are imprisoned within the little circle of her own household. Her mental faculties are either altogether undeveloped, or wasted upon toys, ornaments, idle tales, family gossip, or similar frivolities. Her moral powers too are overlaid by superstition and prejudice. Yet these ladies are the mothers of the rising generation who are acquiring a language and the literature of Europe and fondly imagining that its members are as capable of exercising the rights of self government and self control as those who have sprung from the free and independent women of the western world, whose mothers in the warlike ages, took part in the councils of their nations and accompanied their warriors to the field. Hindu wives are only allowed to speak to their nearest relations, fathers, brothers, &c. and are never trusted from home alone. Married women, when at the daily bath, smear their bodies with turmeric, and place on their foreheads the round mark with the red colouring matter from the turmeric? and like many other orientals paint their eye-lashes with lamp black. Married women also wear a boddice. Though the shastras permit the hindu widow to re-marry, custom which is more rigorous forbids it, and, once widows, they ever after remain single.

Death and future state.—When a hindu dies, there is the usual tokens of grief amongst relatives; but women, evince their emotion with great demonstrations and noise, proclaiming aloud the good qualities of the deceased as they beat their breasts and mouths. The death wail is heard far distant, and once heard is never forgotten. Relatives, and friends, on learning the melancholy tidings go to the house of mourning to condole with the bereaved family and the women join in the death wail, which rises loud above all the other sounds of the busy world around. As death is drawing near, however, the attendants after purifying the house with cow-dung, perform the Jiva Praias-chittam, by laving the dying man's body with water, placing in his mouth or causing him to drink a little milk, buttermilk, honey, treacle and plantains (panchakavia) and then releasing a cow. Such an ordeal few men in weak health could withstand, and it may not be doubted that it is never performed without hastening the fatal event, for the attendants force the five things into the dying man's mouth. After demise the corpse is washed and dressed. The family priest pronounces certain mantrams of purification over it, for every household has its own brahman teacher. It is borne on a bier to the burning ground, by four men, and followed by relatives and friends, both men and women. A large heap of firewood and dried cowdung cakes, has been already gathered together there, which are stacked up over the remains and the son sets the pile on fire. It is their belief that as death parts the soul from the body, the god of Justice, Yama, sends two angels with an invisible form to receive into it the flitting spirit and convey it to Yama-locum, his hall of justice, to be tried there and awarded its sentence of future punishment or reward. The secretary, Chitrogupta, records the decree, and the disembodied spirit takes up its abode in Sorga, or in Narika, or re-visits earth to be re-born and afforded another opportunity of gaining release from mortality. The day following the demise and incremation, they re-visit the spot. They pour milk or water, or milk and water over the ashes and make an offering of rice, to the Preta, the departed soul. On the second, third or fifth day, the son selects any small black stone or three blackstones which he places against a pipal tree, Ficus religiosa, on the bank of a pond or tank. This represents the deceased, or rather his Preta is supposed to be located in the stone and where three stones are used, those also of his grandfather or great grandfather, and each day the son offers to the stone or stones a water sacrifice to quench the thirst of the departed. He also cooks rice there, and offers it to a crow to satisfy the hunger of the deceased; he continues this every morning till the tenth day; because it is the hindu belief that the soul of the departed hovers about the house for ten or twelve days, and then takes up that future habitation which, according to their view of the

transmigration of souls, may be its lot. On the tenth day, the stone is thrown into the water. The object of all this, is their belief that the shade of the departed is occupying five separate beings and places, one descends upon his son, a second rests on the place of incremation, a third in the house he has left, a fourth in the stones that are raised to represent him, and the fifth in the crow to which the food is thrown. And if the crow refuse the food, the beholders deem it an augury of the ill life of the departed, or that some object of his life remained incomplete. If the deceased was a married man, the "Mangala sutram" or sacred thread, which was tied round the neck of his bride on the wedding day, is now broken by other widows of the family. She ceases to wear a boddice, or jewels, or flowers in her hair. She discontinues the use of turmeric when at the bath, the red mark is no longer placed on her forehead and in many cases the long black tresses are removed, for some classes of brahman women have their head shaved. From this time their lives are one continued scene of misery. Restricted to the meanest of the household avocations, they are treated by their nearest relatives with contumely and neglect. Their very loneliness and bereavement, instead of being occasion for sympathy and endearment, only calls forth harsh, often brutal, treatment. Their very condition is a term of abuse, and denied it on earth many a hindu widow seeks peace in the grave, for there the wicked cease from troubling and there the weary be at rest. On the eleventh day, among brahmans, the son of the deceased selects two or three relatives or several brahmans to be in the place, or representatives, of his parent. They are anointed with the oil of the oriental sesamum. The son presents them with flowers, the sandal perfume and new cloths, and then entertains them. Until they finish their meal, no member of the household is allowed to partake of food. So soon as they rise, however, a morsel of rice is thrown to the crows and the representatives of the deceased are dismissed with betel-nut, new cloths, and presents of money, according to the sons means. All other relations present are then entertained. For one year, from this time this becomes a monthly ceremonial on the day of the deceased's demise. On the first anniversary of deceased persons "Samvatsarikam," a hindu, however poor, must, with much display, perform the ceremonies which are then required. This necessity is a great tax to all of them, but where several deaths have occurred in a family, it is an

intolerable burthen, for the rules of their faith compel their performance, and if a person have not money of his own with which to perform this, he must beg for it or borrow it for the purpose. The importance to the deceased of the performance of this anniversary rite, is considered very great, and it is this which occasions the great desire to have a son. If the family be what in law is called a united hindu family, the ceremonial is conducted by the eldest son, but where they have separated, each son must perform it separately. For those who have no sons, the widow can perform it, and the widower husband can do the same for his wife. On the future anniversaries the Sradha only is performed.

Village deities.—Amongst the hindu gods, of which the various Vedas and the more recent Puranas make no mention, are the village deities. Every hamlet has its own object of adoration, always supposed to be a goddess and the idol is generally a black stone or piece of wood. Amongst names given to it are

Ai-Ankal-Amma.	Yellamma.
Poni-Amma or gold mother.	Padavettu Amma.
Kani-amma.	Tulukan Amma.
Yegatal.	Muttumari.
Mutialamma or Pearl mother.	Potearamma.
Tripura-sundari or the beautiful of three cities :—	Karikatta.
Paleri Amma or Periya-amma or great goddess.	Tanthoniamma.
Osuramma.	Dandumari.
Sellamma.	Mallamma.
	Chinnamma.
	Ammannamma.
	Choundeswari.
	Vadivatta.
	Nagattamma.

They are also called Amman, (*masc.*) and Amma (*fem.*) is generally supposed to mean mother, but, the Ammun may also be the western word for the sun. The villagers believe that these goddesses protect them from sickness and losses, and that their worship averts or remedies such. A pujali or pujari, a worshipping priest, of the sudra caste, is appointed for her daily worship. He anoints her daily and puts ashes on her head, really on the top of the stone, for it is not an image being entirely without shape, a mere stone from the neighbouring brook or river. In a small pot, he cooks rice, which he collects from the villagers in turn, presents it to the idol and then takes it to his own home. He breaks a cocoanut in front of the idol, to which he offers it. But the one-half he keeps for himself and gives the other to the families from whom he collected the fruit. The villagers make vows to their goddess to offer up to her fowls and sheep in sacrifice, if she will fulfill their desires. Once a year, the villagers collect money by subscription

and celebrate a feast in honor of their goddess during which sheep and fowls are largely sacrificed. The sudra hindus and the entire servile tribes in the south of India, have the fullest faith in their respective village goddesses. When they or their children are overtaken by sickness, they seek the idol, and consult the pujari, who sings songs, affects to hear the Amman's voice, and then announces to the worshipper the offering that must be presented. If cholera break out it is not unusual for some neighbouring village deity suddenly to rise into great importance and the sacrificial rite is then almost unceasingly performed. The hindus too have even personified this pestilence into a goddess whom they have named Maha Kali, and believe that if they neglect her worship she destroys them by the disease. Indeed gods are still in process of establishment and small pox and cholera, have thus been personified, Maha-Kali of Ujjain being the goddess of cholera and Mari-Amman of the Tamils is a small pox deity. When a person is attacked with small pox, they believe that the goddess has taken possession of the sick man. They entertain a great dread of this goddess. While in the house, the sexes remain apart until recovery and until the sick has been purified by ablution. They place the leaves of the margosa tree besides the sick person, because the goddess is supposed to delight in this tree. They give cooling food but employ neither internal nor external remedies, in reverence for the deity. The women of the household, offer rice flour mixed with jagri or coarse sugar and black gram (pairu, Tam. pesalu, Tel.) before the patient in honor of the goddess, and afterwards distribute offerings to sudras and others. On the seventh day, *i. e.* what medical men call the 15th day, the invalid is bathed in cold water, and the whole body rubbed with a pasty mixture of leaves of the margosa (melia azadirachta) mixed with turmeric, and on the same day rice mixed with curds are distributed to sudras. If in the virulence of the disease an eye be lost, it is attributed to something having been done, displeasing to the goddess. The goddess indeed is supposed to appear in three forms as Tatta ammavaru or Chinnamavaru, i. e. small goddess or measles. Peddamavaru or great goddess or small pox, and Pairammavaru or goddess of green gram, the two first of which are most feared.

The cow.—Hindus regard the cow as sacred. Every morning, the hindu wife or maid servant spreads the floor with cowdung mixed with water, partly as a holy duty, partly for cleanliness. She sprinkles the urine of the cow over her head, and sprinkles it about the house in purification, when anything has occurred to make it, in their religion, unclean. Every morning on rising from bed, every hindu is enjoined to cast a glance on the objects mentioned in the following

Slokam.

కపిలాందపవణంభానుం, భాగ్యవంతంచభూపతిం,
ఆచార్యమన్నదాతారం, ప్రాతఃపశ్యేత్పతివ్రతాం.

A (kapalam brindled) cow, a mirror, the sun, a rich man, a king, a priest, a giver of rice (in charity) and a chaste woman. It is not, however, the cow's face, but its tail, on which they cast their look, there being no merit in its face. Their faith regards the protecting of the cow as a highly meritorious duty. When a hindu is dying, his relations give a cow to a brahmin, and repeat the gift on the eleventh day after the demise. When a brahmin is married, the father of the bride always gives a cow, "Surabhi," to his son-in-law, along with other presents. Every Friday, the hindu wife washes her cow. She smears its face with turmeric and ornaments the animals forehead with a round mark from the red powder prepared from lime and turmeric. Some hindus call the cow Kama Denava, or Kama-dhenu, the servant of Indra; other hindus believe that the cow is Lakshmi, the goddess of prosperity whom they thus propitiate by their worship. If they see any one beat a cow they will beseech him to desist. Those who do not possess a cow, will buy some grass and give it to that of their neighbour, and regard this as meritorious. Amongst the five deadly sins, is that of killing a cow, the other four are killing a brahman, a pregnant woman, a child, and killing one's mother.

The bull is the vahan or vehicle of Siva and called nandi. In all temples of this god, may be seen the image of this animal made of black stone kneeling before the lingam and yoni, the symbols of Siva and Parvati. And, in pictures, Siva is invariably represented riding on his vahan or vehicle, a bull. A bull, both in the Saiva and Vaishnava temples, carries the kettle drums which are sounded for worship, three times daily. When a cow or bull falls sick, hindus will vow that if the animal recover, it shall be left in the temple; and every Friday, the brahmins employed in the services of the temple when they lave Siva's symbol and the nandi with milk, in the ceremony called Palu Abhishekam, the devoted bullocks are likewise thus washed.

Clerical and lay hindus and forms of worship.—The hindus are classed as Vaidikam and Laokalam or Lao-kikam, clergy and laity. It is a common notion that the brahmins, of India are the priests of the hindus, but this is not correct. Even brahmins, though of the priestly or sacred order, are not all priests, the vast bulk of this class being employed in lay pursuits, as soldiers, merchants, lawyers, clerks, perhaps in every avocation of daily life except such as involve manual labour which in the south of India, is not known though they are agriculturists in northern India. Various sects of hindus have priests of the sudra caste, and the many Pariah races employ members of their particular tribe or race. Speaking in a general way it may be stated that where the people of India are followers of the Puranas and Vedas, their priests are invariably brahmins, but the extensive Lingait sect and the Jain, and all the sects or tribes who worship the village deities, or adhere to spirit or devil worship, select priests from their own classes. Also the komsallar, or artificer tribes of sudras, all of whom wear the sacred cord, though paying respect to brahmins, select an ascetic member of their own caste as their priest. They have also their family priest from their own circle. Indeed they claim for themselves a superiority to the entire brahminical order, asserting their origin to be higher, and no one of the komsallar would accept of water from a brahmin. But, in the usual discrepant character of the people although the komsalar claim that their caste is superior to that of the brahmins and though they have got the brahminical vedas yet their manner of conversing and dressing their women's clothes and ornaments resembles that of non-brahminical castes. There also exists a vast difference in their religious matters; and, in paying respect to brahmins they say and use the "Dandam" and not, as from an inferior to a superior the Namaskarum, as one brahmin will to another. Amongst the saiva sect who have brahmin priests, he is styled sankara chari, and is invariably a sanyasi or ascetic. He resides in a matham or monastery along with other brahmins to whom he imparts religious instruction or preaches. He is greatly reverenced by his disciples, who regard him as almost equal to a god. The monastery is supported by the disciples' gifts. The members of the monastery are charitable to all the poor, and erect temples out of surplus receipts. But the head of the establishment, the Mat'ha di-padi, when he travels to superintend his followers, does so with vast pomp and display, in a litter of a peculiar form, often richly ornamented, and accompanied by a great concourse of people, with elephants, horses and conveyances for his property. Like all sanyasi and brahmins engaged in religious duties the members of the Matham bathe thrice daily. Twice daily, the chief worships the salagrama, a fossil ammonite from the Gogra, or a gold, silver, or copper idol of Kristna or Siva. After washing the idol with water he decorates it with the sectarian mark and worships it with offerings of flowers and tulsi leaves, he drinks a little of the water used in the worship and the rest is carefully preserved in a silver cup along with tulsi leaves, and given from a small spoon, "Voodbarni," into the hands of disciples who greatly esteem the gift as cleansing from all sin. The head priest only eats once a day, and before taking his meal, he invariably presents it to the deity. Disciples when they approach the head priest, prostrate themselves before him.

Superstitions.—The hindus believe in omens, good and bad, and look for them, as encouragements or warnings, on most occasions, such as in journeying from one place to another or when a marriage is on the tapis. It is considered a favourable omen, if when proceeding on business, a crow fly from left to right; or the traveller meet two brahmans; or a married woman; or a sudra with a stick in his hand; or a jackall be seen. If these good omens occur they believe that they will certainly succeed in the object of their journey. It is a bad omen to meet a single brahman; or a widow; or if a crow fly from right to left: or a cat cross their path. On seeing any of these evil omens, almost every hindu will postpone his journey, however emergent; though in this latter case he may return home for a little and start again. It is a good omen if when a marriage is under discussion, the toll of a bell be heard or the neigh of a horse. But a person sneezing, or the sudden extinguishing of a light, are bad omens.

Ceremonials of worship.—A brahman who attends to his religious duties, bathes before sun rise in cold water and performs a water sacrifice or libation from his hand: for instance he says—

అపవిత్రః పవిత్రోవా సర్వావస్థాం గతోపివా
యస్మరే త్పుండరీకాక్షం సబాహ్య భ్యంతర శ్శుచిః.

Apavitr'ha p'vitrova sărwāwastham g'topiya yesmăret'h Pund'rikach'm săbāhia bhi'ent'r'aha shuchihi.

i. e. He who meditates on Pundri kachă (he with the lotos-eye) though a very great sinner, will be forgiven.

ఆపోహిస్తా మఇొంభువః స్నాన మూర్జే దధాతన మహేరణాయ చక్షసే యొవ శివతమో రసః తస్యభాజయతే హనః ఉశతీరివ మాతరః తస్మా దరంగ మామవో యస్యక్షయాయ జిన్వథ ఆపోజన యథా చనః.

Apohista maio bhuvaha snana urjé d'd'hatana m'herănaya ch'chăsé yova sivătămo rasha, tasia b'hājaitè hănăhā ushtiriva matīrrăhā tăsma ărăngă mamavo yesia chayaiya jinvd'ha apojinna yed'ha jănăha.

If he sprinkle over his head, water which is pure and holy, he will be purified and strengthened.

సూర్యశ్చ మామన్యశ్చ మన్యుపతయశ్చ మన్యకృతేభ్యః పాపేభ్యో రక్షంతాం యద్రాత్రి యాత్ పాపమకారుషం మనసా వాచా హస్తాభ్యాం పద్భ్యా ముదరేణ శిశ్నా రాత్రి స్తదవలుంపతు యత్కించి దురితం మయి యిదమహం మామ మృత యొనౌ సూర్యే జ్యోతిషి జుహొమి స్వాహా.

Suriashtcha mămănaistcha manyu-pătĕestcha manyu krutebiāhā papebhio răkchăntām yedratriath papamakarushăm manasa, vacha, —hăsta b'hiām, pādb'hiam udaréna, sisht'na, ratri, stădāva lumpatu' yetkinc'hi duritam, mai idamaham mām amruta yonou surie joitishi j'homi swaha.

All sins committed during the night by word, deed, mind, mouth, hands, feet, belly, organs, or in anger, will be forgiven by Surié jotishi (the light of the sun.)

The next part of the ritual is the ceremony called అర్ఘ్యం Arg'hiam which is performed to free thesun from the Ragshisa who is striving to hinder its appearance. This consists in offering, four times, a water sacrifice or libation, by taking water in the hands and throwing it on the ground, as he four times pronounces the Vedic gaitri :

ఓం భూర్భువ స్సువ్యం ఓం తత్స వితు ర్వరేణ్యం భర్గో దేవస్య ధీమహి ధీయొ యొనః ప్రచొ దయాత్.

O'm! Bhurbhuvă ssuvahā, O'm! Tatsa vit'hru varennyăm. B'hargo dévāsyă dhimahi dhiyo yonaha pracho dăyāth.

O'm! Earth, air, heaven. O'm! let us meditate on the supreme splendour of the divine sun. May he illuminate our minds.

After this he prays at length or briefly, at will, but it is in the form of a commenting or expounding of the above gaitri, something in this wise,

ఓం ఇత్యేక మక్షరం బ్రంహ్మ అగ్ని ర్దేవతా బ్రంహ్మ ఇత్యార్షమం గాయత్రీం ఛందం పరమాత్మం స్వరూపం సాయుజ్యం వినియొగం ఓం ఆయాతు వరదా దేవి అక్షరం బంహ్మ సంమితం గాయత్రీం ఛందసాం మాతెదం బ్రంహ్మ జుష స్వహొ యిదహ్మా త్కురుతే పాపం తదహ్మా త్ప్రతి ముచ్యతెయద్రాత్రియాత్కురుతే పాపం తద్రాత్రియా త్ప్రతి ముచ్యతె సర్వ వర్నె మహా దేవి సంధ్యా విద్యే సరస్వతీ ఓజొసి సహొసి బలమసి భ్రాజొసి దేవానాం ధామ నామాసి విశ్వ మసి విశ్వా యుః సర్వమసి సర్వాయుః అభిభూరొం గాయత్రీ మావాహయామి సావిత్రీ మావాహయామి సరస్వతీ మావాహయామి ఛందరుషీ మావాహయామి త్రియ మావాహయామి బల మావాహయామి గాయత్రి యాగాయత్రి ఛందొ విశ్వామిత్ర రుషిః సవితా దేవతా అగ్ని ర్ముఖం బ్రంహ్మ శిరః విష్ణుః హృదయం రుద్ర శిఖః పృథివ్యొనిః ప్రాణాపాన వ్యానొదాన సమానా స్సప్రాణ శ్వేతవర్ణ సాం

O'm! Iti ekāchărăm Bramha, Agnir devata, Brahma itiarshăm gaitrim Chandam, Paramat'mam, sarupăm, sayujiăm viniogăm, O'm! Aiatu Varada devi, at'charam, Bramha samit'tăm, Gaitrim, Chandásam, matédăm Brahma, jusăs swamé, yedanhath kuruté papam, t'danhath, Prati muchété, yedratriat'h, kurute, papam, tad-ratriath, prati muchiaté, sarva varne, maha devi, sandhia vidié, Saraswati, O josi, săhosi, balamăsi, brajosi, devānām, d'hama nāmāsi, viswa masi, visiaw yuhū, sarvamasi sarvayuhu, abibhurom, gaitrim, avaha yami, savitrim, avaha yami Saraswatim, avahayami Chanda Rushim. Avaha yami, Shriam Avaha yami, ballam avaha yami; Gaitria, Gaitri Chaudo, Viswamitra Rushi hi, Savita devata, Agnihi mukkam; Brahma siraha; Vish't nuhu hrudaium; Rudraha sikaha. Prud'hivi yonihi; prana, pana, vianodana, samana, saprana; swetavarna sainkhiana sagotra, gaitri, chaturvigumshetti, atchara tripada, shătgutshihi pancha shirashe'pan iané viniogaha.

భ్యాయన గగోత్రా గాయత్రి చతుష్పిగుం శత్య మురాత్రి చదా చట్టుఁడు పంచ శీర్షా చనయ నే వని దెూగ్గ.

O'm! is Brahma: its god is Agni. Bramha is Rishi. Gaetri is Chanda: the form is Arsham (the true being): its province is to join Para Brahmam (Supreme being) and it is the giver of everything asked. As the Gayatri is the purest of all Chăndas, I beg to be shown the form of Para Brahmam and to be forgiven the sins committed by day and night. I beg that the Gayatri, the form of Para Brahmam, Saraswati, Mukti, Locum (the world,) kălăm (ages of the world), all created things of the world, and their lives, may pervade my heart. He then meditates on the Gaitri, Savitri, (the sun), Saraswati, Chandrushi, &c. As for Gaitri, Gaitri is Chanda, Viswa-mitra, Rishi. Suria (the sun) is god; Agni is face; Brahma is head; Vishnu is heart; Rudra is hair; Prit'hivi is the yoni; Pancha-pranalu (form of five lives) prana, pana, viana, udana, samana, S'weta-varna (white colour) Sankhayanasa, Gotra (tribe); and twenty-four letters, three feet,—six bellies, five heads, as such I pray and believe. The worshipper here repeats the Gaitri, ten times over and over, for it is regarded as the holiest verse of the Vedas. And he again meditates on its beauty and sanctity. He says, Gaitri is splendour; is like pearls, corals, sapphire, gold, &c. It wears a crown studded with moon and precious stones, and he invokes Tatwam (Chastity,) Vara pradai (bestower of gifts), and he who possesses the Sanka, Chakra, Gada, &c., (Vishnu).

మిత్రస్య చర్షణే ధృతఁ శ్రవో దేవస్య సానసిం సత్యం చిత్రశ్ర వస్రమం మిత్రోజనాన్ యాతి ప్రజానన్ను మిత్రోధాధారా పృథివీ ముత ద్యాం మిత్రేఁ కృష్టి రనిమిషా భిజాస్పె సత్యాయ హవ్యం ఘృతవ ద్విధేమ ప్రస మిత్ర మర్తోఁ అ స్తు ప్రయస్వాన్ నస్త ఆదిత్య శిక్షత్రివ తేన నహ నస్యతే నజీయ్యతే తోత్తో నయన మంగంబెూ శ్నో త్యంతితో నమూరాత్ ఓం నమఃప్రాచ్యై దిశే మొదలయిన మంత్రములు.

Mitrăsĭa chershané d'hrutăha s'rāvo dévăsĭa s'ianasim sat'iăm chitras'ra was'ramăm mitroj'năn yatăiti prajānānū mitrodhad'hāra peudivi mutadĭam mitrăhă kristĭhi animisha bijast'he sat'iaya hav'iam, ghrutavā d'vid'hema prasa mitra mărtĭo āstu paia 'swan niasta aditia titchativra ténanahaniaté năjiaté toto nayana m'gumao ashno tientito madurat'h O'm nămăhă prachai d'sé.

In this he prays or offers supplications to Suria (the sun), and to the cardinal points prachi-desa, dachina, pradichi and udichi and their deities Agni, Yama, Nairuti and Eshania, and prostrates himself in adoration. He begs that the Rishis who dwell between the Ganga and Jamna may always be with him, and again prostrates himself to them, and also to Sundeya, Gaitri, Savatri, Saraswati, and all the gods; also to the Rishis, Munis, Gurus, and Pithrus. He prostrates himself to Prit'hivi, (earth) Apana (water) Tej'ha, light) Vayu (air) and Akasam the god who possesses the form of the five elements and begs Sandeya who is adored by all creatures, all created things and prapancham (the world) to protect him. If a Saiva he also thus meditates: Siva is Vishnu and Vishnu is Siva; and Vishnu's heart is Siva's heart, and Siva's heart is Vishnu's:—If a Vaishnava, he prostrates to Govinda and to Kristna, as the protector of the world, and implores that as the water from the sky is gathered on earth and flows to the sea so to let his prayers be gathered by all the gods and offered to Kesava (a name of Vishnu). He then pronounces the name of J'năr dhana, (the protector of mankind) and prays that all virtue and blessings may attend those that go to all the sacred rivers and read all the sacred books. He then prostrates himself (to Vasu deva if a Saiva) or to Vishnu (if a Vaishnava) to Sarvantariami, god, who pervades all creatures, and prays him to bless all the brahmins and cows within the four seas, mentioning his own name, his Got'hram or tribe, Rishis. At the close, he offers to Narayana, his deeds by body, mouth, heart and senses.

This concludes the morning prayer. At noon, the same is repeated, and he prays to Suria (the sun) in words to the following effect.

ఆ సత్యేన రజసా వర్తమానో నివేశయన్ అమృతం మర్త్యంచ హిరణ్యయేన సవితారథేన ఆదే వోయాతి భువనా విపశ్యన్ మొదలయిన మంత్రములు.

Asătiénah rājīsa vartămano niveshiennu am'rutăm martiencha Hiranaiéna, sawitaradhéna adé, vo-yati bhuvana vipāshiennu.

In the evening, the same prayers recur, and he implores Varuna (the god of the West,) in sacred words commencing

అగ్నిశ్చ మామన్యశ్చ మన్యుపతయశ్చ మన్యు కృతేభ్యః పాపేభ్యో రక్షంతాం యదహ్నాత్ మొద లయినవి. యిమంమే వరుణ శ్రుధి హవ మద్యా చ మృడయ త్వావ మస్యురాచకె మొదలయిన మంత్రములు.

Agnistchia, Mamaniastcha, Manniupātāyāstch, Manniukrutébhiyāha papébhi'yo, rakchântám Yadann'hat. Imámmé Varuna s'ruti hávám adiaétha murudaya twama vas'yurachaké.

Legal rights of husband and wife.—After this general view of their social customs, their legal rights in marriage may now be described. A girl is accounted by law marriageable at the age of eight. Girls are however given in marriage at the age of two, and upwards, till they attain their maturity. A brahmin girl attaining maturity without having contracted marriage forfeits her caste. The girl when married remains with her own family until she reach maturity, when her husband can claim her and remove her to his house. The right of choosing a husband for the girl rests first with her father. Should he have demised, it devolves in succession upon her paternal grand-father, brother, paternal uncle, male paternal cousins, and lastly upon her mother. If these relatives should have neglected the duty of choosing a husband for the girl up to three years after she may have attained the age of eight, she is at liberty to choose for herself. The three superior classes, namely the brahman, or the sacerdotal order, the Kshatrya, or the military tribe, and the Vaisya, or the mercantile body, may not contract marriage until they have completed the stage of studentship (Menu iii. 4. , the opening of which period is marked by performance of the upianayanam, or investiture with the sacred thread, and the close by a ceremony termed Samavusthana. For the sudras, or the servile class, who have no stage of studentship, there is no limitation as to the time for marriage. There are eight species of marriage viz: Brahma, Daiva, Arsha, and Prajapatya which are appropriate for brahmans, and are based upon disinterested motives; the Gandharva and Rashasa, which are appropriate for Kshatryas, and are founded the former on reciprocal desire, and the latter on conquest; the Asura, which is practised by Vaisya and Sudras, wherein the consent of the party giving away the girl is obtained by a pecuniary consideration; and the Paishacha

where the marriage may have been effected through fraud practised upon the girl, and which is reprobated for all classes. Though each class has its characteristic description of marriage there is nothing to bind them to the rites appropriate to them. A brahman for example may contract an Asura marriage and a Sudra a Brahma one. The Brahma and Asura are the most usual species of marriage. The former is an approved one, and the latter, as a sordid proceeding, is disapproved (I. 42, 43; *Macnaughten Junr. I.* 60.) The binding circumstances essential to the completion of a marriage are gift and acceptance of the girl, and the ceremony termed Saptapathi, or the seven steps. This is performed by the bridegroom placing the bride's foot successively on seven lines drawn on rice in a platter. From this observance has followed the practice of any two persons pledging mutual friendship by taking seven steps together, so that the term Saptapathinam has come to be synonymous with friendship. The ceremonial in question accomplishes the marriage. The other ceremonies observed, including sacrifice by fire Homam, are of minor significance. The tying the tali, or nuptial token, by the bridegroom round the neck of the bride, is a practice sanctioned by usage, but not prescribed in the Sastras. The above matrimonial contract in itself fixes the condition of the parties as married, irrespective of the consummation of the marriage when the female, on reaching maturity, is taken home by the husband. It brings the girl, should her husband die, to the state of widowhood, with its attendant consequence, and gives her right of inheritance in her husband's family. When either party incurs forfeiture of caste, intercourse between them ceases; and should the loss of caste be on the side of the female, and she be sonless she is accounted as dead and funeral rites are performed for her (Smruti chandrika, on text of Vasista and Yajna vulkia.) If she have a son, he is bound to maintain her, and in this way, under such circumstances, her existence is recognized notwithstanding her loss of caste. Infidelity in the female, save in certain of the lowest classes, occasions forfeiture of caste and puts an end to the marriage (Smruti chandrika.) The husband however is not entitled to damages from the adulterer, the Hindu law not providing for discretionary damages upon any account. Impotence in the man and confirmed barreness in the woman, as also loathesome or incurable disease in either, justify separation (I. 47), but will not sever the marriage.—(*Strange's Hindu Law.*)

Trees and Plants sacred to the hindoos.

Crataeva religiosa,	
,, nurvala,	Siva.
Jonesia asoca.	,,
Cæsalpinia pulcherrima,	,,
Jasminum undulatum,	,, & Vishnu.
Guettardia speciosa.	,, ,,
Calophyllum inophyllum	,, ,,
Oroganum marjorana	,, ,,
Ixora bandhuca	,, ,,
Artemisia austriaca	,, ,,
Nerium odorum	,, ,,
Chrysanthemum indicum	,, ,,

Ancient India.—Many cairns, or heaps of stones or tumuli, piled over the resting place of the dead, are found in different parts of Southern India, and have been described by Major Congreve and others. Prior to the buddhist Stupas or Topes, this seems to have been a common mode of covering the dead; indeed, as Colonel Cunningham remarks, the Tope is only a cairn regularly built. On the Neilgherry hills are found remains of cairns, burrows, cromlechs, kistvaens, and circles of upright loose stones which are nearly identical with those found in Europe, in the ancient seat of the Celts; and cairns are also found in many other parts of the peninsula, and whatever mystery may hang over those remains and over the race of which they are the only surviving relics, there seems no reason for hesitating to style them, in a general sense, Druidical. In these cairns or burrows, vases, cinerary urns, and other vessels of glazed pottery are often found, which sometimes contain human bones, more or less charred, and mixed with ashes, sometimes a little animal charcoal alone. They are met with in various districts in the Presidency of Bombay, in Malabar, in almost every part of the Dekkan and peninsular India, from Nagpore to Madura, in immense numbers on the Anamalay Hills, a range on the south side of the great Coimbatore gap, which forms the commencement and northern face of the Southern Ghats, those on the Anamalay being of a more advanced order and in a better condition than the Neilgherry burrows. Similar remains are found in Circassia and Russia, and circles of stones surrounding ancient graves are found on the Southern Arabian Coast and in the Somali country in Africa. Major Congreve directed much attention to those on the Neilgherry Hills, and Captain Meadows Taylor discovered and examined a large number of these remains at Rajan Kooloor, in Sorapoor and also at Siwarji, near Ferozabad, on the Bhima, and devoted much attention to the comparison of them with similar remains found in England. He calls them Scytho-Celtic or Scytho-Druidical. Neither the Hill people, the Toda and Curubar, nor any Hindus know anything about the race to which these Druidical remains belonged, and neither in Sanscrit literature, nor in that of the Dravidian languages is there any tradition on the subject. The Tamil people generally call these cairns pandu-kuri; meaning old-pit. The race who raised these cairns were probably dwellers in the country prior to the advent of the present Dravidian occupants, and were expelled by or ultimately became absorbed in the latter, or they may have been a race of nomade Scytho-Druidical shepherds, who wandered into India after it was peopled and settled, about the beginning of the christian era, and then wandered out again or became absorbed amongst the people of the country. But the remarkable fact connected with the people, whose religious rites and usages of sepulture gave rise to these cairns, is that they have every where disappeared from peninsular India, and not even a tradition of their existence survives, though the Gond races in the Vindhya use great stones over the graves and the Khassya in the North East erect minhars. The resemblance of the burrows and their contents with the cromlechs, &c. to the Druidical remains which are discovered in the ancient seats of the Celtic race in Europe is too exact and remarkable to be accounted for on any other supposition than that of their derivation from the same origin. Hence the people who introduced Druidical rites into India, must have brought them with them from Central Asia and they must have entered India at a period as early as the introduction of Druidical rites into Europe. (*Dr. Caldwell's Grammar*) In India, the topes or tumuli of Kraku-chanda, Kanaka and Kasyapa, existed before the preaching of Sakya; and the ancient elemental deities of the Vedas preceded the worship of Dharma or concrete Nature.

Sectarian marks.—Amongst the peculiarities which first attract the eye of a stranger on seeing these religionists, are the red and white marks on their foreheads. Their prominence is often so glaring as to be unseemly. When the theistical Sikh religionists hastened from the Punjab, in 1857 and 1858, to aid in quelling the mutiny and rebellion in India, in their wild enthusiasm they named all the hindus contemptuously 'Matha Din,' literally, carrying their faiths on their foreheads, and a more expressive term could not per-

haps have been coined; for all that ordinary hindus know of their religion are the differences in these sectarian marks, which indicate differences of religious sects not of castes.

The sectaries have a superstitious regard for such distinctions. It is held necessary, where convenient or no especial objection or difficulty exist, for these marks to be daily renewed. A brahman cannot perform any of his daily sacrifices, &c., without the completion or contemplation of this distinction; and it is irreverent in one of an inferior tribe to approach a holy man or to ask his blessing, or to partake in the benefit of any religious rite, without, or in view to, this sectarial decoration. The Saiva, called Siva-bakht, worshippers of Siva; and the vaishnava otherwise Vishnu-bakht, worshippers of Vishnu, are to be known, the former by the horizontal position of their forehead lines, and the latter, by their perpendicularity. One perpendicular mark, centrally between the eyes, is generally referable to one of Vishnu's sectaries: it is not common. Two upright paralled lines, with a black or open circlet between or under them are the commonest distinction of vaishnavas, whether seen on pictures of Vishnu himself, or on Rama and Krishna, or others of his avatars. Bartolomeo p. 404, says, that "the smearings or paintings on the breast and forehead, with yellow, red, or white earth; the lateral strokes, white, or yellow; the middle, always red, represents, the 'medhra,' or womb, of Bhavani, from which every thing existing was produced; and is much used by the Shivanites and Vishnuvites: he calls the hieroglyphic Triumanna, the holy earth. Also another mark as Shula, and Trishula, is the trident held by Siva, as a symbol of his power over heaven, the earth, and hell. The Shivanites, he says, paint them with white earth on their forehead and breast; and some call it Tirnama, that is, the most sacred name of god." A circle, with one line raised on it, is often seen. The circle or dot, alone, is often seen both in men and women of both grand divisions, or sects. Major Moor's Pandit called the dot purma, a point, typical of the deity, having neither length nor breadth, self-existing, containing nothing: the circle, he said, similarly, was Brahm—without beginning or end, unity, perfection. In general, perpendicular lines appertain to vaishnava sects, and horizontal lines, appertain to saiva sects, Siva, Parvati, their offspring or adherents. Mr. Colebrooke says, that the Saiva and Sacta draw on their foreheads three horizontal lines, with ashes, obtained, if possible, from the earth on which a consecrated fire has been maintained; adding a red circlet, which the Saiva mark with red sanders wood, the Sacta sect when they avow themselves, with saffron, or with turmeric and borax. The Saura also are distinguished, he says, by the horizontal triple line, made, as well as the circlet, of red sanders; while the Ganapatya, or adorers of Ganesa, use red minium for the circlet: Mr. Colebrooke does not notice what lines the latter delineate on their foreheads, but these being a Saiva sect, the lines are horizontal and of white ashes. They likewise use three lines, open and closed at the ends, with and without dots; or the dots over, under, and central: the lines of equal and unequal lengths; the dots or circlets of different hues; and the central marks of different shapes and positions. The brahminical Buddha is sometimes marked. In one avatar, where he is seated in the usual position in a temple, he has a mark in white, tinged with yellow: he is represented as a very fair handsome youth, two handed, decked with a gay coronet, earrings, garlands, &c., &c., and with an appearance of hair: two long-haired fair attendants fan him; and two cows are near his temple. In another, he is four-handed, without any mark: in a third, he is four-armed, with the mark of red lines and the dot black. Major Mackenzie says, that "the Jain mark their foreheads with sandal powder; and some have a small circlet of red powder in the centre of the sandal mark:" but the sort of mark is not hence discoverable.

Sacrifices.—Various sacrifices are familiar to many hindu sects. Gavu, *Tel.* Bali, *Tam.* Fida, *Ar. Pers. Hind* Kurban, *Arab. Pers. Hind.* Sadqa, *Arab. Pers. Hind.* Magha, *Sansc.* Tamasapooja, *Tel.* bloody sacrifice. Satwikapooja, a sacrifice in which there is no blood shed. Narabali human sacrifice. Sacrifices of animal life still form part of the religious rites of many races in southern Asia, and even human beings, as in the meriah sacrifices of the Kond districts in Ganjam, are offered up though it is reported that the year 1860 passed by without a single meriah. With the hindus, however, male buffaloes, sheep, and goats, and fowls are constantly sacrificed, and mahomedans occasionally sacrifice a camel, a sheep, a goat or a cow.

Sacrifices are common to all races and religions. They assume the form of offerings of the raw products of the earth, of cooked food, of water, and of living creatures. The earliest historical record is met with in the

Old Testament. The contest recorded between Cain and Abel, marks the jealous rivalry and strife between the powerful overbearing dwellers in cities who bear arms and till the ground and the harmless nomade shepherds. The first victim was Abel, but the struggle runs through the whole history of Asia. In the early ages of the world the offerings of living creatures was deemed the more acceptable, and, in the time of Solomon, an instance (2nd Chron. ii., 5) is recorded of the sacrifice of 22,000 oxen. The vedic offerings were of cooked food, delicious food and drink: the Rajasuya was a royal sacrifice and the Janamajaya was a sacrifice of snakes. The brahmins of India claimed a right of officiating at sacrifices. The Rajasuya of the Arian race was a sacrifice to the gods, in acknowledgement of sovereignty and supremacy. Originally it was a great national feast. Isaiah (i. 10-14) openly denounced the sacrifice of animals as an atonement for sin. "Hear the word of the Lord, ye rulers of Sodom; give ear unto the law of our God, ye people of Gomorrah. To what purpose is the multitude of your sacrifices unto me? saith the Lord: I am full of the burnt offerings of rams, and the fat of fed beasts; and I delight not in the blood of bullocks, or of lambs, or of he goats. When ye come to appear before me, who hath required this at your hand, to tread my courts? Bring no more vain oblations; incense is an abomination unto me; the new moons and sabbaths, the calling of assemblies, I cannot away with; *it is* iniquity, even the solemn meeting. Your new moons and your appointed feasts my soul hateth: they are a trouble unto me; I am weary to bear *them*." About the same time as Isaiah, Muddha appeared objecting to the animal sacrifices. The homa, an offering of ghi to the fire, from the chenkna or sacrificial ladles; also the Pataya, sacred food of rice and milk, cooked in sacrificial kettles, are offerings, of hindus. Mr. Wheeler is of opinion that the homa was introduced by the brahmans to displace animal sacrifices.

Amongst other ancient Vedic customs was that of the self sacrifice of wives on the funeral piles of their husbands. It is related in the Mahab'harata that after the battle of Kurukshetra, when the widows of the slain were talking over their losses, Viyasa bid them repair to the banks of the Ganges. Viyasa also was present and called out the names of the slain. All appeared in great glory and splendour and more beautiful than when they were alive, and widows went to their husbands, and daughters to their fathers and mothers to their sons, and sisters to their brothers and all the fifteen years of sorrow which had passed since the war of the Maha Bharata were forgotton in the ecstasy of seeing each other again. The night passed away in the fullness of joy, and when the morning dawned all the dead mounted their horses and chariots and disappeared, but Viyasa said that the widows who wished to rejoin their dead husbands might do so, and all the widows went and bathed in the Ganges, and came out of the water again, and kissed one by one, the feet of Dhritarashtra and Gandhari, and then went and drowned themselves in the river; and, through the prayers of Vyasa, they all went to the place they wished and obtained their several desires.

In the hindu sacrifices, the sweet smelling kusa grass, seems to have been employed, and also a spirituous fluid, which they called the soma juice, and the Persians called poni. What this substance was is doubtful, but it had stimulating and intoxicating qualities, for the Rig Veda (iv) says, "the purifying Soma like the sea rolling its waves has poured forth songs and hymns and thoughts." It has been said to be the fermented acid juice of the Sarcostemma acidum, the Shomluta of Bengal, but the fierce exultations which are noticed in the Rig Veda, could only have been produced by strong alcoholic drink.

The duty of offering to the Lord of the first of every product has doubtless almost a universal hold on man. Exodus xxii and 29 commands the offering of the first fruits, and the same is enjoined in Deut. xxvi, 2; Lev. ii, 12 and numerous other places. Gen. iv, 4 tells us that Abel brought the first of his flock, and Ex. xiii, 12 and other places enjoins that the pouring out of water as an oblation is a very ancient rite, David when pressed by the people of Palestine, craved for a drink from the well at the gate of Bethlehem, afterwards would not drink it when brought by three men, "but poured it out unto the Lord." Ages prior thereto (Gen. xxxv, 14), Jacob is mentioned as setting up a pillar and he poured a drink offering thereon, and he poured oil thereon. Wine was occasionally used, as in Numbers xxviii, causing the strong wine to be poured unto the Lord for a drink offering I Samuel vii and 6. Israel gathered together to Mizpeh and drew water and poured it out before the Lord. The sacrificial rite, with human beings, seems to have prevailed amongst many peoples. We read in the Old Testament that Jephthah, when in pursuit of the Ammonites, vowed a vow unto the Lord, and said, "If thou shalt without fail deliver the children of Ammon into mine hands

then it shall be, that whatever cometh forth of the doors of my house to meet me, when I return in peace from the children of Ammon, shall surely be the Lord's and I will offer it up for a burnt-offering. * *

And Jephthah came to Mizpeh unto his house, and, behold, his daughter came out to meet him with timbrels and with dances. * * And he said, alas my daughter * * I have opened my mouth unto the Lord, and I cannot go back. * * And it came to pass that at the end of two months, that she returned unto her father, who did with her according to his vow which he had vowed: and she knew no man." One interpretation which has been put on the character of Jephthah's offering, from the concluding passage, viz.: that his daughter remained a virgin for the Lord's sake, is not supported by the preceding words where Jephthah declares the object of his vow should be a burnt offering. The readiness, also with which Abraham obeyed the command to offer up his only son Isaac, indicates an existing knowledge of this rite. Amongst the Arian hindus, the sacrifice of a horse, the Aswamed'ha, seems to have been practised in their religious rites. There are two hymns in the Rig Veda, describing the rite, and which leave no doubt, that in the early religion of the race, this sacrifice, as a burnt offering to the gods, was had recourse to. It was even then, however, falling into disuse, and was existing as a relic of an antevedic period, imported from some foreign region, possibly from Scythia, where animal victims, and especially horses, were commonly sacrificed. And in still later times, the Aswamed'ha consisted in certain ceremonies ending in the liberation of the horse, as throughout India is still practised with a bull or cow, many of which are met with in every village, freed or let loose in the name of Siva or Vishnu. Human sacrifices were actually performed by hindu races in India. And though the rite is more and more rarely performed the meriah sacrifices, the head-hunting of the Dyaks, and the cannabalism of the further Archipelago, up to the present day, can but be regarded as the partial continuance of rites which must have had a wider range in times long gone by. In fact the Purushamed'ha or human sacrifice, is prescribed in the Puranas, though amongst the hindus of the puranic times, the ceremony had seemingly long ceased to be other than emblematical. Some branches of the Scythic stock undoubtedly crossed to America in the early centuries of our era, and they seem to have

carried with them the sacrificial customs which have been a peculiarity of all their offshoots. The Comanche, and the Nachez, Indian tribes of North America, formerly buried the wives of a deceased chief, along with him. The Ottawa still offer a horse in sacrifice on the tomb of the dead. With the Nachez, the victims placed themselves on mats and danced the death dance with their executioners, who formed a circle around them. The Pawnee tribes, supposed to be descendants from the ancient Mexicans also offered human sacrifices, though the rite is supposed to have lately fallen into abeyance. These sacrifices took place more particularly in the month of April, that is at sowing time, with a view to obtaining abundant harvests from the Great Spirit. The preparation lasted four days, on the fifth, the victim was bound to three stakes, placed above the funeral pile. He was painted red or black and his breast burned and pierced with arrows, and after his heart was reached, it was torn from his breast and devoured all bleeding. This barbarous ceremony was terminated either by setting the pile on fire, or by eating the victim, whose blood served to water the seeds about to be committed to the earth. But many Indian nations of the northern and western parts of North America celebrate annually solemn festivals when the leaves of the willow have attained their full size. These solemnities are in commemoration of a great event: in propitiation of the superior powers; or are offered in expiation. Among the Mandan, these are prolonged four days, and the greatest cruelties are practiced on the tortured. Abbe Domenech says that amongst the Arian races who went to the north-west, there are no grounds for believing that the Saxons continued to offer human sacrifices after their settlement in Great Britain, but in their own land the immolation of captives in honour of their gods was by no means uncommon. The great temple at Upsal, in Sweden, appears to have been especially dedicated to Odin, Thor and Frea. Its periodical festivals were accompanied by different degrees of conviviality and licence, in which human sacrifices were rarely wanting, varied in their number and value by the supposed exigency. In some cases even royal blood was selected that the imagined anger of the gods might be appeased. In Scandinavia, the authority of the priest was much greater than it would appear to have been among the Anglo-Saxons. It was his word often, which determined where the needed victims should be found. It was his hand that inflicted the wound, and his voice which said, "I send thee to Odin," declar-

ing the object of the sacrifice to be that the gods might be propitiated, that there might be a fruitful season or a successful war. In the present day, the cow is not offered in sacrifice by any Hindu sect or race, but in the marriage ceremony of some parts of the country, where a milk cow, surabhi, is released on the intercession of a barber, sufficient remains to show that the rite was formerly practised at marriages, for the sake of hospitality. The male buffalo is, however, frequently sacrificed, sometimes in considerable numbers, and only in 1859, the Government of Madras ordered the magistrate of the Krishna Division to forbid the cruel right of Ammavaru, wherein bullocks are impaled alive to appease that angry goddess, and avert cholera. On that occasion, in a small village, bullocks to the extent of twelve or twenty-four were sacrificed, as also several hundred sheep, and the heads of sacrificed buffaloes were carried in procession on the heads of men. As might be supposed from the sacrificial rights amongst the Jews, allusions to such are to be found in the New Testament. One such occurs as the word Corban (Kurbau, Arab. Pers. Hind. Sacrifice) in Mark vii. v. 11. "But ye say, if a man shall say unto his father or mother, it is Corban, that is to say, a gift, by whatsoever thou mightest he profited by me; he shall be free." This word is almost equivalent to Sadqa or Tassaduq or Fida, and is often used by men or women addressing a superior, in which case it means merely, I am your Kurban. The word is Arabic, derived from the Hebrew, has allusion to an approaching to God, and means a sacrifice, a victim, an offering, an oblation: for which also, we have the Greek Καρπομα. The other Arabic words, Sadqa, Fida and Tasaduq mark the continuance of the sacrificial rite. Sadqa, Arab. properly Sadaqa, from the Hebrew, means alms, propitiatory offerings and sacrifice. The words are continued into Hindustani, in Sadqe-'ana or Sadqe-hona, to become a sacrifice for the welfare of another, and Sadqe-karna, to sacrifice for the welfare of another. Amongst the Bhot, in the Ladak frontiers of the western Himalaya, the people salute by raising the back of both hands to a height even with the forehead and then repeatedly describing a circle in the air with them, ending by drooping the fingers downwards and turning the palm inwards. There is a similar mahomedan practice of Billain-lena, where a woman is supposed to take upon herself all the evils which would befal the person whom she addresses and thus encircles. Though, as has been seen, in Southern Asia, human and other sacrifices still continue to be made, the increasing power of the British in India may soon lead to the discontinuance of such barbarities. Sacrifices seem to have been a usual rite amongst all the Scythian races, and human sacrifices are even noticed in the Vedas, Harischandra son of Vedas, of the family of Ikshvaku was a king without a son. Narada bid him go to Varuna the king and say "may a son be born unto me, and I shall sacrifice him to you." Varuna the king assented: a son was born to him, on which Varuna demanded him in sacrifice but for various excuses this was deferred, until a substitute for the son, was found, in Sunasepha the son of a rishi who by invoking the gods *Agni*, fire, *Savitri*, the progenitor, *Varuna* the king, *Visva-Devah*, collective gods, *Indra* the friendly, *Asvini*, divine physicians, born of the sun, *Usha* the dawn, at last was released. But not before Sunasepha was bound to the sacrificial post and his father whitling his sword approached to kill him, when Suna-sepha exclaimed "They will really kill me, as if I was not a man." In the Atareya Brahmana, (6 8) it is said the gods took man for their victim but as he was taken the Medha (the sacrifice or the spirit) went out of him. It entered the horse. Therefore the horse became the sacrificial animal. Then the gods took the horse, but as it too was taken the medha went out of him and entered the ox. Therefore the ox became the sacrificial animal. The same happened with the ox, afterwards the sheep, then the goat and at last the earth became the victim. From the earth rice was produced, and rice was offered in the form of *puralasa*, in lieu of the sacrificial animal. The drift of the story is that in former times all these victims had been offered, as we know for certain that horses and oxen were so, though afterwards these were discontinued. In the sacrifice of the horse, part of the flesh was eaten by the assistants and part presented as an offering to the gods. No reasonable doubt can be entertained that the ritual of the early hindus, did authorise the sacrifice of a horse. In southern India, nor perhaps in any part of India, is a vaishnava brahman known to offer living creatures in sacrifice. The saiva brahmans on the contrary, annually in some towns, Conjeveram for instance, perform the bloody rite to their ancient gods Indra, Varuna, Yama, and both in 1859 and 1860, the saiva brahmans in Madras so sacrificed. Several brahmans are employed in this rite. One brahman assisted by his wife, the couple being styled the Soma Yaji, and Soma Devi, commence the rite by performing the fire sacri-

fice, by pouring ghi into a large fire. The pujari, a Sudra, then strikes the head from the victim and large portions of its flesh being thrown into the fire and reduced to ashes, portions, are distributed to the assembly. This being a Prasad'ham or food offered to the gods, all castes can partake of it. Many saiva sectarians when aversion to take life prevents them sacrificing an animal, substitute an image made of dough. On this point, of the object of sacrifice, there is however, at the present day, a great change in progress. Amongst the vaishnava brahmans of the three great sects of the Vaghala, Tenagala and Madhava the practice differs. The vadagala brahmans, who evince much earnestness in the ceremonials of their belief follow the Saiva practice of offering living creatures in sacrifice; while the Tengala and Madhava substitute dough. In Southern India, no saiva brahman thus substitutes dough, but they present living creatures, though with many of the saivas the victim's head is not struck off, but it is strangled so that blood is not spilled. The lower classes of hindus of southern India also, though rarely, sacrifice pigs to the inferior gods. Living sacrifices are however, an essential part of the worship of all the tutelary village goddesses in Southern India, as also of the goddesses of cholera, small-pox, &c. Thousands of sheep and fowls are annually sacrificed at Periyapalayam, a village about 30 miles from Madras, and multitudes of people attend from Madras and the neighbouring villages, to celebrate the yearly festival, which takes place in the bright half of the month of Adi. Large herds of buffaloes were until recently, offered at the funeral rites of the Todawar race of Ootacamund but the Madras Government have put a stop to such wholesale massacre, and restricted the rite to the killing of only two animals at a time,—a measure which the Toda race viewed with unaffected alarm and dislike, as likely to decrease their children and cattle. Human sacrifices are deemed to be requisite to mollify goddesses and demons who guard hidden treasure and who are believed to have a partiality for the blood of a pregnant woman, especially of one who is conceived of twins, and to the first born of the goldsmith caste: indeed in popular belief one of the latter is credited to have been offered near Madras in times not very remote. and during the famine of 1867, the head of a victim was found in the *helots log* in a town in Bengal. There is a shrine of Vatrappanáchiyár, the tutelary goddess of Tiruvattúr, a village to the north of Madras, on the road to Ennore. This is situate in a part of the great and much frequented pagoda of Tiyágaraia Sámi, for which the village is celebrated in ancient hindu books. The sacrifice now offered there is that of a male buffalo, but is conducted with so great secrecy, that people are not generally admitted to witness it. Indeed the fear of witnessing the sacrifice and its attendant ceremonies are so great that pregnant women are, if possible, kept out of the village for fear of abortion, which is believed to be the certain result, should the shrieks of the men who carry the Raktabali or bloody sacrifice fall on their ears. This Raktabali is assumed to be the food for devils and the attendant spirits of the goddess, and consists of rice mixed with the sacrificial blood. It is carried only during the last day of the annual festival of the goddess, after midnight, in an earthen pot of a peculiar shape and design, by men specially allotted to the duty. They run and shriek and howl in the streets to scare away the devils and evil spirits, and halt at the corners and windings, and throw balls of this blood-mixed-rice to the demons, &c. It is considered to be an evil omen for any man to meet them in their rounds, as fever, madness, and disease might befal him. All treasures concealed under ground for a length of time are said to become the property of demons, who take charge of and only part with it, to those who satisfy their desire for blood—the greater the demon, the higher is the kind of sacrifice he demands. Simple minded men, even among those who are considered to belong to the better informed classes of hindus, believe in the divination of quacks, who pretend to point out the very places in which treasure is to be found, by a collyrium which when applied to the eye is said to give it the power of discovering the treasure. Stories are now and then spread among the people regarding this subject; and this desire for discovering and exhuming hidden treasure, and the love of making gold and silver, prevails to some extent among the educated hindus and it is generally believed leads to the sacrifice of human beings. Bloody sacrifices form no part of the worship paid to Rama, Krishna, Hanuman, &c., of the vaishnava sectarians, nor Vigneswara, Subrahmaniya, &c., of the saiva sect or of their respective goddesses. In addition to the village deities, noticed, the only goddess who requires them is the Sakti of Siva, defined by her votaries, to be the visible energy of the divine essence symbolized as a female. She is highly venerated during the nine days of the Dassera or Nava-

ratri (the nine nights), at the close of which a sheep is generally offered in the houses of Rajputs and Mahrattas. The sacrifice of buffaloes on this occasion is very rare, and when it is offered, the ceremony takes place in temples, sacred to this goddess, but sometimes in jungles and unfrequented parts. The goddesses and demons of the helot races, all accept bloody sacrifices, which are generally accompanied with the offering of spirituous liquors. As a general rule, the offering of such sacrifices among the houses of educated hindus, and in the superior temples is observed with great secrecy. Madan is very little known, but deemed a very great and powerful demon with a class of native magicians. He is generally courted by the pariah, chuckler, labbay, and uneducated mahomedans, who offer beef and arrack to obtain his good will and favor.

It has been noted above that the terms used for the sacrifice are Bali, *Tam*, Gavu, *Tel*, Yagna Magha, *Sanscrit*. When an ox, lamb or fowl is offered up in sacrifice to a Devi or Mari female deity by the sudras, the first two words are used. The words Yagnya or Magha are used to indicate a sacrifice celebrated only by the brahmins in which they offer goats and not any other animals, as the following five things are forbidden in the Kaleyoga or the Iron age, అశ్వాలంబం, గవాలంబం, సన్యాసం, పలపైతృకం, దేవరేణ సుతోత్పత్తిః కలౌ పంచవివర్జయేత్,— the sacrifice of a horse, of a cow, the abandonment of all worldly affections, serving flesh to brahmins invited for the celebration of the funeral obsequies, or to have issue by a brother-in-law, that is husband's brother, in case of a woman not having any children by her husband.

Hindu Morality.— Major Moor remarks as to their moral character, that it is some comparative though negative praise to the hindus, that the emblems under which they everywhere exhibit the elements and operations of nature, are not externally indecorous. Unlike the abominable realities of Egypt and Greece, we see the phallic emblem in the hindu pantheon without offence; and know not, until the information be furnished, that we are contemplating a symbol whose prototype is indelicate. The external decency of the symbols, and the difficulty with which their recondite allusions are discovered, both offer evidence favourable to the moral delicacy of the hindu character. Temples are nevertheless commonly to be seen on which are represented, in statues almost of life size, figures which only the mind of man in all its corruptness and wickedness could conceive. However recently erected, these are perhaps but remnants of the period succeeding the asceticism and austerities of buddhism. Books were then written about heroes whom they deified, some of whose lives, as painted, are a continuous outrage of decency. But it may not be doubted that the people generally never followed such license. To have done so, society must have ended. At the present day, undoubtedly, the morality of the hindus is far above the stories in their books, the statues on their shrines, or the license which prevails amongst the few who associate with the Deva-dasi at their temples, and it is only their patience under such grossness, their not rising in wrath to reform it, their worship of fire and the elements, of the sun and moon, of the lingam and yoni, or the saligramma, the binlang, the tulsi and the poa; their reverence for, almost worship of, the cow, the kite and the cobra—their worship of nandi, of idols with unnatural or hideous forms, of shapeless blocks of wood or stone in which the educated have no faith and which are often treated with irreverence by all, their respect for books of the contents of which they are ignorant and which are not worthy of their present civilization; it is their adherence to all these confused amalgamations of the coarse vedic creed, scythic worship, fetichism, the austerities and sacredness of life of buddhism, and the license of Vishnu as Krishna, which excites the wonder and the contempt of all civilized men. And their indifference is the more remarkable because, two thousand years ago they had a religion 'less disgraced by idolatrous worship than most of those which prevailed in early times. They had a copious and cultivated language and an extensive and diversified literature: they had made great progress in the mathematical sciences, they speculated profoundly in the mysteries of man and nature, and they had acquired remarkable proficiency in many of the ornamental and useful arts of life. In short, whatever defects may be justly attributed to their religion, their government, their laws, their literature, their sciences, their arts, as contrasted with the same proofs of civilization in modern Europe, the hindus were in all these respects quite as civilized as any of the most civilized nations of the ancient world, and in as early times as any of which records or tradition remain.' In the re-ascendancy of brahmanism after the overthrow of buddhism, the prime defect of which was a want of knowledge of the true God and to which was subsequently added a relic worship and an over-fondness for asceticism,

the writers who are now regarded by the hindus as authorities introduced the outrageous matters, which at the present day are the shame and degradation of the followers of this extraordinary faith. Major Moor observes that, with a little alteration, the first part of Juvenal's fifteenth satire, beginning 'Quis nescit,' might be applied to the teachers of hinduism as now seen, as happily as to the Egyptians, the objects of Juvenal's severity, and the following is Major Moor's modification of Owen's paraphrase:

Who knows not that there's nothing vile nor odd,
Which brain sick brahmans turn not to a god?
Some of those blockheads bulls and cows adore;
Fish, reptiles, birds, and snakes, as many more.
A long tail'd ape some suppliants admire,
Or man-like elephant a god the sire:
One race a god half-man half-fish revere,
Others to unsightly moieties adhere:
Hosts to a stone's high deity bend down,
While others sticks with adoration crown;
Nay vegetables here hold rank divine—
On leeks or mushrooms 'tis profane to dine.
Oh, holy nation where the gardens bear
A crop of gods throughout the tedious year!

It has been remarked that the characters of many of the hindu deities, are faintly indicated by the term immoral. Every thing that is gross and sensual and wrong is to be found as ordinary acts of their deities and the followers of these faiths present the extraordinary spectacle of a people with purer lives than is to be found in the idolatrous or demonolatrous systems of religion which they follow. In their domestic lives, they are gentle, not aggressive, modest, reverent, respecters of authority, temporal and spiritual: desirous of knowledge, seekers of the truth, patient under mental or bodily labour, diligent in their callings, temperate and chaste, living with one wife though hindu law permits a plurality, amongst the entire hindu races, offences against the person are rare, drunkenness is almost unknown, except in the profligacy of great towns and it is only amidst the license of the temples that gross poligamy is common, and is even there confined to the habitues of the shrines.

Position and religion of hindu Women.—A great defect in their social system seems to be the unequal conditions of the sexes. In European households there is almost as little real mixing of different grades of society as occurs amongst the different castes of India. But among the hindus, although their creed permits the women to attain heaven on their demise, so long as they are here on earth, whatever secret influence a wife may have, it is not shown to the community. Speculative as are the entire brahminical populations, and to a large extent also all the races called hindus, many of them diving into the mysteries of their theology, except a vedantist occasionally make a remark to the women of his household as to the inutility of worshipping their ordinary images, the hindu wife has little or no instruction in religion, and takes no part in all that array of ceremonial which occupies so much of the daily time of a hindu, particularly if religious. The hindu prays morning, noon and night, a somewhat long prayer. The wife's prayer, if she pray at all, is very short, a saiva woman merely mentioning the name of her deity in the three words O'm! nama Saiva, Hail! name of Siva. Amongst the smartha brahmans, and mad'hava sect of vaishnavas each household keeps a tulsi plant in the middle of its little parterre or court yard. A small pedestal is erected, in the hollowed centre of which the plant is placed. Daily, the women of the house resort to it, circle 'pradatchanam' and prostrate themselves six times before it, pour water over, and then standing before it, pray to Lakshmi. A similar worship to the pipal tree with a sculptured cobra at its foot, is offered, both by men and women, to whom offspring have not been given. This pipal tree is always on the bank of a tank, in which the devotees bathe dressed in a silk garment used only when performing sacred rites. The prayer of the brahman of every caste and sect includes the gaitri, an address to the sun.

Caste.—A great object with hindus in general is, to preserve their social position in caste. The divisions and sub-divisions of their different castes are very numerous,—the sudra are said to have nearly fifty, but with all hindus purity of caste is held of the highest consequence. Yet its loss may be caused by various means.

The division into castes or sects of the races whom we style hindus was known to the Greeks and seems to have been early known to the Arabs. The Grecian authors, on the authority of Megasthenes, divided the tribes into seven, and Ibn Khurdadba (obiit A. D.) an officer of the khalifs also arranges them into seven classes, but the occupations attributed to them, were different.

	Greek authors.			*Arab.*
Class.	Strabo.	Deodorus.	Arrian	Ibn Khurdadba
1.	Philosophers	Philosophers	Sophists.	Sabkufria.
2.	Husbandmen.	Husbandmen.	Husbandmen.	Brahma.
3.	Shepherds & Hunters.	Shepherds & Cowherds.	Shepherds & Cowherds.	Kataria.
4.	Artificers & Merchants.	Artificers.	Artificers, Merchants & Boatmen.	
5.	Warriors.	Warriors.	Warriors.	Sudaria.
6	Inspectors.	Inspectors	Inspectors.	Baisura.
7.	Counsellors & Assessors.	Counsellors & Assessors	Assessors.	Sandalia. Lahud.

Ibu Khurdadbas' first name is unknown. By the others he seems to indicate the Brahman, Kshatrya, Sudra, Vaisya, the Chandala and Jugglers.—*Elliot's Historian's* p. 18.

Dr. Caldwell tells us that in all ordinary cases where illegitimate children are born, if there be no great disparity in rank or caste between the parents, the child takes that of the two parents which is the lower. Where considerable disparity exists and particularly when the woman is of the higher rank, as for instance when a high caste woman or even a woman belonging to the middling castes, has formed an intimacy with a Pariar man, the mother either procures abortion or commits suicide. The child never sees the light.

Alms.—Dr. Caldwell adds that almsgiving is expressly enjoined by the brahminical religion, as conferring merit and power over the unseen world, not for compassion or brotherly love, or for doing as we would be done by.

Inner belief.—The brahminical believer is punctiliously alive to his religion as a system of observances,—he never forgets his ablutions, his holy ashes, or any of the thousand and one ceremonies which sanctify his domestic life, but ordinarily he has not the smallest belief in the divinities whom he so elaborately worships. He is even forward to tell you that he is not so dull-witted as to believe that any of them exist.

Food and cooking and hospitality.—Like that of the bulk of the human race, the food of the hindus is obtained from the vegetable kingdom. But with the hindu, the adherence to this kind of diet forms part of their religious belief. Unlike the Hebrews (Deut. ch. xiv. Lev. xvii.) or the mahomedans, to whom only certain creatures were forbidden, several brahminical tribes do not touch animal food at all, and no hindu of the four great castes can partake of the flesh of the cow much less avow that he had so done. They also require their food to be prepared by people of their own or a higher caste, or, in their dread of pollution, even by their own hands. With some sects this dread is carried to such an extent that they do not permit any unconverted eye to see them cooking, and if accidentally overlooked will bury or give away the materials under preparation, however hungry they be. Many hindus likewise cook within a sacred circle, and if any lower caste or no-caste person enter it, the cooking is suspended and the article destroyed. Many hindus eat their meals dressed in silk clothes, used only for sacred rites,—and waited on by their wives or female relations, who do not presume to eat until their husbands have finished. They eat off metal dishes, of gold or silver or brass, —but the ordinary platter is made of leaves of the plantain, banyan, lotus, or palasa, pinned together with grass stalks in the form of a dish. These are sold in every bazaar. They are employed to ensure safety from pollution, being thrown away after the meal. There is a continued stream of their hospitality such as it is, but no one caste will eat with another, and at meals each brahman sits with his own leafy platter apart from his neighbour to prevent the possibility of even accidental pollution by his own food touching that of another, or vice versa. Where such stringency exists as regards people of their own faith, their associating at meals with people of other creeds is of course an impossibility. These remarks apply to the hindus in general; but the members of many of their reformed sects, eat with each other, without regard to former distinctions. In like manner, as followers of one faith, all individuals are equally entitled to the Prasad'ham or food which has been previously presented to a deity, and it is probably the distribution of this, in temples, as, for instance annually, at Jaganath, that has given rise to the idea that at this place all castes of hindus eat together. A hindu in general eats twice daily, in the forenoon and after sunset. But a brahman widow eats only once daily, at noon. The food of the hindus along the sea-board of India, is rice, partaken of with vegetable curries or pickles as condiments. In the higher lands of the interior and in the more northern portions of India, the pulses, and millets, with wheat and maize, are the articles in common use in the form of cakes. The prior processes which in Europe fall to the miller and the baker, are got through in the hindu household. The pestle and mortar is with hindu families a very important domestic implement, and few are without it. The mortar is generally of stone,—but often a log of wood, the lower part shaped like an hour glass stand, and in the upper is a conical cavity of the contents of about two gallons. The pestle is of hard wood, about four feet long, and two inches in diameter, with the ends tipped or ferrulled with iron, to prevent their splitting or wearing. It is usual for two women, to whose lot beating rice out of the husks, and similar domestic operations, generally fall, to work together; the pestle is raised perpendicularly by the right hand of one, and as it falls is caught by the right hand of the other, she who raised it quitting it in its fall: when tired with

their right hands, they use the left, relieving them. A song is frequently chaunted during the work. The stone mill, so often alluded to in the Old and New Testament, consisting of two flat stones worked by one or two women, is in use in every house. The religious restriction to vegerable diet is doubtless of buddhist origin. Buddhism had the effect of inspiring a great respect for life, and all orthodox hindus regard the inviolability of life as the most sacred of laws. In whatever degree sanguinary rites may be practised by any portion of these people such are directly opposed, not only to the influence and example of the brahmans, but to the practice of the immense majority of the more cultivated and the higher castes. Myriads of hindus have lived and died without every partaking of animal food, and amongst the budd'histical Jains, every precaution is taken to prevent themselves involuntarily destroying or swallowing even insect life. Their priests never partake of stale food lest living creatures should have arisen in it, keeping a cloth over their mouths lest an insect unconsciously enter, and they walk with a small soft broom in hand with which they gently sweep the ground on which they are to tread or sit. With all this, there is occasionally witnessed amongst some one or other of the races following hinduism, an apathy and indifference as to the preservation of the lives of their fellow creatures, which Europeans fail to understand. An instance of this is described as having occurred in 1820, at the fair at Hurdwar, in which seven hundred persons are stated to have lost their lives. It was calculated that not less that two millions of people had assembled on the occasion, when, at the opening of the fair, the rush was so great towards the steps of the bathing-place as to cause this melancholy catastrophe. Dreadful as it was, the exertions of the British officers only prevented its being infinitely greater. An eyewitness remarked that the brahmans looked on not only with apathy, but with joy depicted in their countenances; and women, at a short distance, were bathing in other parts of the sacred water, with as much indifference as if the utmost serenity prevailed around them. After the fair the roads for miles round Hurdwar were strewed with dead bodies of men, women, horses, camels, and dogs.—

Differences explained.—The difficulties experienced in explaining the seeming contradictions in the character of these religionists are greatly overcome by remembering that though nominally of one faith, they are sprung from many races which continue as distinct and separated from each other, as when their Scythian, Arian and Babylonian forefathers poured into India. They are assuredly as varied in origin as are the Indian tribes of North America, and are marked with as varied moral and physical qualities.

Dress and Clothing. The dress of hindu men is of white muslin or cotton cloth, and their upper coat is now generally sewed. The under garment for the lower part of the body, the "do wati" or dhoti, is a loose unsewed wrapper. Women of all classes wear unsewed wrappers of green, red or yellow colored cotton, edged with silk or gold embroidery, and a boddice of cotton or silk.

Scalp-lock. All hindus retain only the tuft of hair on the crown of their heads, which is familiar to Europeans from the pictures and descriptions of the Indians of North America as the scalp-tuft, the most glorious trophy, if not the sole reward of their victor. The hindu practice of wearing this scalping tuft, Shik'ha, *Sans;* d'Zutu *Tel;* Kudimai, *Tam;* was doubtless brought with them from Scythia; for like the Indians of North America, the Scythians cleaned the scalp and hung it to their horses bridles. The decalvare of the ancient Germans, was nothing other than the scalping mentioned in the laws of the Visigoths, capillos et cutem detrahere. According to the annals of Flude, the Franks still scalped about the year 879, and also the Anglo-Saxons.

Titles.—Amongst the honorific social distinctions of the hindus, is that of Acharya a religious teacher, properly a brahman who instructs the brahman, kshatriya and vaisya religious students of the Vedas, but in use as relating to any religious instructor. In the south of India, the term is applied to the head of a religious society, equivalent to the Mahant of Hindustan and the Panda or head priest of a temple. But it is assumed also by brahmans engaged in secular pursuits, by carpenters, artisans and amongst the Mahrattas, by cooks.

Learning and Books.—The Mahabharata and Ramayana books are the national treasuries of the traditions and legends of the hindus, and contain all that has been preserved of Vedic ideas and institutions as well as the expression of that later Brahminical system, which forms the basis of the existing religion and civilization of the masses, ramifying more or less throughout the entire body of hindu literature. The Mahabharata is the source of all the Puranas. It is the Purana properly so called. The Bharata war relates to the period of Aryan invasion, when the invaders had

reached the upper courses of the Jumna and Ganges. The Ramayana refers to a period when an Aryan empire had been established in Oudh, and when Vedic rites and institutions had been established in the very heart of Hindustan. The Veda are religious books of the hindus of which the Rig Veda, Yajur Veda, Sama Veda and Atharva Veda are deemed inspired and regarded as canonical. But the term is also applied to scientific works as Ayur Veda, the art of medicine; science of life; Dhanur Veda, the art of war (the bow) Gandharba Veda, the science of music. Besides these are several series of ancient books, the Upa-Veda, the Upanishad, the Purana, &c.

A knowledge of reading and writing is very widely diffused, but those who cannot write use trade-marks as their sign manual, of which the following may be mentioned;

Mang	A daffra.
Dher	A staff.
Carpenter	Chisel or kikra.
Barber	Looking glass.
Shopkeeper or Bakal	A balance.
Dhangar	Scissors.
Gardener	Kurpi.
Banjara	Spear.
Koli, Ramusi, and Bhil	Bow and arrow.
Attar and Rangrez	Joli.
Kassar (brazier)	Tulai.
Kunbi	A plough.
Goldsmith	A hammer.
Blacksmith	Anvil.
Chamar	Leather knife or Rapi.
Tailor	Yard measure.
Soldier	Dagger.
Teli	Subbal Pur.
Byragi	Forceps.
Maniar	Churi or bracelets.

Avocations.—The races following hinduism and the converts from amongst them to mahomedanism and the Sikh faith are, almost exclusively, the owners and tillers of the soil of India, and as agriculturists, in northern India, are in village proprietory communities: those of Central India, are village proprietors; and those of western and southern India are ryots or holders under Government.

The entire banking interests in India, monied men and capitalist class, smaller merchants, traders and carriers, prefer British rule. Hindoos are settled for merchandise in Arabia, all through Persia and Turkistan, they are in Astrachan, in the southern provinces of Russia and even as far as Moscow.

Religious liberty.—In India, during the time that history is extant, if the dominant power were hindu, mahomedans were molested, if mahomedans ruled, hindus were oppressed—under the British, all creeds has met with equal justice.—*Cunningham's Bhilsa Topes. Chevalier Bunsen's Egypt's place in Universal History. Dr. Caldwell's Comparative Grammar also Tinnevelly Shanars; Vigne's Travels; Moor's Hindu Pantheon. Coleman's Mythology of the Hindus. Professor H. H. Wilson in Royal Asiatic Society's Transactions. Calcutta Review, North British Review. Mr. Hodgson in Bengal Asiatic Society's Journal. Strange's Hindu Law. Latham's Descriptive Ethnology. Brown's Telugu Dictionary. Abbe Domenech's Deserts of North America. Sir J. E. Tennent's Ceylon. Elliot's supplementary Glossary. Wilson's Glossary. Wheeler's Mahabarata. Wheeler's Ramayana. Wheeler's Travels of a Hindoo. Elliot's History of India.*

HINDUAUCH? Pers. Cucurbita citrullus.

HINDUBA. Hind. Cichorium intibus.

HINDU KUSH, written also Hindoo Cush, a name of the Kouenlun chain, called by the historian of Alexander the Indian Caucasus, also Paropamisus. The Hindu Coosh is remakable for its mass and elevation. Viewed from the Koushan pass, distant ten miles south, its appearance is very sublime. The outline is serrated, being crowned by a succession of lofty peaks, with sides often perpendicular, and it is wrapped in a perpetual covering of snow, in all parts not too steep to admit of its lying. Humboldt regards it as the most striking phenomenon amongst all the mountain-ranges of the old world. He considers that it may be traced from Taurus, in Asia-Minor, across Persia, then, in the Huzarah mountains, to Hindu Coosh, and to the frontier of China, and that it is distinct from the Himalaya. The two ranges are physically discriminated by the depression down which the Indus flows.

The Hindoo Koosh, Kouenlun or Mooz Tagh are about 850 miles long, from Karakorum, in lat. 35°, long. 77°; to Bamian, lat. 34° 50', long. 67° 48'.

Hindoo-Koosh 35° 40', 60° 50', 21,000 feet.
Summit N. of Jellalabad, 20,248 ft.
Koushan Pass, 15,200 ft.
Khawak Pass, 13,200 ft.
Akrobat, 10,200 feet.

The Larana mountains in 35° 20', 62° 54', are about 60 miles from N. E. to S. W., dividing the valley of Suwat from that of Panjkora; and the Lasspissor mountains, S. of and subordinate to, Hindoo-Koosh, about 50 miles from E. to W., L. 36° and L. 70° are little known.

The limit of perpetual snow on south slope (lat. 37°), is 17,000 ft. The most re-

markable feature of the Hindu-Kush is that on the south it supports the plains of Kabool and Koh-Damaun 6,000 to 7000 ft.; while to the north lies the low tract of Turkestan. Koondooz town, distant in a direct line 80 miles north of Hindoo-Koosh, is only 900 ft. above the sea. The Hindu-Kush is a distinct mountain system, its parallelism being from S. W. to N. E., while that of the Himalaya is from S. E. to N. W.

The country between the Safed Koh and Hindoo-Koosh is hilly; breadth about 20 m. It is divided into a series of plains by cross ranges (Khyber, Kurkutcha, &c.,) which pass between the Safed-Koh and the outer ranges of the Hindoo-Koosh. These plains are generally barren and stony, and have a slope from E. to W. The Kabool river, which flows through them has to make its way by narrow passages.

Passes of the Hindu Kush. Lt. Wood, in his journey to the Oxus, names only four. Three of these are reached from Kabul through the valley of Koh-Daman north of that city, and diverge from each other near Charekar: viz., the pass of Panjshir or Khawak, the Pass of Parwan, and the Pass of Ghorband; but each of these in fact represents a group of several routes over the mountains. The fourth that he mentions is the Pass of Hajjiyak lying much further west, passing by Bamian, and usually, in modern times at least, approached from Kabul by the road running west from that city by Rustam Khail, south of the offshoots of the Indian Caucasus called the Pugman Range and Kohistan of Kabul.

If we turn to sultan Baber we find the number of passes raised to seven. Those which he names are three leading out of the Panjshir valley, viz. (1) Khawak, (2) Tul, (3) Bazarak; then (4) the Pass of Parwan; and three described as in Ghorband, viz. (5) Yangi Yuli or the "New Road." (6) Kipchak, and (7) Shibrtu.

As Ritter understands this list it does not include the Hajjiyak at all.

From Panjshir.

Pass of Anjuman. This is a pass starting from Puryan near the head of the Panjshir Valley and crossing into Badakhshan direct.

Khawak Pass, at the very head of the Panjshir Valley, crossing to the Valley of Anderab, which it descends to the town of that name.

Tul. This is a loop line to the Khawak Pass.

Zarya ascends from Safed Chir on the Panjshir river, some six miles below Tul, and joins the last pass just before reaching Sirab.

From Umraz are three bad passes, Shwa, Urza, Yatimak.

Bazarak. This quits the Panjshir at the village of that name, twenty-eight and a half miles from the mouth of the valley, and descends upon Khinjan on the Anderab River.

Shatpal. This starts from Gulbahar at the entrance to Panjshir Valley, and joins the Bazarak road on the other side at Kishnabad or Kishtabad, twenty-one miles from Khinjan.

Passes from Ghorband.

Kushan. This is the pass which leads close under the great peak specially known as Hindu Kush. It starts from a point in the Ghorband valley about ten miles from Tutan Dara. Kushan lies some miles up the pass. It descends upon Khinjan like the two last, which it probably receives before reaching that place.

Gwalian. This leaves the valley some twenty miles from Tutan Dara. It descends upon Gozan on the Anderab river.

Gwazyar. This pass leaves the valley near the ruins of the old town of Ghorband, some twenty-four and a half miles from Tutan Dara. It leads to Kilagai, a small town on the road from Khinjan, to Baghlan and Kunduz.

Char Darya. This pass leaves the valley at about twenty-nine miles from Tutan Dara, and descends upon Ghori, a considerable town. It is passable for kafilas of every description.

From this the road goes on along the valley of Ghorband, throwing off one or two minor passes, and eventually joins the Hajiyak road at the ruins of Zohak near Bamian.

The pass of Hajjiyak or Bamian.

Shibrtu.

Abdereh, for which the only authority is the Ayin Akbari. The two last are beyond the limits to which the name, Hindu Kush is applied.

Of these passes Hajjiyak was that crossed by Burnes, on his celebrated journey, the first European traveller who saw and described the great rock idols of Bamian; it was also that crossed by Wood on his journey north-ward to the Oxus. It was probably by this pass that Chinghiz crossed, for the siege of Bamian was one of the events of his campaign in these regions: and by it Hiwen Thsang travelled to India.

The pass of Chardarya was crossed by Aurungzib. The pass of Salulang was attempted by Capt. Wood, but unsuccessfully, owing to the lateness of the season. Timur on his expedition into India crossed the

Hindu Kush by the pass of Tul, and returned by that of Shibrtu. The Khawak pass was crossed by Wood and Lord on their return from the Oxus. By this pass or one of its branches, Ibn Batuta had crossed five hundred years before; and one of the passes into the Panjshir Valley seems to have been crossed by Friar Odoric on his return to Europe. Hiwen Thsang also returned by Pangshir and Anderab on his way to China. —*Yule Cathay*, II. p. 593; 595. *Burton's Sinde*, ii., 274, *Royal Sanitary Commission Report.*

HINDUN, a river in the Bulundshahr district of the N. W. provinces passing Seharanpoor fort running past Nougawaghat, 21 miles from Meerut.

HINDUSTAN includes Bahar, Oudh, Rajputana and Malwa. Hindustan, Bengal proper, the N. W. Provinces and Oude, the Panjab and Sind, with part of the adjoining desert country form a great semi-circular plain, in which there is no place of refuge for remains of original races; in all these countries the modern races live together as one social whole. Throughout Central and Peninsular India, the most open plains and uncultivated parts are similarly inhabited, but there are scattered about over every province, hill and jungle, giving cover to aboriginal tribes, who hold themselves aloof from the general population and are very different in language, manners and other particulars.

As known to Europe, Hindustan is a term applied to British India generally. To the people of British India, however, and to Europeans in India, the name is restricted to that part of India, which lies between the Himalaya and the Vindhya mountains. But, in considering the ethnological relations of India, the countries from the Indus and west of the five rivers of the Punjab, south easterly to the mouths of the Ganges, have been so often and so long in the occupation of so many different races, whose fragments are found in larger or smaller portions scattered throughout the region indicated, that it will be well to notice the occupants of Central India, Rajputanah, Bengal, Oudh, the N. W. Provinces, and the Punjab, as inhabitants of Hindustan, amounting to 136 millions of people.

Bengal, is a political division of British India, comprising Bengal Proper, Behar, Orissa including the tributary Mahals, Assam, Chota Nagpore, and the native states of Hill Tipperah and Cooch Behar. It extends from the Meridian 82° to 97° E. lon. and lies within the parallels of 19° 40' and 28° 10' N. lat. On its N. West is the native state of Rewah in Central India, also the districts of Mirzapore, Ghazipur, and Goruckpur belonging to the North West Provinces.

From the Chumparum district as far east as the Bhootan Dooars, the Himalaya range, running through the independent states of Nepal, Sikkim, Tibet and Bhutan, form its northern boundary. Further east, along the northern frontier boundary of Assam, lies a tract inhabited by the Akha, Dofla, Miri, Mishmi and other wild tribes: along its eastern frontier lies a part of the independent province of Burmah, below that is the Munnipore state: still lower are various hill tribes, the Naga, Looshai, Khyen, Mikir, &c., and at its extreme south east is British Burmah, (on the south of Chitagong, which is the south eastern district of the Bengal province,) and the Akyab district of Arakan. Between Chitagong and Orissa is the Bay of Bengal.

On the southwest of Orissa, is Ganjam in the Madras Presidency; on its west, are the Tributary Mahal estates and also the Sumbulpore and Belaspore districts of the Central Provinces.

The population of Bengal is supposed to be near 60,000,000. About two-thirds of its population profess hinduism, in its various sects, and about one-third are mahomedans, with a small number of christians, and inclusive of the hill tribes on its S. W., West, Northern and N. Eastern borders. Many of the higher caste hindus are recognised as former immigrants, but the origin of the vast bulk of the mahomedans is obscure. Calcutta, the capital, contains about 377,924 inhabitants, amongst whom are many foreigners, viz.:

Europeans,	11,224	Asiatics,	1,441
Indo-Europeans,	11,036	Parsees,	98
Greeks,	30	Africans,	53
Armenians,	703	Chinese,	409
Jews,	6,851	Hindoos,	239,190
		Mahomedans	113,059

Central Hindustan, or Central India, was the Madhya-desa, of the ancient Aryans, the middle region of Aryavarta, the Arya country. In a slokam in the Sanscrit work, the Amarakosha, the ancient boundaries of it are thus defined—

"Ariavartaha punia bhumi hi
Mad'hiam Vindhya Himava yoho.

i. e. the Arian country, the sacred land (lies) between the Vindhya and Himalaya," in this way indicating both the ruling race and the boundaries of the country held by them, at the time that Amara Sinha wrote the Amarakosha. The first known dynasty was the Bharata, so called from the first king Bharata, and the last of the dynasty

was Samvarama, who was driven westward by the Panchala of Canouj B. C. 589. The Bharata kingdom seems to have been established between B. C. 2,600 to B. C. 2,200. *Central India*, is a table-land of unequal surface, from 1,500 to 2,500 feet above the sea, bounded by the Aravalli mountains on the west, and those of the Vindhya on the south, supported on the east by a lower range in Bundelcund, and sloping gradually on the north east into the basin of the Ganges. It is a diversified but fertile tract. The *Patar*, or plateau of Central India, is distinct from the Vindhya to the south and the Aravalli to the west, and its underlying rock is trap. Aravalli means the refuge of strength, and these hills have afforded protection to the most ancient sovereign race in the east or west—the ancient stock of the Suryavansa, the Heliadæ of India, or children of the sun, the princes of Mewar, who, when pressed, were wont to retire to its fastnesses, only to issue again when occasion offered. The Aravalli hills are connected by lower ranges with the western extremity of the Vindhya mountains on the borders of Guzerat, and stretch northwards to a considerable distance beyond Ajmir, in the direction of Delhi, forming the division between the desert on the west and the central table-land. It would be more correct to say the level of the desert, for the south eastern portion, including Jodpur, is a fertile country. Amarkantak, a great plateau, forms the watershed of the Mahanadi, Son, Tons, Johilla, and Nerbudda. The rivers, though large and full of water even half way from their mouths are very irregular in the slopes of their beds, and are disturbed by frequent rapids, so that, owing to these impediments, increased still further by the rocky character of the river beds or their banks, navigation is limited for the most part to the lower portions of their course. Many parts of Central India are covered with dense jungle.

The Central India of the British Indian Government, however, is a political division, under the care of a political agent. It has an area of 83,600 square miles, with a population of 7,670,000 and a revenue of 2,612,600. In this political division, there are 71 feudatory or mediated chiefs, of whom 4 are Mahratta, 7 are mahomedans, 17 are Bundela, 33 are Rajpoot, six are brahman, and 4 belong to other races. Of these, six are feudatory states, Gwalior, Indore, Bhopal, Dhar, Dewas and Jowrah, but the 71 states are as under:

Indore Residency, Indore, Dewas, Bagli.

Gwalior Agency, Gwalior.

Bhopal Agency, Bhopal, Rajgurh, Nursingurh, Kilchipore, Koorwai; Muksoodingurh; Mahomedgurh, Basoda, Patharee: Larawut, Gwalior districts; Seronje.

Bheel Agency, Dhar, Jhaboa, Ali Rajpore, Jobut; Mutwarh; Indore, and Gwalior district, British Pergunnah of Mundpore and State of Burwani.

Western Malwa Agency, Jowrah, Rutlam, and Sillana.

Goonah.

Bundlecund Agency, Sohawal, Jignee, Ajyeygurh, Baonee, Beronda, Bijawar, Chirkary, Chutterpore, Duttia, Kotee, Myhere, Nagode, Orcha, Punna, Rewah, and Sumpthur. Of the principal states, Gwalior, Indore, Bhopal, Dhar, Dewas, and Jowra, Bhopal and Jowra are under mahomedan rulers and the rest Mahratta. The petty states hold under the immediate guarantee of the British Government, but have feudal relations with one or other of the larger states, and occasionally with more than one.

At the close of the Pindaree war, the districts in Central India and Malwa were left in a disorganized state, the mahratta chiefs had parcelled out amongst themselves the possessions of the Rajput chiefs and the smaller states were all subject to Sindia, Holkar or the Puar, and sometimes to all three. Many of the smaller chiefs had been driven from their possessions, and had sought refuge in the jungles and mountains where they robbed or levied "tankhah" or black-mail from the larger states. These robber chiefs were twenty four in number at Sir J. Malcolm's time.

Of the feudatory territory, consisting of 71 states, supervised by the Central Indian Agency, the head quarters is Indore, but has three grand divisions. The North East division comprises the native states of Bundlecund and Rewah. The Northern division consists of the Northern and Central districts of the Gwalior States. The South West division comprises the table-land known in modern times as Malwa, though far within the ancient limits of the province of that name, and the submontane territory between it and the Nerbudda, as also a considerable tract south of that river, extending to the Kandesh frontier. The first or N. East division, extending from the Bengal Presidency in the east to the Gwalior State in the west, includes Rewah and 35 other states and petty chiefships. Its area is about 22,400 square miles; its population about 3,170,000 souls, and its public revenues aggregate about Rs. 63,68,000. The 2nd or Northern division extends from Bundlecund and the Saugor district, and has an area of about 19,505 square miles; its population is about 1,180,000 souls, and its public revenue about Rupees 67,65,000.

The 3rd or South West division goes on, westward, to the Bombay Presidency, and contains the remainder of Gwalior, Holkar's states, Bhopal, Dhar and Dewas and other small states. The area of this division is about 41,700 square miles, its population about 3,320,000 souls and its public revenues about Rupees 1,30,00,000. The states and petty chiefships in Central India, form a political, and are in a natural, division of British India, and include an area of 83,600 square miles and a population of 7,670,000. This territory is divided thus,—viz.

	Principal states.	Secondary.	Minor and Petty.	Total.
Mahratta.....	2	2	...	4
Mahomedan..	1	2	4	7
Bundela . ..	...	6	11	17
Rajput..... ..	1	12	26	39
Brahmins, &c.	...	1	3	4
	4	23	44	71

with a total revenue of Rupees 2,61,23,000.

Bhil. The desolate wilds and jungles of the western Sathpura range, and parts of the country which extend from them to the Vindhya hills, are occupied by Bhil tribes, who abhor field labour or manual labour of any kind.

Malwa. Adjoining this, are the richly cultivated plains of Malwa with occasional intervening tracts of hill and jungle, from the Myhee on the west to Bhilsa on the east, a stretch of nearly 200 miles, and from the crest of the line of the Vindhya to Mundissore and Oomutwarra, a distance of 100 to 120 miles, and occupied by a thrifty agricultural people.

Hilly tract. This is succeeded by the more hilly and jungly tract of Oomutwarra, Seronge and Keechiwarra, with a scanty population.

Gwalior. Northwards, towards Gwalior, the country becomes more open, except on the wild border tracts of Kotah, of Bundlecund, till we come to the carefully cultivated plain of Gwalior stretching for a distance of 140 miles between the Chumbul, Pahooj and Sind rivers.

Bundlecund is ruled by the Bundela race. A vast portion of Bundlecund is hilly and unproductive, forming the northern slope of the table land of the Vindhya.

Rewah is ruled by the Baghela race. The plains of Rewah are fertile; but the valley on the Sone, to the south of the Kymore range is desolate. The people are indolent and untrustworthy. Though widely different in other respects, there is one characteristic

common to the Baghel of Rewah, the Bundela of Bundlecund and the rajput of Gwalior and Malwa, a dislike to labour, or service away from their homes. They generally leave tilling of the soil to the inferior and servile classes, and are regarded as the heads of the local society. Many of the Rajputs in the states of Central India, give themselves up to sloth and the immoderate use of opium.

Malwa and Gwalior are great centres of trade.

In Malwa, the towns of Indore, Bhopal, Oojein, Mundipore, Rutlam, Dhar, Jowra, Augur, Neemuch, Shoojawulpoor and Bhilsa are the principal marts.

Indore is the capital of the maharajah Holkar.

Gwalior, is the capital of the maharajah Sindiah.

Rajahputanah Agency. Rajputanah stretches from 23° 15' to 30 N. L. and from 69°, 30' to 78° 15' E. L. containing an area of 123,000 sq. m., with a population estimated at ten millions and includes eighteen principalities, viz.

15. *Rajpoot.*

Meywar or Oodeypore.	Bikaheer.	Sirohi.
Jeypore.	Kotah	Doongurpoor.
Marwar or Jodhpore.	Kerowlee.	Banswarah.
Boondee.	Kishenghur.	Pertabgurh.
	Jeysulmeer.	Jhallawar.
	Ulwur.	

2, *Jat.*

Bhurtpore. | Dhollpore.

Mahomedan.

Tonk.

Enclosed in these are two purely British districts, Ajmir and Mhairwara.

In Europe, Hindostan is generally understood to comprise the whole of India, from the base of the Himalaya to Cape Comorin, but in India the term is restricted to the provinces north of the Nerbudda whilst all to the southward of that river, in the peninsula of India, is called the Dekhan, or southern provinces.

Masudi mentions that at the time of the mahomedan conquest the country about Basrah was called Arz-ul-Hind, "The Land of India." India, however, is supposed to have obtained its name from the Indus river, the Sin, Sinda or Hinda or Hapta Hinda, the Abu-Sin of the Arabs, the first great river met with in the route from Europe and from Western and Central Asia. It is true that so far back as the reign of Darius Hystaspes, B. C. 521, the early writers placed Indians on both sides of the Indus and made India extend westward to Kandahar (Gandhara), embracing perhaps the fourteen Iranian provinces or

nations, enumerated on the Naksh-i-Rustum as lying between Sogdiana and the Punjab and subject to Darius. But eastward of the Indus, the country was always India, and this name seems to have been chiefly used in the south of Asia for it first occurs in the Bible, in the book of Esther (i, 1; viii, 9) as the limit of the territories of king Ahaseurus in the East, as Ethiopia was on the west; and the names are similarly connected by Herodotus (vii, 9). The term "Hoddu" used by the Hebrews is an abbreviation of Honadu which is identical with the names of the river Indus, for, to the present day, all along the course of that river the letters S. and H. are interchanged, and, in the Vendidad, the Panjab is described as the "Hapta-Hindu" and the native form "Sindus" is noticed by Pliny (vi, 23.) The India of the book of Esther is not the peninsula of Hindustan, but the country surrounding the Indus—the Punjab, and perhaps Sind—the India which Herodotus describes (iii. 98) as forming part of the Persian empire under Darius, and the India which at a later period was conquered by Alexander the Great. The name occurs in the inscriptions of Persepolis and Nakhsh-i-Rustum, but not in those of Behistun.

In more recent times, also, the term India, has been applied by the nations of Europe to the localities which they have occupied or with which they have traded. With the Portuguese, the northern part of Hindustan held by the Moghul sovereigns, was styled Mogor, and Goa and the Western Coast of the Peninsula was to them India, just as the British now designate all their possessions, and as with the Dutch, now, India means the Java, Sumatra, and the Netherland possessions in the Archipelago.

Most of the traffic with India seems to have been by way of the Persian Gulf and the Red Sea. The Tyrians established depots on the shores of the Persian Gulf, and the course of trade being through the land of the Cushdi, the races in India came to be included under the ethnological title of Cush. (Gen. x. 6), and hence the Persian, Chaldean and Arabic version frequently render that term by India as in. *Is.* xi. 2., xviii., 1; *Jer.* xiii. 23; By the natives, however, Hindustan, is the term applied to the whole of that central region of northern India, from the Punjab on one side to Bengal on the other, and from the Himalaya to the southern declivities of the Satpura range running across India in about the parallel of L. 22 N.

Religious changes.—The ancient history of India shows that there were four great religious eras. *The Vedic*, in which Agni, Indra and other personifications of spiritual existences were propitiated with feasts and invoked with the hymns of the Rig Veda, and in which maidens selected their husbands in the Swayamvara and monarchs sacrificed the Aswamedha. *In the Brahminic period* the Kshatriya feasts were converted into sacrifices for the atonement of sins against brahminical law and divine worship was reduced to a system of austerities and meditations upon the Supreme Spirit as Brahma. It was in this era that the brahmins assumed the character of a great ecclesiastical hierarchy and established that priestly dominion which still extends over the minds and senses of the hindus of India. Thirdly, *the budd'hist period*, in which Sakya Muni appeared, and Fourthly, *the brahminical revival* during which brahmins abandoned the worship of their god Brahma, and reverted to the old national gods and heroes of the Vedic Aryans. In this era, Vishnu came to be regarded as the Supreme Being, and Rama and Krishna as his incarnations. The countries between Hindustan and China, came to be called the further India; or India Extra-Gangem; whereas, Hind or India, proper, belonged only to the country of the people called Hindoos; or those of India Intra-Gangem. The name is as ancient as the earliest profane history extant: and this may serve, among many other instances, to prove the high antiquity of the Persian language.

Inhabitants. It is admitted that during all ages, either as immigrants or as conquerors, the races from the north and west have been entering India. How little these have amalgamated may be judged of by mentioning, that out of 1030 villages, lying here and there between the Jumna and Sutlej and which were under British management in 1844, there were found to be 41 different tribes of agriculturists, of whom may be mentioned—

Jat,	443	Brahmin,	28	Doghur	28
Rajput,	194	Khetr,	6	Kulal,	5
Gujur,	109	Raien or		Gossaeen,	3
Syed,	17	Araien,	47	Bairagi,	2
Sheikh,	25	Kumbo,	19	Miscellaneous,	46
Pathan,	8	Malee,	12		
Mughl,	5	Ror,	33	Total.	1,030

And as a character of the great revolt and rebellion of 1857 and 1858, it was observed that certain classes of villagers attacked and destroyed other classes:—the powerful hand of a regular government being temporarily removed, the ancient antipathies of race at once came into play. Dwelling amongst each other, door to door, but yet never mixing, most of the races remain as distinct as when ten, fifteen, twenty, thirty,

forty and fifty centuries before, they came to the south, neither eating together nor intermarrying. It is this separating system which has kept the stocks of Arian and Turanian races of India pure. On the slightest suspicion as to descent all social intercourse ceases, and the descendants, in different lines from the same recognised ancestor form new castes. In this way, almost every family of a few hundred years' duration is now separate. The cause of the origin of this exclusive propensity is unknown, further than that the system of caste and the forms of brahminic worship commenced amongst the East Arians after their passage of the Sutlej, and now every Arian and most Turanian households are guided by its rules. This separation into castes or sections seems, however, primarily to have been a race distinction. It has, now, however, as regards the East Arians and others who follow the brahminical teachings, and even as regards the Turanian races, a bearing quite irrespective of race or faith or creed. In explanation of this, it may be mentioned that the countries comprising British India are essentially hindu, by which is merely meant that the bulk of the agricultural and commercial classes—perhaps 86 per cent.—are neither buddhists nor mahomedans, but are followers of some form or other of the brahminical teachings and reverencing their teachers.

Climate seasons and cultivation.—Dr. Royle gives the following arrangement of the countries of which the plants will grow in the different parts of India.

Tropical and East-Indian Islands, Tropical Africa, Brazil, Guiana, West-Indies, and Florida.	Travancore, Cochin, Malabar, Ceylon, Malayan Peninsula, Chittagong, Bengal, Lower Assam.
East and West Coast of Africa.	Coromandel Coast, Northern Circars, Concan.
Southern States of North America, Egypt, north of Africa, Syria.	Gujerat, Behar, Doab, Delhi, Malwa.
Mexican Highlands, Lower Mountains of Spain.	Mysore, Hilly ranges in Deccan, Rajpootana.
South of Africa, Extra-Tropical New Holland, South America beyond 23½° S. lat.	Saharunpore and Northern Doab.
Mediterranean Region.	Deyra Doon, and Himalayan Valleys to moderate elevations.
Chino-Japanese Region, Middle Andes, Peru, and Mountains of Brazil.	Neilgherries, Upper Assam, Himalayan Mountains.
North of Europe, North of Asia, & North America.	Himalayan Mountains, Regions of Oaks and Pines.
Arctic Regions, Mountains of Europe, Elevated Andes.	Himalayas above Region of Forest.

The northern, like the southern part of India, enjoys two crops during the year, one called the khureef, or rain crop, sown in June, and reaped in October, the other sown in October, and reaped in March and April, called the rubbee or cold weather crop. The latter, embracing the months which approximate in temperature to that of the season of cultivation in colder countries, corresponds with them also in the nature of the plants cultivated, as for instance, wheat, barley, oats, and millet, peas, beans, vetch, tares, chik-pea, pigeon-pea, and lentils; tobacco, safflower, and succory; flax, and plants allied to mustard and rape, as oil seeds; carrot, coriander, and cummin, and other seeds of a similar kind, as ajwain, sonf, soya, and aneeson. In the rainy season, a totally different set of plants engages the agriculturist's attention, as rice, cotton, indigo, and maize, with sorghum, pulse, joar, koda, most of the tropical legumes, as well as several of the cucumber and gourd tribes, together with the sesamum for oil, and the varieties of the egg plant, as a vegetable. The sun and sunnee, two cordage plants, are also cultivated at this season.

In Hindustan the people usually arrange the year into three periods, the 'Choumasa' or 'Burk'ha,' which is the rainy season of four months duration; after which is the 'Seeala' or 'Jara' or 'Mohasa' the cold season; followed by the Dhoopkala or K'hursa or hot season. This division indicates generally, the course of the seasons in India, though, in one locality, the rains or the hot or cold seasons may be somewhat more prolonged.

The primary divisions of continental India are four: Hindostan, including in that term the whole Peninsula of India and the Gangetic plain to the base of the Himalaya. 2. The Himalaya, a mountain chain which rises abruptly from the Gangetic plain, and is connected with a still loftier mountain mass (of Tibet) to the north, and beyond India. 3. Eastern India, India Ultra-Gangem including the kingdom of Ava and the Malay Peninsula. 4. Afghanistan. These divisions are marked out by the great mountain barriers and by the ocean. The Himalaya mountains on the north are nowhere under 15,000 feet, usually exceed 17,000, and 18,000 feet and rise in isolated peaks or groups of peaks from 21,000 to 28,000 feet.

From the western extremity of the Himalaya the Afghan mountains descend parallel with the Indus, with a gradually decreasing elevation from above 15,000 feet to the level of the sea at the Arabian gulf. Throughout Afghanistan the climate is excessive.

The cold of the winter is intense, the spring is damp and raw and the summer, during which hot west winds prevail, is intensely hot at all elevations. The general aspect of the whole of Afghanistan is that of a desert. The crops are chiefly wheat and barley, even up to 10,000 feet elevation. Rice is cultivated in great quantity at Jellalabad, 2,000 ft. At Kabul 6,400 feet, and to a considerable extent at Ghazni 7,730 feet. Poplars, willows and date-palm trees are extensively planted as well as mulberry, walnut, apricot, apple, pear, and peach-trees, and also the Elæagnus orientalis, which bears an eatable fruit. The vine abounds as in all warm and dry temperate climates. The majority of the Afghan and Tibetan plants are also on the one hand, natives respectively of the Caspian steppes and N. Persia, and of Siberia on the other.

The date is cultivated in Beluchistan up to 4,500 feet, and a dwarf palm, Chamærops Ritchieana of Griffith, perhaps identical with the Chamærops humilis of Europe, occurs abundantly in many places, but with a somewhat local distribution.

Mountains.—The Aravalli mountains extend from Hansi and Dehli to Guzerat.

The Vindhya chain stretches across the centre of Hindustan, from the Gulf of Cambay to the Ganges, and is three to four thousand feet high.

A Peninsular chain, called the Ghats also the Western Ghats, extends from Cape Comorin to the Tapti river, for upwards of 900 miles, running parallel to the coast line, and perpendicular to the direction of the monsoons. This chain divides the peninsula into two distinct climates, of a narrow western one, in Malabar and the Concan, and a broad eastern one, in which are the Carnatic, Mysore, and the Dekhan, traversed by all the peninsular rivers.

Winds, Temperature and Rains.—The S. W. monsoon comes from the Southern Ocean, and is loaded with vapour. It passes over the plains of Bengal, and strikes on the Khassya mountains, and the whole length of the Himalaya, discharging itself in heavy rains. From April till August it blows from the East of South, in August S. S. E., and in September more easterly lowering the temperature of Bengal and of the northern plains, though the plains of the Punjab continue excessively heated.

From the vernal till the autumnal equinox, the heat of a great part of India continues great; but after the autumnal equinox, the great mass of the Himalaya becomes intensely cold, and the plains of India generally become cool. Where the north-east monsoon prevails it is everywhere a land wind, except on the East coast of the Carnatic and in the Malayan Peninsula. In Malaya it blows over a great extent of sea, and is therefore very rainy, but in the Carnatic the width of sea is not great, so that the rain-fall, though well marked, is less, and terminates long before the end of the monsoon, probably from the wind acquiring a more directly southerly direction, after the sun has reached the southern tropic. The amount of rain varies prodigiously in different parts of India, from almost none to six hundred inches, but the rain-fall affords no direct criterion of the humidity of any climate, for the atmosphere may be saturated with moisture without any precipitation taking place. Thus, while in Sikkim 1 ° for 300 feet is the proportion for elevations below 7000 feet, on the Nilghiri Hills it is about 1 ° for 340 feet, in Khassia 1 ° for 380 feet; and the elevations of Nagpur and Umbala produce no perceptible diminution in their mean temperature, which is as great as that which would normally be assigned to them were they at the level of the sea. At Mahabaleshwar, it amounts to 248 inches annually. In the Southern Concan, especially in the Sawantwari district, the rains are as heavy as in Canara. At Bombay the rains last from June till the end of September, and the fall is only eighty inches, which is considerably less than at any point further south on the coast. At Tannah, however, the average fall is more than 100 inches. In the Himalaya, the truly temperate vegetation supersedes the sub-tropical above 4,000 to 6,000 feet, and the elevation at which this change takes place corresponds roughly with that at which the winter is marked by an annual fall of snow. This phenomenon varies extremely with the latitude, humidity, and many local circumstances. In Ceylon and the Madras Peninsula, whose mountains attain 9,000 feet, and where considerable tracts are elevated above 6 to 8,000 feet, snow has never been known to fall. On the Khassia mountains, which attain 7,000 feet, and where a great extent of surface is above 5,000, snow seems to be unknown. Sikkim occupies an intermediate position between Nepaul and Bhotan, and unites the floras of Nepaul, Bhootan, East Tibet, and the Khassia mountains, being hence, in a geographico-botanical point of view, one of the most important provinces in India, if not in all Asia. In Sikkim snow annually falls at about 6,000 feet elevation, in Nepaul at 5,000 feet, in Kumaon and Garhwal at 4,000, and in the extreme West Himalaya lower still.

That the mountain system of East Tibet is an enormously elevated mountain mass, is proved by the statements of many intelligent Tibetans, by the Chinese geographers, by the narrative of M. Huc, and by the fact of so many of the large rivers of Asia flowing from it in several directions.

The Travancore group of mountains presents a striking analogy to the island of Ceylon. They are loftiest at the extreme north of the district, where they stretch east and west for sixty or seventy miles, separating the districts of Dindigul and Madura. Notwithstanding the perennial humidity, the rainfall at Courtalam is only 40 inches: on the hills around, however, it is doubtless much greater.

The Pulney or Palnai mountains west of Dindigul, the Animalaya south of Coimbatore, the Shevaghiri mountains south-west of Madura, and the ranges near Courtalam, are all well known. The remarkable palm, Bentinckia, so common on its mountains, is, however, not known in Ceylon. The other palms are Caryota urens, an Areca, Phœnix farinifera, and one or two species of Calamus.

To the north of Coimbatore the peninsular chain rises abruptly to 8,000 feet, as the Neilgherry range, and continues northward as the mountains of Coorg. The rain-fall, which is great on the western coast, is less on the Neilgherries, being 100 inches at Dodabetta and 64 inches at Ootacamund. Farther north in the Nagar district of Mysore, where are many rounded or table topped hills 4,500 feet high, often cultivated to that height and rising in some places to upwards of 6,000 feet, the climate of the western part is very humid and particularly so at the town of Nagar or Bednore, 4,000 feet high, on a spur of the western chain, where inclement rain is said to last for nine months.

The Eastern Archipelago, from consisting of large islands, separated by belts of sea, possesses a humid and equable climate; but the great continent of Australia being a vast expanse of low land, becomes enormously heated when the sun is in the southern hemisphere, and presents extremes of climate.

Intimately connected with climate is the mean annual temperature of different localities.

	Lat.	Mean.		Lat.	Mean.
Equator	..0°	82·5	Bombay	...18·50	77·7
Ceylon	...7°	80·8	Macao	...22·12	74·
Pondicherry	11·55	85·3	Canton	.. 23 8	73·2
Madras	...13·4	80·4			

Sir John Leslie deduced from calculation that within the tropics, at the level of the sea, the thermometer ranges from 84 to 76. ° Humboldt, from a very extensive generalization, estimated the mean temperature of tropical regions at 81½. At Trincomalee the mean annual temp. is 80½. ° At London it is 49·651. The thermometer sometimes rises higher in the tropics, in Arabia to 110 ° and during the night falls to 94.

Sir John Leslie calculates that the thermometer sinks 1 ° for every 100 yards of ascent within the tropics. In northern latitudes, the number of rainy days are

12 ° to 43 °	78½	43 ° to 46 °	103
46 ° to 50 °	134	51 ° to 60 °	161

	Calcutta.		Bombay.		Madras.		Neilgherries.		London.			
	Mean. Max. 3 P.M.	Mean. Min. 6 A.M.	Mean. Max. 4 P.M.	Mean. Min. 11 A.M.	Mean. Max.	Mean. Min.	Monthly. Means. 6 A.M.	Monthly. Means. 3 P.M.	Average of rain fall 2 years. Inches.	Mean. Max.	Mean. Min.	Average of rain fall 2 years. Inches.
January	75·1	63·	78·	76·	82·2	74·1	45¾	57¼	1·17	39·6	32·6	1·483
February	80·	67·	78·	76·	84·5	73·8	45¾	59½	0	42·4	33·7	·746
March	88·1	68·	81·	80·	87·6	78·7	58	63	2·47	50·1	33·7	1·440
April	95·1	79·1	84·	83·	92·	84·1	58	63¾	3·10	57·7	42·2	1·786
May	97·1	80·1	85·	85·	94·3	85·1	57	63¼	5·21	62·9	45·1	1·853
June	88·	78·	86·	85·	90·5	84·2	57¼	60	5·25	69·4	48·1	1·830
July	86·1	78·1	81·	81·	92·6	85·3	52¾	61¾	10·37	69·2	52·2	2·516
August	86·2	79·3	82·	84·	89·9	83·1	57	60¾	11·77	70·1	52·9	1·453
September	86·	78·	80·	79·	89·7	83·3	54¼	60¾	2·40	65·6	50·1	2·193
October	89·2	76·1	85·	84·	87·8	82·4	50¼	62	7·41	55·7	42·1	2·073
November	75·	65·2	85·	84·	84·3	80·1	50¼	61¼	10·86	47·5	38·3	2·400
December	75·	59·	81·	80·	80·2	76·	46½	60	3·87	42·2	35·4	2·426
Annual Means...	85·3	73·4	82·4	81·5	87·9	80·8	52½	61	62·88	56·1	42·5	

The people of northern India live much on wheat, and those of the south on rice, and on ragi, the Penicillaria spicata, a grain

almost as unknown in Hindostan as in England.

Shades of character are found in different parts of India. The inhabitants of the dry countries in the north, which in winter are cold, are comparatively manly and active. The Mahratta, inhabiting a mountainous and fertile region are hardy and laborious, while the Bengalee, with their moist climate and their double crops of rice, where the cocoanut tree and the bamboo furnish all the materials for the construction of their houses unwrought, are more effeminate than any other people in India, and a love of repose, though not sufficient to extinguish industry or repress occasional exertions, may be taken as a characteristic of the whole people of the Bengal province. And akin to their indolence is their timidity, which arises more from the dread of being involved in trouble and difficulties than from want of physical courage: and from these two radical influences almost all their vices are derived.

In the prisons of the North-west provinces of India, in 1868, the average height and average weight of 16,694 prisoners was 5 ft. 4½ and 110½ lbs. The mahomedans and hindus were of equal height and weight, viz. 5 ft. 4 in. and lbs. 109½; the christians about 1½ inches taller and lb. 10 heavier and, as the criminal classes are all under the average of their race and nation, these averages may be considered as somewhat under the national standard of grown men. The Punjabee, Afghan, Marwaree, Jat and Goojur prisoners were on the average between 5 ft. 6 in. and 5 ft 7 in. in height. The Goorkha were only 4 ft. 9 in. in height and weighed lbs. 102. The Goorkha have rather broad faces, small dark eyes, dark straight hair, and small features; they are good tempered but not so intelligent as the Caucasian race.

Religion, the Vedic hymns are the chief of the religious books of the hindoos and contain the earliest records of the worship of the Aryan race who reached India, the date which is assigned to them being from 1,500 to 1,200 B. C. They indicate primarily a worship of the elements, for the deva named are Agni (Ignis) lord of fire; Surya, the sun; Marut, storms; Prithivi, the earth; Ap, the waters; Usha the dawn; Varuna (*ουρανος*) the heavens: and to them the hymns are addressed. Below this seeming polytheism, there is a sense of unity. That which is one, the wise call in divers manners; wise poets (I. 29) make the beautiful winged, though he is One, manifold by words. The hymns contain repetitions to weariness, but they are for the most part prayers for earthly blessings, for rain, sunshine, harvest, wealth, and conquest. Sometimes they expand in glowing adoration of the attributes of the God invoked, the "one king of the breathing and awakening world," whose greatness "the snowy mountains and the sea proclaim," "whose shadow is immortality." (I. p. 29.) Sometimes they embody the confessions of the penitent craving for forgiveness. "Through want of strength, thou strong and bright God, have I gone wrong; have mercy Almighty, have mercy." (I. p. 39) "Whenever we men, O Varuna, commit an offence before the heavenly host, whenever we break the law through thoughtlessness, have mercy, Almighty, have mercy;" now, they utter (as in the Gayatri, used by every brahmin for more than 3,000 years as his prayer on waking) the prayer that the "adorable light of Savitri, the sun, may illumine (or rouse) the spirit of the worshipper." Now, they recognise a power from whom no secrets are hid. "If a man stand, or walk, or hide; if he go to lie down or to get up, what two people sitting together whisper, king Varuna knows it; he is there as the third." (I. 41.) with no trace of the metempsychosis which we associate with later hindoo religion, they exp[illegible]eavy hope of immortality. "Where life is [illegible]last [illegible]here the worlds are radiant, there m[illegible] the fa[illegible] immortal." But, the Vedas sow th[illegible]sider[illegible]s of a mythology yet in the future by fanciful playing with the phenomena of nature. The dawn is a young bride, gold-coloured, daughter of the sky, mother of the cows (the mornings), leading the white and lovely steed (the sun). Sometimes their thoughts on the mystery of the universe clothe themselves in words which sound like the utterances of a later pantheism, as in the hymn which Mr. Colebrooke has translated.—

Nor Aught nor Nought existed; yon bright sky
Was not, nor heaven's loved works outstretched above.
What covered all? What sheltered? What concealed?
Was it the water's fathomless abyss?
There was not death,—yet there was nought immortal.
There was no confine between day and night,
The only One breathed breathless by itself
Other than it there nothing since has been.
Darkness there was, and all at first was veiled
In gloom profound, an ocean without light:
* * * * *
Then first came Love upon it.

Vedic thought is pure as contrasted with the worship of later brahminism. The triad of Brahma, Vishnu and Siva is but a secondary formation, and in the Vedic times, the Kali worship and Suttee-ism, were unknown.

The Vedas however indicate the caste system which has overruled Indian's social life since 3,000 years, the verse recognising it being "the brahmana was his (Brahma's) mouth, the Raganya was made his arms, the Vaisya became his thighs, the Sudra was born from his feet."

The religion of the bulk of the people of Hindustan, is hinduism called also brahminism. About a third of the population follow mahomedanism, which its adherents style the Deen-i-Islam, or the Faith of Salvation. and designate themselves, Mussulman, or the saved people. There are in Western Hindustan a considerable number of the Jain religionists and in N. Western India are more than a million of the Sikh persuasion. There are few buddhists. There are a considerable number of christians.

Of late, christianity has not been holding so prominent a position, as in the earlier part of the nineteenth century. At that time, almost the sole instructors of the youth of the country, in all pertaining to an English education, were the christian missionaries who while giving secular edution had the opportunity of imparting christian truths at a period of their pupil's lives when much that is learned is permanently acquired. Then, also, the condition of the country and the form of Government did not furnish many openings for the employment of educated natives, and those whom the missionaries trained had leisure to meditate on the doctrines they had been taught. About the middle of the nineteenth century, however, the British Government undertook to impart to its native subjects an English education higher than anything obtainable in the missionary schools and at the present time about half a million sterling is being annually expended for that object. The mode of training pursued in the Indian Universities and the resulting over education of the alumni have created in them a veneration for mere intellectual attainments with a desire for mere worldly advancement which have unspiritualized the educational efforts of missionaries and thrown even their most successful pupils in the shade.

Languages, a language of mixed origin is in use amongst the mahomedans of India, and employed by the British as the ordinary lingua franca, in their intercourse with the people of the country. It is called hindustani also, urdu, and is essentially Hindi, with large admixtures of words of Sanscrit origin or of Persian and Arabic, according as the speakers or writers, are hindu or mahomedan. At present the Hindustani or Urdu, the Punjabi and the Persian, are written and printed in the same character, but the Arabic, Bengali, Burmese, Canarese, Chinese, Guzerati, Hindi, Mahratta, Malayalam, Malay, Siamese, Singhalese, Tamul, and Telugu are all distinct tongues, each written and printed in a separate character. In the south of India, the Arabic numerals have been generally introduced into Government accounts. This was on the recommendation of Sir Erskine Perry, and it has been supposed possible to use the Roman and Italian character for the other tongues and doubtless, it is quite possible to do so, but another generation will see the bulk of the people of India using English with very little knowledge of their respective mother tongues.—*Ann. Ind. Admin. Royle, Productive Resources of India. Hook. and Thoms. Fl. Indica Cal. Rev.*

HINDWANA, Hindi, also Tarbuz, the water melon. Cucurbita citrullus. Citrullus vulgaris.

HINDYAN, a town in the province of Fars, at the mouth of the Kheirabad river, the Ab-i-Shereen of Timur's expedition, and perhaps the Arosis of Nearchus. The Hindyan river is navigable from the sea up to Zeitun, which latter town is only a day's journey (five fursangs) to Behbehan.—*De Bode.* See Kal.

HINEREDURA. SINGH. Anethum sowa. *Roxb.*

HING. HIND. Narthex assafœtida, Ferula assafœtida, Assafœtida.

HINGAM. AR, HIND time; season; hence Hingami, temporary.

HINGAN, BENG. also Hingan bet. BENG. DUK. HIND. also Hingot. HIND. Balanites Ægyptiaca. syn. of Ximenia Ægyptiaca.

HINGCHA, BENG. Enhydra hingcha.

HINGDA, also Durdar., HIND. also Hingra. GUZ. Cinnabar.

HINGENGHAT, Lat. 20° 34'; N. L. 78° 51', E in Berar, S. of Nagpur. Level of the Godavery is 610 feet and the top of the bank of the Godaveri 650. *Cullen.*

HINGG, PANJ, Balanites Ægyptiaca, *Delile.*

HINGHUDI, SANS., Terminalia catappa, *Linn.*

HING-GACH, BENG. Assafœtida plant, Ferula assafœtida.

HINGGO; Hingol, also Hingot, HIND. Balanitis Ægyptiaca.

HINGLAZ, a town near the sea, about eighty miles from the mouth of the Indus. As a place of Hindoo pilgrimage, it is little visited, from the difficulties which attend the journey when made from most parts of Hindustan. It is said, however, to contain twenty-four temples of Bhawani. *Bostan's Western India* Vol. I p. 158.

HINGOLI, 19° 43'; 77° 11', in the Dekhan, S. E. of Aurangabad and 185 miles N. W. of Hyderabad the mean height of the village is 1,495 feet according to Scott and 1,478 feet according to Wilson.

HINGOOLEE, Beng. Solanum melongena.

HINGRA, Guz. Cinnabar.

HINGU, Malay. Ferula assafœtida. *Linn.* Assafœtida.

HINGUL GASS, Singh. Amoora rohituka. *W. and A.*

HINGUNBET, Duk., Balanites Ægyptiaca. *Delile.*

HINGUN, a river in the Bulundshahar district of the N. W. Provinces.

HINGUR, Hind? Cinnabar.

HINGUPATRI CHETTU, Tel. Ferula assafœtida.—*Linn.*

HINHURU PECALLIEULLA, Sing. Zedoary.

HINJARA. Karn. A cotton beater or cotton dresser. See Pinjara.

HINJOLO, Uria. Eugenia acutangula.

HINNA, Hind. Lawsonia inermis.

HINNÉ KOREISH, Arab. Lichen rotundatus.

HINNOM. At the union of the vales of Hinnom and Jehoshaphat, there is a basin of water, where the fire of the Temple was preserved; and beyond it, where a clear stream runs through a very narrow inlet between the Mount of Olives and that where Aceldama and the other sepulchres stand, are many olive trees. *Skinner's Overland Journey.* Vol. I. p. 218.

HINNUP, Dut. Hemp; Cannabis sativa. —*Linn.*

HIN-PUS-WAEL. Singh. Entada purs-œtha.—*D. C.*

HINTAL. Beng. HINTALAMU. Sans. Tel. Phœnix paludosa.

HINTEH. Arab. Wheat.

HINTRUNJE, See Kashbin.

HINZIL Arab. Pers. Cucumis colocynthis. Colocynth.

HIONG-NU. See India.

HIPPALUS, the Greek name of the south-west monsoon. See Musiris.—*India in the 15th Cent.*

HIPPALUS, a Greek of Alexandria who, some time prior to the reign of Claudius Cæsar, discovered the direct passage across the Indian Ocean. The ancient mariners boldly crossed the Arabian Sea, and reached Muziris a port on the Malabar Coast of India in a voyage of forty days, or in the middle of September. They left India on their return at the end of December. The place on the Indian coast which the Egyptian merchant vessels then reached is learnt from the coins found there, and was, we know, in the course of the trade wind by which they arrived; we also know the port of Africa where they left the shore and braved the dangers of the ocean. A hoard of Roman gold coins has been dug up in the middle of the nineteenth century near Calicut, under the roots of a banyan tree. It tells its own tale. It had been buried there by an Alexandrian merchant on his arrival from the voyage, and left safe under the cover of the sacred tree to await his return from a second journey. *Sharpe's History of Egypt, Vol.* II. p. 115-116. See Aden p. 29.

HIPPARCHUS, See Yoga.

HIP-PE. Can. See Honge.

HIPPORUS, Annius Plocamus was a freeman of Rome, who farmed the customs in the Red Sea, Pliny mentions that he was blown off the African coast in a violent gale, and, after fifteen days, he was driven on Ceylon at the port of Hipporos which Mr. Roberts supposes to be the Greek words Hippos and orus or horse mountain, a Greek translation of "Kuthri'-Malei" a hill on the N. W. coast of Ceylon.—*Roberts* p. 81.

HIPPELAPHE, *F. Cuv.* syn, of Rusa hippelaphus, Cuv.

HIPPION HYSSOPIFOLIUM. Spreng. Syn. of Cicendia hyssopifolia.

HIPPOCAMPUS a genus of fishes of the Syngnathidæ. H. Mannulus and H. comes, of the Indian seas, when drying, assume the figure of a horse's head and are known to all as the Sea-horse, which the word Kuda, in Malay, implies. The body is tapering and curled near the tail. *Journal of the Indian Archipelago*, 1853. p. 265.

HIPPOCRATEA ARBOREA.

Tree like Hippocratea. | Katha-puhariya, Hind.

Found in Kotah hill jungles. Dr. Wight, in Icones, also mentions H. Grahami and H. obtusifolia.—*Genl. Med. Top.* p. 173. *W. Ic.*

HIPPOPHAE SALICIFOLIA. A plant of Spiti used for fuel.

HIPPOGLOSSUS. A genus of fishes of the Family Pleuronectidæ.

HIPPOLYTE. A genus of the Crustaceæ of the tribe Palemoniens, as under

Hippolyte ventricosus, *Edws.*		Asiatic Seas.
,, quoyanus,	,,	New Guinea.
,, spinifrons,	,,	New Zealand.
,, spinicaudus,	,,	New Holland.
,, gibberosus,	,,	New Holland.
,, marmoratus,	,,	Oceanica.

HIPPOMANE BIGLANDULOSA of Borneo, yields caoutchouc.

HIPPOPHAE RHAMNOIDES. *Linn.* A shrub of the Punjab and N. W. Himalaya, in Kangra, Lahore and Ladak, with many vernacular names. Its stem is sometimes 5 or

6 feet in girth. It bears an acid fruit, which makes a good jelly with half its weight of sugar. Its stem gives a good fuel and charcoal.—*Drs. Stewart and Cleghorn.*

HIPPOPHAE SALICIFOLIA.

Buckthorn,	Eng.	Tsor-khar,	Punjabi.
Soorch,	Punjabi.		

This is found in the Sutlej valley between Rampur and at an elevation of 10,000 feet. Its berries mixed with sugar form a good preserve. Near the Chenab it is a stout shrub with spinous branches, and frequent in the valleys. The yellow berries are extremely acid, but when boiled with sugar form an agreeable and wholesome preserve. The people use the branches for dry hedges and fuel, and they are so valued for these purposes as to be considered village property. A species of Prunus, "litsi," ripens in September, with a tolerably sweet fruit, sometimes like the cherry. A gooseberry, "bilitsi," with small woolly sour berries is common, and a black fruited Ribes, "rasta," resembling in taste the European red currant is largely eaten by the people.—*Cleghorn Punjab Report*, p. 67, 150. *Dr. J. L. Stewart.*

HIPPOPOTAMUS the Behemoth of the old Testament, is found in Africa in great numbers and the existence of two species is suspected. The natives kill it with spears after enticing, it into a pitfall. They eat its flesh as they do that of the elephant though both are said to be tougher than caoutchouc. The skin, of which the curbaj, (hence the Spanish corvacho, and French cravache,) the real sceptre of Egypt, is made, has, from the use it is applied to, a certain value.

The hippopotamus has been discovered in a fossil state, in the Sub-Himalaya, where there is an admixture of extinct and existing forms, well preserved remains of hippopotamus, rhinoceros, mastodon, peculiar forms of elephas and very remarkable bovines, dissimilar from those now in India, but seemingly identical with those of Europe. Of animals still existing in India, are found the fossil Emys (Pangshura) tecta. The imbedded shells are all of species still living in the valley, and indicate conclusively that the changes have been gradual from the time that the hippopotami wallowed in the muds, and rhinoceros roamed in the swampy forests of the country, where mastodons abounded and where the strange forms of the sivatherium, dinotherium and camelopardis existed.

The ivory of the great canine teeth of the hippopotamus, is highly valued by dentists for making artificial teeth. No other ivory keeps its colour equally well; and these canine teeth are imported in great numbers into England for this purpose, and sell at a very high price, from the closeness of the ivory. The weight of the tooth, a portion only of which is available for the artificial purpose above mentioned, is heavy in proportion to its bulk; and the article fetches, or did fetch, upon an average, about thirty shillings per pound. One of the specific distinctions pointed out by M. Desmoulins is the comparative abrasion of the canines in the supposed two species.—*Eng. Cyc. Hamilton's Sinai Hedjaz, Soudan*, p. 339.

HIPPOSIDEROS, a genus of the mammalia, of the order Cheiroptera, of which the following species may be named.

H. apiculatus.	H. fulvus.	H. nobilis.
H. armiger.	H. lankadiva.	H. speoris.
H. ater.	H. larvatus.	H. penicillatus.
H. bicolor.	H. murinus.	H. templetoni.

H. Ater, *Templeton*, resembles H. speoris in everything but size and color. The back is coal-black, the hair near the body dark silvery-grey; belly greyish-black; the membrane deep black; tail one-half longer than the femora, its tip exserted. Length $1\frac{3}{8}$ to $1\frac{9}{16}$ in; expanse 10 to $10\frac{3}{4}$ in; tail 7 to 8 in. Common in old buildings about Colombo.—*Mr. Blyth's Report.*

H. Lankadiva, *Kelaart*, is the dubiously cited Rh. insignis of Mr. Waterhouse's Catalogue—Insignis being a true Hipposideros, while Pusillus is a restricted Rhinolophus, and the latter therefore cannot be the small Indian Hipposideros. Length of a full grown male, head and body $4\frac{3}{12}$ in.; tail 2 in.; fore-arm 3 in.; tibia $1\frac{1}{6}$ in.; carpus $1\frac{3}{4}$ in.; tarsus $\frac{4}{12}$ in.; ears $\frac{10}{12}$ in. broad and nearly as long; space between them $\frac{3}{4}$ in.; weight 2 oz. $3\frac{1}{2}$ dr., ears large, acuminate, and emarginated externally near apex; with transverse striæ on their inner surface; naked, with the exception of the inner edge. Muzzle short, but face rather elongated. Body long covered with soft dusky rufous-brown fur, which is grayish at base. Head, neck, and beneath, of a lighter brown colour; pubes hairy. Interfemoral membrane acuminated to tip of tail, which is not exserted. No frontal sac, but two tubercular points from which grow stiffish hairs. This bat is found in great abundance in and about Kandy. The Kornegalle Tunnel swarms with them. It is the largest of all the Rhinolophinæ hitherto seen in Ceylon.

Other two are described as H. Templetonii, *Kelaart*, (R. voulha *Templeton*,) which is no other than H. Speoris, H. atratus. Kelaart (Rh. ater *Templeton*), which is the supposed variety of H. murinus.

Besides the latter, Dr. Kelaart forwarded to Calcutta a specimen of what was presumed to be H. vulgaris, *Horsfield*, *apud*

Gray, of India,—and one of indubitable H, murinus, (Elliot). Mr. Blyth accordingly recognised the following as Singhalese species of Hipposideros. 1. H. Lankadiva (vel insignis? 2. H. vulgaris? H. Speoris ∀. voulha) 4 H. Murinus? 5 H. Murinus, var? vel ater et atratus.) "Voulha is the Cinghalese word applied to all bats." —*Mr. Blyth's Report.* See Cheiroptera, Mammalia.

HIPPURINÆ, the order Hippurinæ furnishes the water caltrops (Trapa) the seeds of which are vended in the Chinese streets as a fruit, after boiling. The Chinese name means buffalo-head-fruit, which the unopened nuts strikingly resemble.— *Williams' Middle Kingdom*, p. 282.

HIPTAGE MADABLOTA, *Gærtn.*

Gærtnera racemosa.—*Roxb. Rheede.*

Bokhi or Utimukta	Duk.	Madhavitige	
Delight of the woods	Eng.	Potu-Vadla;	Vadla
Ati Muktamu:	Tel.	yarala.	Tel.

A large climbing shrub, with very beautiful white and yellow flowers in terminal racemes: petals fringed; four white, one yellow;—one of the stamens is much longer than the rest; fruit unequally three winged. The bark is a good sub-aromatic bitter.— *Riddell.*

HIRA, a diamond, Hira-ba-rang-i-nausadir a gray or neutral colored diamond.

HIRA DAKHUN, Pterocarpus draco, or Calamus draco, dragon's blood, See Khun Siawa-shan.

HIRAJ, Hind. Pers. Auction.

HIRAK, or hirek of Hushyarpur, Diospyros montana.

HIRA-KASIS, an earth containing sulphate of iron.

HIRALI, Sing. Artocarpus integrifolia. *Linn.*

HIRAM, king of Tyre, was contemporary with Solomon, whom he assisted, he received from Solomon, 20 villages of Gallilee and was a partner with Solomon in the Indian trade. He reigned B. C. 1025 to B. C. 992. —*Bunsen.* III 414-20.

HIRAN, a river near Jubbalpore.

HIRANYA or Hiranya Kasipa, a king destroyed by Vishnu as Narasimha. See Avataram, Avatar, Krishna p. 545. Narasinga or Man Lion.

HIRANYA-BAHU, See Chandragupta.

HIRCUS ÆGAGRUS one of the Capreæ.

HIRDA, Duk. Mar. also Huldah. Terminalia chebula.

HIRI-KODDOL, Singh., Rhizophora, *sp.*

HIRIDA, Mahr. Nauclea? ? *Species.*

HIRINACHEREN, See Vishnu.

HIRN, the common deer; the black buck, &c.

HIRN-PADI, Hind. Convolvulus arvensis.

HIRN PARDI, also Hirn-Shikari, a hunter race of the Peninsula of India, who call themselves Bhaora.

HIRSE, Ger. Millet.

HIRSUF, Ben. Artichoke, Cynara scolymus.

HIRU, Hind. Cassia tora.

HIRUDO, the leech, one of the class Annelidæ, many of which occur in the South and East of Asia. The two species commonly used are H. medicinalis and H. officinalis and in America, H. decora. Six kinds of useful leech are mentioned in Susruta and by Avicenna.—*Royle.*

HIRUNDINIDÆ, a family of birds consisting of one genus and ten species, the familiar swallows, one or two species produce the edible birds nests of commerce. Mr. Blyth says: "there is no reason to suppose that the Hirundo esculenta of Linnæus, as described, with yellow irides and white-tipped tail has any prototype in nature: the latter would be an anomaly throughout the cypselidæ, but may refer perhaps to the white tail-markings of some real hirundo, erroneously supposed to be the constructor of the edible nests. Dr. Horsfield gives the species termed lawet by the Javanese as Hirundo esculenta, *Osbeck*, stating that the specimens which he examined in Java, and those which he took to England, differ from Latham's description in being uniformly of a blackish colour, without a white extremity to the rectrices. Another species, the linchi of the Javanese, he gives as H. fuciphaga, *Thunberg*, stating that 'its nest is constructed of mosses and lichens, connected with the same gelatinous substance which composes the edible nest of the preceding species.' In the Journal of the Indian Archipelago, the same two species are distinguished by the names "lawet" and "lyntye," and the nest of the latter is described to be without the least value. And, it is added: 'the residence of "lyntye," in the caves, contributes greatly to the injury of the true nests, for which reason the "lyntye" are destroyed as much as possible at each gathering. The nests which they make are constructed of grass-stalks. They are, however, of the same form, and are as artfully made as the others.' "Heer Hooyman, likewise, states, that besides the lawet, other species resort to the same caverns, which are named momomo, boerong-itam, boerong-zoekoe, and lintje. 'These,' he adds, 'are very similar to each other, excepting the second, which has the head larger; and the feathers

of all are entirely black. The nests which they construct are black and friable, composed of a light down,' (agglutinated ?) 'An opinion prevails that the presence of these birds is injurious to the caverns, on which account they are driven away as much as possible.' Another writer in the same volume of the Bataviaasch Genootschap, mentions the momos or boerong-itam (thus bringing together M. Hooyman's first two species,) as a large kind with plumed tarsi, indicating thus a true cypselus, which is probably the constructor of the nests assigned by Dr. Horsfield and others to the linchi. Assuredly, however, says Mr. Blyth, the Collocalia fuciphaga, (Hirundo fuciphaga, (*Thunberg*,) linchi or lintye of the Javanese, identical upon comparison with Javanese specimens, would appear to be the sole producer of the numerous nests gathered on the rocky coasts of the Bay of Bengal: and the often quoted notice by Sir G. Staunton, in his account of the Earl of Macartney's Embassy to China, must refer either to C. fuciphaga, or to an entirely new species, which is hardly to be supposed in the locality. For, he remarks: 'the birds which build these nests are small grey swallows, with bellies of a dirty white. The white belly is characteristic of C. fuciphaga; and this particular species occurs abundantly on parts of the coast of the Malayan Peninsula, in the Nicobar Islands, and the Mergui Archipelago, and so high as on certain rocky islets off the southern portion of the coast of Arracan, where the nests are annually gathered and exported to China. From all this range of coast Mr. Blyth has seen no other species than C. fuciphaga, nor does it appear that any other has been observed; and he had examined a multitude both of the adults and of young taken from the nests, collected in the Nicobars and preserved in spirit, all of which were of the same species. Still, what appears to be C. nidifica, inhabits the mountains far in the interior of India, though hitherto unobserved upon the coasts; and it is worthy of notice that C. fuciphaga does not appear to have been hitherto remarked inland in this country." Dr. Mason however observes that C. fuciphaga is constantly seen inland in the Tenasserim Provinces. The Karen in the valley of the Tenasserim in the latitude of Tavoy, are well acquainted with the bird, and they say it crosses the mountains to and from the interior every year. That it is the same species there can be no doubt, for the Karen name of the bird is "the white swallow," from its white belly.—*Mason.*

Hirundo flavicolla, Blyth, belongs to the group of Republican Swallows, (Petrochelidon of the prince of Canino), and has similar habits to the H. fulva of N. America. Upper parts glossy black with white lateral edges to the dorsal feathers more or less seen: the rump brownish and crown dark rufous; lower parts white, with black mesial streaks to the feathers of the throat and breast; the under surface of wing pale brown: tail slightly furcate, with a slight whitish spot more or less developed, towards the top of the inner web of the most of the feathers: tertiaries also white tipped. Length about 4½ inches: of which tail 1¼ inch, wing 3½. This retort nest-building swallow, hitherto found only in two spots, building in company, the nests crowded together in rocks overlying the rivers Sone and Karne in Bundelcund, at which time it was breeding.

Hirundo Riocourii, Savigny is the H. cahirrica, *Licht.*; and H. rustica orientalis, *Schlegel*), from Abyssinia, with under parts not more rufous than in ordinary H. rustica, from which it is insufficiently distinguished.

Hirundo rustica the Rustic 'Swallow,' of Europe, Asia, Africa; is migratory and common in the plains of India during the cold season chiefly over water.

Hirundo sinensis the ordinary Indian SandMartin occurs together with H. riparia.

Hirundo urbica the 'Martin' of Europe, Africa, Asia and Siberia; is somewhat rare or local ? in India and migratory.

Hirundo riparia the 'Sand Martin' of Europe, Asia, Africa; N. America is migratory, in India and local, and mostly replaced by H. sinensis.

Hirundo rupestris of S. Europe is common in the high mountains of India; and there is a diminutive of it also in the H. concolor of Sykes.

HIRANYA-GARBHA, Sans. from hiranya, gold, and garbha, the womb.

HIRANYAKASHA, Sans. from hiranya, gold, and akshee, an eye.

HIRANYA-KASHIPOO, Sans. from hiranya, gold, and kashipoo, a sheath.

HISCHPANSKIE MUCHI. Rus. Cantharis vesicatoria, *Latreille*. Cantharides.

HIS'HUN GARNA, Hind. Capparis horrida.

HISLOP, Revd. Stephen, born 8th Sept. 1817, at Dunse, Berwickshire, he joined the Free Church, in 1844 and a munificent donation of Rs. 25,000, having been offered by Captain Hill, on condition of founding a mission at Nagpore, Mr. Hislop was nominated the first missionary and on the 5th September 1844 ordained. He arrived at Nagpore on 13th February 1845 and gave much

time to geology, in the course of his mission-tours. In March 1853, he submitted to the Bombay Asiatic Society a paper on the "Geology of the Nagpore State." which was inserted in their Journal for July. Along with his friend Mr. Hunter, he wrote a more lengthened Memoir with a similar title for the London Geological Society, of which the first Part appeared in their Quarterly Journal for August 1855. In the following No. of the last mentioned periodical, there is a Memoir from Mr. Hislop; on the connexion of the plant bearing sandstone of Nagpore with the coal-beds of Central India and Western Bengal, and the Bengal Asiatic Society's Journal No. IV. 1855 contains another on the age of the Carbonaceous strata just referred to. In those papers Mr. Hislop describes some of the numerous fossils, which have been found in the tertiary deposit, and the sandstone, coal and shells of the Province of Nagpore; he suggests that the regur may have been formed of decomposed vegetation mingled in moist situations with the debris of any kind of rock; he proves that the trap covering the tertiary was not poured out at the bottom of the ocean, but must have been consolidated under no greater than an aerial pressure; and he maintains that the underlying volcanic rock is more recent than the overlying one and shows that the argillaceous sandstone of Nagpore with vegetable remains is identical with the common coal formation of India, that these are of fresh-water origin, and seem to belong to the era of the Lias or Lower Oolite. Mr. Hislop was accidently drowned, in crossing a river.

HISN KEIFA, See Mesopotamia.

HISPED HARE. Eng. Syn. of Lepus hispidus.

HISSA, Ar. Hind. Pers. an Indian term for a share or division, a portion.

HISSAR, a hill state north of Badakhshan, whose chief claims a Grecian origin. See Kush.

HISTA, a Malayan measure of arbitrary length, the fourth of the dippa, about half a yard. *Simmond's Dict.* See Dippa.

HISTER, a genus of the Coleoptera.

HISTIOPHORUS, the sword fish or fan-fish, is the Ikan-layer of Amboyna, the Dutch zeylfish or sail-fish, and the "Sailor" fish of seamen. It is from 10 to 14 ft. long, and is said to raise its dorsal fin and use it as a sail. *Bennett.*

HISU or hiru, Hind. a species of Capparis of Kangra.

HIT, a miserable town at the usual place where caravans cross the Euphrates between Baghdad and Damascus. There are copious fountains of bitumen and naphtha outside the town with the smell of which the whole water and air is infected. It is undoubtedly the place mentioned by Herodotus, under the name of "Is," as furnishing bitumen for the building of Babylon. Near this, on the Euphrates, and a little below Samara on the Tigris, the country is mere alluvium. The works of salt and bitumen even yet, around Hit, give a most singular appearance to the country. As the Euphrates nears the town of Hit, the stream has an average width of 350 yards, with a depth of 16 feet and a current of three knots per hour in the season of the floods, when there are 14 islands, on some of which are small towns. See Karej and Iran.

HITOPADESHA, Sans. from hita, good, and oopadesha, teaching. See Kali.

HIUL. The grand festival of the German tribes of the Baltic was the Hi-ul, or Hi-el, the Aswa-Medha of the children of Soorya, on the Ganges. In the ceremonies of the ancient Aswamed'ha, a milk white steed was selected with peculiar marks, liberated, and, properly guarded, was allowed to wander where he listeth. It was a virtual challenge to all sovereigns. Arjoona guarded the steed, liberated by Yoodishtra; but that sent round by Parikhita, his grandson, was seized by the Takshac of the north. The same fate occurred to Sagara, father of Desaratha, which involved the loss of his kingdom. In the Ramayana, Desaratha, monarch of Ayodia, father of Rama, is represented as commanding the rite: "Let the sacrifice be prepared, and the horse liberated from the north bank of the Sarjoo." A year being ended, and the horse having returned from its wanderings, the sacrificial ground was prepared on the spot of liberation. Invitations were sent to all surrounding monarchs to repair to Ayodia,-Kykaya, the king of Cassi, Lompada of Angdes, Coshula of Magad-des, with the kings of Sindha, Soovira, and Saurashtra.—*Tod's Rajasthan.* See Bal.

HIUNSEW. Hind. Parmelia *sp.*

HIWEN-THSANG. A Chinese traveller who passed seventeen years (from A. D. 629 to 645) in travelling through the countries lying to the west of China and especially in India, through countries which few had visited before him, and he describes some parts of them which no one has since explored. His chief object was to study the religion of Buddha, but his observations, geographical, statistical and historical, are characterised by great minuteness and precision. He started from Pekin and made his way amidst hardships and difficulties through

Chinese Tartary, to the region where Buddha had laboured. Near Talas, on his way to India he fell in with the Great Khan of the Turks, a successor of Dizabulus, whom the Chinese traveller calls Shehu. His account is very like that of Zamarchus. The Khan "occupied a great tent adorned with gold flowers of dazzling richness. The officers of the court sat in two long rows on mats before the Khan, brilliantly attired in embroidered silk; the Khan's guard standing behind them. Although he was but a barbarian prince under a tent of felt, one could not look on him without respect and admiration." He appears to have regarded the Wakhsh branch as the main Postu or Oxus. *Histoire de la vie de Hiouen Thsang* pp. 55-56. *Yule Cathay*, I. pages clxv and ccxxxiv.

HLA TIBET, Musk deer. The finest musk comes from Khoten.

HLAINE, an elongated valley of Pegu, extending north and south with the Yomah range, at a distance of ten to thirty miles from the east bank of the Irawady river; the hills at intervals advancing and then receding from the river, but always leaving a broad plain on its bank. The lower part of the plain has been cultivated: the higher parts are covered with forest. The Phoungyee valley, which lies to the eastward of Hlaine, from which it is separated by a branch of the Yomah, is an amphitheatre, open to the south and surrounded on all other sides by hills. Its breadth from east to west is probably about ten or fifteen miles, and its length from north to south thirty. The Pegu or Zamayee valley lies to the east of Phoungye, from which it is separated by another branch of the Yomah. This valley is enclosed on all sides by hills; it is about forty or fifty miles in length from S. S. E. to N. N. W., which is the direction in which it lies, and twenty miles in breadth from E. to W. The Zamayee river is large and navigable for small craft in the rains, for a distance of sixty or eighty miles above Pegu, to the extremity of the valley; and although only about knee deep in the dry season, it rises forty feet in the rains: its bed is sandy and unimpeded by rocks. The mountains extending along the N. W. side of the valley, separating it from Phoungyee, the Hlaine and Tharawaddy, are of considerable extent and elevation and form a part of the Yomah range. On the east side it is separated from the plains of Tounghoo and Shoay Gyeen by a lower branch of the same chain, and finally it is enclosed to the south by a low hilly tract through which the river passes by a series of small defiles to Pegu. Dr. McClelland ascended the Thounzai valley in the Hlaine district to its head, and descended through the Oakkan valley, and, having traversed the forests from thence to Mazalee, ascended the Choung. This Hlaine forms a part of the valley of the Irrawaddy with which the Hlaine river is connected by means of creeks.—*Dr. McClelland, in Selec. Records Govt. of India Foreign Dept. No. IX.* p. 8.

HLA-PET, BURMESE, literally Wet-Tea. In Burmah, to the eastward of Bamo and Koungtuno, hills are visible, peopled by cateran Kakhyen, and by breeches wearing Paloung, peaceably growing tea for pickling. This is the Hlapet under notice, which is made up with a little oil, salt, garlic or assafœtida, &c., into a sort of pickle, and is essential to the comfort of every Burman, being partaken of on all ceremonial occasions. It is floated to Ava on bamboo rafts, so as to be retained always partially wet, it is eaten by the Burmese in small quantities after dinner as Europeans eat cheese. They say it promotes digestion and they cannot live in comfort without it. Colonel Burney mentions that the Burmese Resident proceeding to Calcutta in 1830 took a large supply of hla-pet with him, as a necessary of life, not to be had where he was going. Hlapet is partaken of on many ceremonial occasions, and on the conclusion of law suits, the bill of costs is always rounded off with a charge for pickled tea, as European Agent's accounts are still rounded off with a charge for postages.—*Mason's Burmah Yule's: Embassy*, p 101.

H'LWA-BO. BURM. Eriolæna tiliifolia.

H'LWOT-DAU. BURM. The Cabinet and High Court of the realm of Burmah, in which there are four Woon-gye, or chief ministers assisted by as many Woondouk.—*Yule's Embassy*, p. 3.

H'MO. BURM. Agaric.

H'MAN. BURM. Feronia elephantum.

HMAN THEN. BURM. Curcuma roscoeana.—*Wall.*

HNAN. BURM. Nauclea cordifolia.—*Roxb.*

HNAU. BURM. A kind of boat, of Burmah. See Boat.

HNAW-BEN. BURM. is a large tree, of pale-yellow wood, preferred for making combs. It bears a large, fragrant fruit, but worthless.—*Crawfurd*, Vol. I, p. 192.

HNET. BURM. Bird.

HO. a Chinese measure of capacity, about $7\frac{3}{4}$ gallons.—*Simmond's Dict.*

HO. A branch of the Kol, residing in Singhbum. They are agricultural, but change their localities. A Ho bridegroom buys his bride, or rather his father buys her for him, the price being so many head of cattle. Ho, is a name of the Sonthal. The

Kol and Lurcha Kol, are tribes in India, cognate with the Khond. Some of them occupy Singhboom. The Ho language differs so little in phonology and glossary from the Mundah, Bhumij and Sonthal, that Captain Tickell's account of its grammar, may be taken as that of the Kol language generally. The Ho is the most compact, the purest, most powerful and interesting and best looking division of the whole Mundah nation. The more civilized Ho have an erect carriage and dignified, fine, manly, bearing, with figures, often models of beauty: the occupants of the less reclaimed parts are more savage looking. Their tradition is that they came from Chota Nagpur and that they brought with them their system of confederate governments of Purha, which they call Pirhi or Pir. The Ho of Singhbum are also styled Laraka Kol and have a tradition that they once wore leaves only, as the Juanga women now do, and not long since threatened to revert to them unless cloth-sellers lowered their prices. The Ho of the border land have probably much intermixed with the Urya, and are less ugly than the race is usually described to be.—*Captain Tickell. As. Soc. Jour.*, Vol. IX, pp. 783, 997, 1063. See India.

HOA-HOUNG-TAN. Cochi-Chin. Rose.

HOAI HOAI, Chinese name of Mahomedans and Jews.

HOA-MIEN. Chin. Gossypium Indicum.—*Lin*

HOANG-HO, a great river in China 3,040 miles long. The Yang-tse-Kiang forms with the Hoang-ho, a twin basin, to which the most advanced and powerful eastern civilization owes its development. The Yang-tse-Kiang is connected on the west with the twin basins of the Salwin and Irawadi, which are themselves connected inland with the Tibetan district and on the S. and E. with the Indian oceanic basin. It is undoubtedly one of the finest rivers in the world; it takes its rise in the mountains of Thibet, and, after traversing the Kouko-Noor, enters China at the province of Kan-Sou; it then leaves *it again to water the sandy plains, at the foot of the Alechan mountains, surrounds the country of Ortous, and after having watered China from south to north*, and then from west to east, goes on to throw itself into the Yellow Sea. The waters are pure and beautiful at their source, and only assume their yellow tint, after passing the Alechan and the Ortous. The river rises almost always to the level of the country through which it flows; and to this is to be attributed the disastrous inundations which it occasions. But these floods, which are so fatal to China, are of little consequence to the nomadic Tartars, who have only to strike their tents, and move off elsewhere.

The bed of the Hoang-Ho has suffered very remarkable variations. In ancient times its mouth is said to have been in lat. 39° north, at present it is in 34°. The Chinese government is obliged annually to expend enormous sums to keep the river within its bed. In the year 1799 it cost £1,682,000.—*Huc's Recollections of Journey*, p. 85.

HOANG-TI, the primitive Chinese ruler. The Chinese, in the reign of Hoang-Ti, invented the magnetic needle, the smelting of copper for making money and vases of high art. Hoang-Ti is the first historical emperor (B. C. 2,698) and the Chinese historians allege that in his reign, the inventors of sundry arts and sciences arrived from the western kingdoms in the neighbourhood of the Kuen lung mountains.—*Yule, Kathay*, I, p. xxxv.

HOA-PIN-SAN and Ti-a-Usu, two islands which lie 80 miles north of Formosa. With their neighbouring rocks, this group extends about 14 miles. The extreme height of Hoa-pin-san, was found to be 1,181 feet.

HOARY SUN ROSE. Helianthemum canum.

HOA-U-CHOW, a small island near Pakleak-low.

HOBNEM. Heb. Ebony.

HOCKEY. There is a game of Tibet, resembling hockey and called changhan, but played on horseback, on a plain about 60 yards broad and 350 long, with a stone pillar at each end as the goal. The ball is somewhat larger than a cricket ball and in Tibetan is called Pulu. The stick or Byntu, is of the strong and straight bough of the almond tree, about 4 feet long and let in at the top and passed quite through to the other end of a curved piece of solid birch wood—about the size and shape of a drenching horn. The game is mentioned by Baber. It is played in every valley in Little Tibet, Ladak, Yessen, Chitral.

HOCOMLIA MONTANA?

Sampga, Tambut.	Can. Mahr.	Kudkee,	Mahr

grows in Canara and Sunda, on and close to the head of the Ghats; wood seldom runs large, is white, hard and tough; used for agricultural implements.—*Dr. Gibson.*

HODAIDA, on the East Coast of the Red Sea, is a large fortified town of Yemen, with lofty buildings, and is now the most flourishing of the Turkish ports. It is situated on the north-east side of a sandy bay and sheltered by a point of land running north-west.

Its custom dues, in 1857, realized by sale Rupees 1,50,000. It is surrounded by a high wall, and contains spacious bazaars. It is the seaport of Senaa. See Lohaia, Tehama; Kilaid us Sham.

HODGSON, Captain, Author of journey to the source of the Jumna: hot springs at Jumnotri, &c., in As. Res. vol, xiv. 128. On a new form of the hog kind in Sind, in Bl. As. Soc. Trans. vol. xiv. 423. Journey to the head of the Ganges in As. Res. vol. xiv. 60. Survey to the heads of the Ganges and Jumna.—Ibid. Latitudes of places in Hindoostan.—Ibid, 153. Heights and positions of the Himalaya peaks.—Ibid, 187. Route from Katmandu to Chinese frontier.—Ibid, 1832, vol. xiii. 513.—*Dr. Buist's Catalogue.*

HODGSON, Bryan, H. a member of the Bengal Civil Service, widely known for his long continued researches into the Natural History of the Eastern Himalayas, and the ethnology of the races and tribes dwelling in British India and its bordering countries. He was long Resident at the Court of Nepaul to which he was appointed in 1821 and devoted much time to the natural history and antiquities, languages and traditions of the country. Wrote on the specimens of sheep inhabiting the Himalayan region, with some brief remarks on the craniological character of Ovis in Bl. As Trans 1841, vol. x 320. On the literature and religion of the Buddhists. Serampore, 1841. On the Buddha literature of Nepaul, As. Res. vol. xvi. 409. Route from Katmundu to Tazedo.—Ibid, vol. xvii. 513. On a new species of Buceros.—Ibid, vol. xviii. part 1, 178 Description of the Aquila Nepalensis.—Ibid part 2, 13. Description of the Circætus Nepalensis.—Ibid, 21 Migration of the Natatores and Grallatores in Nepaul.—Ibid, 122. On the wild goat and wild sheep in Nepaul.—Ibid, 127. Description of the Ratwa deer.—Ibid, 170. Description of the Buceros Homrai.—Ibid, 139. Description of the wild dog of the Himalayas.—Ibid, 221. On the antelope of the Himalayas.—Gleanings in Science, vol. iii. 152. On a species of *Felis.*—*Ibid,* 177. On Scolopacidæ.—Ibid, 233. On the musk deer.—Ibid, 329. On the Cervus Jaral.—Ibid, 321. On the Ratwa deer.—Ibid, 371. On the Tharai goat.—Ibid, 371. On the Chiru.—Ibid, 387. On the mammalia of Nepaul.—Ibid, 442. On the manufacture of Nepaul paper.—Bl. As. Trans. vol. i. 8. On the Nepaul military tribes.—Ibid, vol. ii. 217. On the aborigines of Nepaul Proper. Ibid, vol. iii. 215. On European speculations on Buddhism.—Ibid, 382; ibid, 425; ibid 499. Synopsis of mammalia of the Himalayas.—Ibid, vol. v. 231. On Nepaul ornithology.—Ibid, 358. On the language of Buddhist scriptures.—Ibid, vol. ii. 682. On the cuckoo of the Himalayas.—Ibid, vol. viii. 136. On the Thibetan type of mankind —Ibid, vol. xvii 222. On the aborigines of Central India.—Ibid, 559. Relics of the Catholic Mission in Thibet.—Ibid, 225. Route from Katmandu to Darjeeling.—Ibid 634. On the aborigines of Southern India. —Ibid, vol. xviii. 350. On the aborigines of North eastern India, Ibid.—451. Note on Indian ethnology.—Ibid, 238. On the aborigines of the North-eastern Frontier.—Ibid, vol. xix. 309, aborigines of the south. Ibid, 461. On the law of legal practice and police of Nepaul, Lond. As. Trans. vol. i. 45,; 258.—*Dr. Buist's Catalogue.*

HODGSONIA HETEROCLITA, *Hooker*

Trichosanthes, *Roxburgh.*

Is the most magnificent plant of the jungles in the valley of the Teesta in Sikkim. It is a gigantic climber allied to the gourd, bearing immense yellowish-white pendulous blossoms, whose petals have a fringe of buff-coloured curling threads several inches long. The fruit is of a rich brown, like a small melon in form, and contains six large nuts, whose kernels (called "katior-pot" by the Lepcha) are eaten. The stem, when cut, discharges water profusely from whichever end is held downwards. It is a new cucurbitaceous genus, found in the Terai, clinging in profusion to the trees and also 5,000 feet up the mountains. This magnificent cucurbitaceous climber grows also in the forests; east of Chittagong: it is the same species as the Sikkim one. The long stem bleeds copiously when cut, and like almost all woody climbers, is full of large vessels; the juice does not, however, exude from these great tubes which hold air, but from the close woody fibres. *Hooker, Him. Jour. Vol.* I, *p.* 395. *Vol.* II. *page* 350.

HODHAD, king of Yemen father of Balkees queen of Sheba, lived about the beginning of the Christian era. See Balkees.

HOD'HU, a name of India. See *India.*

HODUNG. Hind. Populus euphratica.

HOE a secret society of the Chinese into which the members are initiated; the concluding ceremony consists in pricking the middle finger of the right hand, dropping the blood into a bowl of arrack, from which each of the candidates drink and are then saluted as brethren.

HOE.

Mamoti. Tam. | Phaora. Hind.

HOEDEN. Dut. Hats.

HOEI KING, a Chinese budd'hist traveller in India, Kotan (Yu-than) and Tibet in

A. D. 399-400, along with Fa Hian the Fo-kue-ki of Remusat, Klaproth and Landresse. Fa-Hian with Hoei-king, and other Chinese pilgrims reached Yu-than or Khutan, in A. D. 399-400. Fahian then travelled by Tsu-bo and Yu-hoei and over the Tsu-Ling mountains southwards to Kie-Chha the modern Ladak where he rejoined Hoei King. From Kie-Chha the pilgrims proceeded westward to Tho-ly which they reached in one month. They came to India, overland by way of Tartary and Cabul, visited Ceylon and sailed thence to Java. On his return, Fa Hian left behind him an account of his travels called Foe Koue Ki or an account of the buddhist countries. At the time of his visit, buddhism was still the dominant religion, though vaishnava doctrines were gaining ground. *Cunningham, Ladak. Cal. Rev.* See Airun, Buddha, Indra, p. 364. Inscriptions 378, 384.

HŒMATOPUS OSTRALEGUS, or 'Oyster catcher,' a bird of the circuit of northern regions to the equator, if not further south: not rare along the shores of the Bay of Bengal, &c.

HŒMATORNIS, a genus of birds of which several species inhabit India. H. cafer, is the bulbul of the South of India, H. chrysorrhoides is another species. See Birds, Bulbul.

HOFFMEISTER, Author of Travels in Ceylon and parts of the Himalayas to the borders of Thibet.

HOG.

Khanzir,	Ar.	Sus scrofa: Porcus	Lat.
Baraha,	Beng. Sans. Pers.	Dukar,	Mahr.
Indian wild boar:	Eng.	Babi utan: Babi alas: Babi,	Malay.
Choiros,	Gr.	Ghrishvi,	Sans.
Jangli Sur; Sur,	Hind. ,,		

The wild hog abounds in many parts of India and the males attain to a very large size, it is generally believed that there is no specific difference between the wild hog of Europe and India. The adult males dwell apart from the herd. The wild boar is constantly hunted by Europeans on horseback, with the spear; Natives of India hunt the boar with dogs.

All the wild hogs in the Archipelago are small animals, compared with the wild boar of Europe, or even with that of continental India.

The Sus verrucosus, so called from the fleshy excrescence on the sides of the cheeks, has a grotesque and a formidable appearance, but is in reality a timid animal. The number of them in Java is immense, and in passing along the highway, in particular districts, scores of them are to be seen.

Mr. Blyth distinguished from the hog, common in India, a specimen sent to him from Ceylon, the skull of which approaches in form, that of a species from Borneo, the Sus barbatus of S. Muller.

The genus Babirussa of F. Cuvier takes its name from two Malay words, Babi, hog, and Rusa, a deer. It is the Sus babyrussa of Linnæus and the B. alfurus of Lesson, and occurs in the islands of Burú or Bouroú one of the Moluccas, and in Celebes and Ternate.

The Porcula salvania, Hodgson, the Pigmy Hog of the Saul Forests of N. India, is the Sano banel and Chota sur of the Natives of India and confines itself to the deep recesses of primeval forest. The adult males abide constantly with the herd, and are its habitual and resolute defenders.—*Sykes Cat. Deck Mam.* p. 11. *Crawfurd, Dict.* p. 152. *Tennent's Sketches of the Natural History of Ceylon* p. 59. *Catalogue of Mammalia in the India House Museum*, See Babirussa Boar, Mammalia, Sus.

HOG DEER, Eng.

Hyelaphus porcinus	Sund	Axis niger	B. Ham,
Cervus porcinus,	Zimmerm.	Cervus niger,	B. Ham.
,, dodur,	Royle	,, oryzeus	Kelaar
Para,	Hind.	Laghuna,	Hind.
Khar,	,,	Sugoria,	,,

The Hog-deer inhabits continental India, central India, Bengal, the Gangetic valley, Punjab, Sind, Assam, Sylhet, Burmah. See Cervus, Deer. Mammalia.

HOG ISLAND, lies 17 or 18 leagues off the coast of Sumatra, and is the most northern of a group.

HOG ISLAND, a high pyramidal island, lying close off the main on the coast of Canara.

HOGG, Sir James Weir, Bart., for many years M. P. for Beverly, Honiton, &c. took a prominent part in discussions relating to Indian affairs in Parliament. He was a Director of the East India Company. He was born at Stoneyford in the county Antrim in 1790, and was called to the Bar in Ireland. At Calcutta, he practised as a barrister and held the office of Administrator General, then one of the most highly-paid offices in India, as being the Court which took cognizance of the administration to the effects of all persons who died intestate or otherwise, much in the same manner as the Prerogative Court of Canterbury. He returned to England in June 1833, and in December, 1834, was returned M. P. for Beverly as a supporter and follower of Sir Robert Peel, to whose policy and fortunes he zealously adhered throughout. He was re-chosen at Beverly in 1841, and from 1847. long represented Honiton. He was chosen

a Director of the Court of Proprietors in 1839, and twice served the office of Chairman. At the abolition of the old Court of Directors he was named one of the Political Military Committee. He was raised to the Baronetcy by Sir Robert Peel in 1846, just previous to his retirement from office.

HOGLA, Beng.

Typha elephantina, Roxb.

Elephant grass or cats tail grass.

HOG PLUM. Spondias mangifera.—*Pers.*

HOG-SKIN. See Leather.

HOG'S LARD.

Sur-ke-charbi, Hind. | Adeps suillus, Lat.

This is the fat about the loins of the hog, Sus scrofa. It is purified by melting and straining. Its melting point is from 78° to 88°. Fahrt.; inodorous and tasteless while fresh, readily grows rancid. Lard contains carbon 79·098, hydrogen 11·146, oxygen 9·756—proximately it consists of ealine 62, stearine and margarine 38 per 100. In the rancid state it contains the margaric and stearic acids, and a peculiar volatile acid. In Europe, hog's lard is much employed in ointments, but in India the strong prejudice against the article renders it desirable to exclude it as much as possible from all pharmaceutical preparations, substituting for it the "simple liniment."—*O'Shaughnessy*, p. 690.

HOIMAVATI. Sans. From himavat. See Hima, snow.

HOJA DE LATA. Sp. Tin.

HOJAI KACHARI. See India Kachari.

HOKMCHIL. Hind. Phœnix dactylifera.

HOL. Hind. Medicago sativa.

HOLAN. A river of Seoni.

HOLAR, also Holiar, also Holaru, in the Karnatica districts of the Peninsula, the pariah or dher race. Professor Wilson describes the Holar as a man of a low or outcaste tribe, by profession a musician, which answers to the Mhang race, but there is no doubt but that the Holar is the Dher.

HOLARRHENA ANTIDYSENTERICA *Wall.*

Echites antidysenterica, Roxb.	Chonemorpha antidysenterica, G. Don.
Kogar of, Chenab.	Keor (seed) Panjaub.
Kawar of Ravi & Beas.	Kyur of, Kangra.
Kura (seed) of Panjab.	Istaraku Pala, Tel.
Indarjao „ „	

A large shrub or small tree of Malabar, Siwalik hills up to the Chenab in the N. W. Himalaya, Sylhet and Chittagong. It bears a white flower. Its bark is used in medicine as an astringent. The leaves are used as fodder or as litter. The wood is white, light and close grained and is used by carvers, Lt.-Col. Lake says the wood is unsound.—*Drs Voigt, Roxb. Cleghorn, Stewart, Lt.-Col. Lake.*

HOLARRHENA CODAGA. *W. Icon.*

Kooda palli maram, Tam.

A small sized white wood, very fine grained, employed in cabinet-making. Dr. Wight gives also Holarrhena malaccensis in Icones 1298.

HOLARRHENA MITIS, *R. Br. A. D. C.*

Kirri-walla-gass. Singh.

A moderate sized tree of Ceylon, not uncommon, up to an elevation of 1,500 feet.—*Thw. En. Pl. Zeyl.*, p. 194.

HOLARRHENA PUBESCENS.

Reora, Hind.

Wood light. This species and the H. antidysenterica yield the Indurjuo talk of the bazaar. See Wrightia; Bitter indurjuo.—*O'Shaughnessy*, p. 449

HOLOSTEMMA-ADA-KODIEN. Rœm. and Tsch. Syn of Holostemma rheedii *Spr.*

HOLOSTEMMA RHEEDIANUM. *Spr. W. Cont. W. Ic.*

Chonemorpha antidysenterica, W. Ic.
Holastemma-ada Kodien Rœm. et Sch..
Asclepias annularia, Roxb.
Asclepias convolvulacea, Herb. Heyne.
Echites antidysenterica, Roxb.
Sarcostemma annulare, Roth.

Ada Kodien, Maleal.	Istara'kula palem, Tel.
Palla-gurgi, Tel.	Vistara'kula pala „
	Palagurugu, „

This plant grows throughout India. It has large flowers of a red, green and white colour.

HOLASHI. Hind. Rhus succedanea.

HOLCUS, a genus of grasses, belonging to the natural order Panicaceæ, of which the more important species have been transferred to the genus Sorghum. H. sorghum is now Sorghum vulgare. H. saccharatus, *Roxb.* now saccharatus, a native of Caffraria. Stalks thick, and full of a sugary medulla. Professor Arduino, (*Journ. Botanique*, iii. 168,) gives an account of his experiments on the extraction of sugar from this species. They were extremely satisfactory. This was introduced by the editor into the peninsula of India, and it has been recommended in the United States as a sugar producing plant and for the sake of its juice. Its stalks furnish three important products, sugar, which is identical with that of cane,—alcohol, and a fermented drink analagous to cider. This juice, when obtained with care and in small quantities, by depriving the stalk of its outer coating or woody fibre and bark, is nearly colourless and consists merely of sugar and water. Its

density varies from 1,050 to 1,075 and the proportion of sugar contained in it from 10 to 16 per cent, a third part of which is sometimes uncrystallisable.

HOLCUS DURRA. Forsk. Syn. of Sorghum vulgare.—*Pers.*

HOLCUS SORGHUM, is the Sorghum vulgare. There are two varieties, one with a reddish grain and one white: in districts where makai (maize) is called "bara jawar," this plant is called jawar-khurd "chota jawar" or "jawar barik." When jawar is used for fodder and cut down while green it is called "chara." It is grown in fields and sown during the rains; it is the common food of the poorer classes of India, being ground and made into cakes. It is a native of China, and India, but is cultivated in Peru, and in Europe; seeds very hard, rounded, very variable, sometimes entirely smooth, insipid, parenchyme farinaceous; but little different from maize in chemical composition. This plant as also the Indian corn or Zea mays, sometimes puts forth three or four stems and so many as 12,700 seeds have been gathered from one plant which had grown to eleven feet in height; in China ten or twelve feet are usual heights. *O'Shaughnessy, p.* 637 936. *Am. Rep. Com. of Patents p.* 220.

HOLDNA. Hind. in Kangra, the process of destroying weeds in a rice crop.

HOLEYA, a race of labourers in Coorg, ill-favoured, with coarse, stupid features, short in stature, but strong built, with dark and black skin and black straight hair. They practice demonology and are said to have no guru. See Holar.

HOLI. A popular hindu festival celebrated during the ten days preceding the full moon of Phalgun. It is an astronomical festival and is called in Sanscrit Holikha or phal gotsava or Hutasham also dola or dolavatra, the swinging festival. It is supposed to relate to the vernal equinox and to be similar to the Persian New-year's day. It is held about the 19th March, or 15 days before the full moon of Phalgun. It is in honour of Krishna and is quite a saturnalia, red powders being thrown and red fluids squirted at passers bye, and licentious songs sung. At the close of the festival, a pile is lighted, and a wheaten cake or "Poli," offered on it. The analogy between the goddess of the spring Saturnalia, Phalguni, and the Phagesia of the Greeks, will be recognised; the word is not derived from eating, with the Rajpoot votaries of Holica, as with those of the Dionysia of the Greeks, but from phalguni, compounded of guna, 'quality, virtue, or characteristic,' and phala, 'fruit,' in short, the fructifier, from which there is no definite meaning. The Egyptian had the festival Phallica, the Holica of the hindus. Phula and phala, flower and fruit, are the roots of all, Floralia and Phalaria, the Phallus of Osiris the thyrsus of Bacchus, or lingam of Iswara, symbolized by the Sriphala, or Ananas, the 'food of the gods,' or the Sitaphala of the Helen of Ayodhia.

HOLIDAYS, of the several races dwelling in India chiefly occur at certain seasonal changes, but also at the anniversaries of certain occurrences connected with their religions. The dates of the festivals vary with the lunar months, and those below are approximate:

CHRISTIAN.

New Year's day	.. January 1st
Good Friday	.. April.
Christmas day	December 25th.
Easter Holidays	..March.
Ascension Day	..May.
Pentecost Holidays	. June.

HINDU.

Makar Sankranti	..January 11th
Maha Shivaratri	...February 24th.
Huli	...March 10th and 11th.
Ram Naomi	...April 4th.
Cocoanut Day	. August 6th.
Janm Ashtami	. August 14th.
Ganesh Chaturthi	habits vst 25th.
Dasara	gal, the mber 30th.
Diwali	in, Syl mber 18th and 19th.

PARSI—Kasami *nanshahi and Kadmi.*

Jamshidi navroz	li. March 21st.
Aban Feast	.. April end of.
Adar Feast	..June 8th.
Farvardin Jasan	.. June 8th.
Gatha Gahanbars	..September 19th to 21st.
Pateti or New Year's Day.	September 23rd.
Kurdad Feast and Valava	September 28th and 29th.
Atishbehram Salgeri	.. November 8th.

PARSI—Kadmi.

Aban Feast	...March end of.
Farvardin Jasan	.. May 9th.
Gatha Gahanbars	.. August 20th to 22nd.
Pateti or New Year's Day.	August 24th.
Kurdad Feast and Valava.	August 29th and 30th.
Atishbehram Salgeri	.. September 9th.

MAHOMEDAN—Suni.

Shab-i-Barat	.. January 14th.
Lailat-ul-Kadir	.. February 23rd.
Ramadhan 'Id	..February 27th and 28th.
Bakar-'Id	.. May 6th,
Ashura	. June 4th 5th and 6th.
Bari Wafat	.. August 6th.
Ghilan	.. September 3rd.
Miraj-i Mahomed	..December 16th.

MAHOMEDAN—Shiah.

Khatl-i-Imam Ali	.. February 17th.
Shaha Kadir	..February 19th.
Ramadhan 'Id	.. February 27th and 28th.
Bakr 'Id	...May 6th.
'Id Gadir	. May 14th.
Ashura	. June 4th and 5th.
Chahlam	...July 15th.

Khatl-i-Imam Ali	. July 23rd.
'Id Maolud	...August 10th.

JEWISH.

Purim or day of Queen Esther ...March 13th.
Pesach or Passover ...April 11th and 17th.
Shabuoth or the delivery of the Law May 31st.
Tishabaiab or the day of Lamentation August 1st.
Rosh Hosana or New Year's Day Sept. 21st, 22nd.
Kipur or the Days of Atonement Sept. 29th, 30th.
Succoth or the Feast of Tabernacles Oct. 5th, 13th.

HOLIGARNA LONGIFOLIA, *Roxb.*

Holgeree,	CAN.	Holgeree,	MAHR.
Biba-Biba,	„	Katu-jeru	MALEAL.

One of the trees yielding the well known black lacquer varnish. It grows in Travancore, in Malabar, in Canara and Sunda, mostly above the ghats, at Nilgoond, in the Konkan, Assam, Chittagong, and in the forests of Tenasserim. Wood good for houses and beams. Its dangerously acrid exudation is used by the natives to varnish shields, and for other purposes. A fine black varnish from its fruit is brought from Munnipore. This turns of a beautiful black colour, when applied to a surface, owing, according to Sir D. Brewster, to the fresh varnish consisting of a congeries of minute organised particles, which disperse the rays of light in all directions; the organic structure is destroyed when the varnish dries, and the rays of light are consequently transmitted. There is brought also from Munnipore, a varnish, made from the Semecarpus anacardium (marking nut), and a remarkable black pigment resembling that from Melanorrhoea usitatissima, which is white when fresh, and requires to be kept under water.—*Drs. Roxb. Fl. Ind.* ii. p. 80. *Voigt, Gibson, O'Shaughnessy, Mason, and Hooker's Him. Jour. Vol. II. p.* 331.

HOLIYA, Haliyaru, Holleru or Holiyaru, in the Canarese or Karnatica, a pariah, a predial slave in Coorg and Canara. In Canara he is regarded as a Dher. In Coorg as one of the three principal classes of predial slaves, called Holeyaroo, Yewaroo and Paleroo. The Holeyaroo have many subdivisions, and the Mare Holeroo follow the custom of descent through the female line, the descensus ab utero. *Wils.* See Holiar.

HOLKAR, the title of the prince of Indore, a Mahratta sovereign with the title of maharajah, Indore and Mhow are his chief towns. Indore the capital is built on a plateau. The Holkar family are of the dhangur or shepherd tribe. The first who rose to eminence was Mulhar Rao, who was born about the end of the 17th century and was one of the most distinguished leaders in the first Mahratta invasion of northern India. He died at the age of 76 and was succeeded by his grandson Malee Rao, who died, insane, nine months after his accession. The pious Ahilya Bai, the mother of Malee Rao, then took the management of affairs and appointed, as the commander of her army, Tookajee Holkar, a chief of the same tribe but in no way related to Mulhar Rao. This chief for many years served Ahilya Bai with the most devoted fidelity. Ahilya Bai died in 1795 and was not long survived by Tookajee Rao, after whose death the power of the house of Holkar was nearly extinguished by quarrels in the family and amid the dissensions which distracted the Mahratta confederacy at the close of the eighteenth century. The fortunes of the family however were restored by Jeswunt Rao, an illegitimate son of Tookajee Holkar, who, in 1802, defeated the united forces of Sindia and the Peshwa near Poona. The conclusion of the Treaty of Bassein between the Peshwa and the British Government defeated Jeswunt Rao's hopes of possessing himself of the person of the Peshwa. In the following year when Sindia and the rajah of Berar combined against the British, Holkar promised to join the confederacy. But on the actual outbreak of hostilities he kept aloof and apparently intended to take advantage of the war to aggrandize himself at Sindia's expense. His schemes, however, were rendered hopeless by the treaty of Surjee Anjengaum, and Holkar, after making a series of inadmissible proposals for an alliance, seems then to have hastily determined, unaided and alone, to provoke hostilities with the British. In the war which followed, Holkar was completely overthrown. He was pursued by Lord Lake across the Sutlej, whither he retired in the hopes of forming a combination with the Sikhs against the British Government, and on 24th December 1805 he signed a treaty on the banks of the Beas by which he was stripped of a large portion of his territories. Soon after the conclusion of the treaty, Jeswunt Rao Holkar became, in 1805, insane. He died in 1811, leaving an illegitimate son of Mulhar Rao during whose minority the State was torn by the most violent dissensions. Toolsee Bai, the favorite concubine of the late ruler secured herself in the regency. She was, however, subsequently barbarously murdered, and Holkar's army sustained a complete defeat at Mehidpore, and on 6th January 1818 the treaty of Mundisore was concluded, by which the supremacy over the rajpoot princes of Oudeypore, Jeypore, &c., was transferred to the British Government, the engagement between the British Government and Ameer Khan was confirmed, four districts rented by Zalim Sing of Kotah were ceded to him, Holkar lost all his possessions

within and to the south of the Satpoora hills, and his remaining territories came under the protection of the British Government. Mulhar Rao Holkar died in October 1833 at the age of 28. He left no issue, but his widow and his mother adopted a child between three and four years of age who was said to be of the same tribe and lineage as Mulhar Rao. The child was publicly installed on 17th January 1834 under the title of Martund Rao Holkar. The adoption of Martund Rao, however, proved to be a device of the mother of Mulhar Rao Holkar for the purpose of keeping the power in her own hands during a long minority. It was not acceptable to the people, who were in favour of the succession of Huree Rao Holkar, a cousin of the late maharajah. Hurre Rao had been kept in rigorous confinement, but he was released on the night of 2nd February 1834 by a powerful body of his partisans, and received a ready welcome from the troops and people. The policy of non-interference prevented the Resident from giving active support to Martund Rao although the installation of Martund Rao had been formally acknowledged by the British Government. This indifference on the part of the British Goverument as to who should rule gave rise to most serious disturbances. The wealthy merchants fled from Indore, trade was suspended, and the plundering Bheel tribes infested the roads and destroyed many villages. Martund Rao was banished from the country and granted an allowance of Rupees 500 a month on condition of his resigning all claims to the succession. On 8th September 1835 an attack was made on the palace for the purpose of assassinating the maharajah and his minister. The attempt was unsuccessful, and resulted in the slaughter of the whole of the assailants. Martund Rao Holkar died without issue at Poona on 2nd June 1849, and with his death ended the intrigues which from time to time endangered the peace of the country both during the rule of Huree Rao Holkar and his successor. When the attack was made on his person in 1835, Hurree Rao applied to the British Government for aid, but it was refused on the ground that the engagement to maintain the internal tranquillity of the country depended on the condition that the measures of its Government were not directly or indirectly the cause of disturbance, and because the grant of assistance would require a continual interference in the internal affairs of the state inconsistent with the position of Holkar and the policy of the British Government.

In 1841, the maharajah adopted as his heir and successor Khundee Rao, a boy of 13 years of age, son of an obscure zemindar and very distantly related to the reigning family, and Huree Rao died on the 24th October 1843 aged 48. Warned by the evils which resulted from the vacillating policy pursued on the accession of Martund Rao the British Government took immediate measures to proclaim Khundee Rao as the acknowledged successor and to make it known that no other claims would be recognized. Khundee Rao died on 17th February in the following year. He was never married. On this, Sir Robert Hamilton selected and installed the younger son of Bhao Holkar, who took the litle of Tookaji Rao Holkar. In a letter to the young chief the Governor General laid down the conditions on which the state was conferred on him. This letter No. lxxvii. was declared to have the force of a sunnud and the maharajah was required to present a nuzzer of 101 gold mohurs on its delivery.

The young chief Tookaji Rao Holkar, attained his majority in 1852, and was entrusted with the entire management of the affairs of the state and was granted a sunnud, guaranteeing to him the right of adoption.

An annual payment of Rupees 30,000 is made to Holkar by the British Government as compensation for his share of the district of Patun which was made over to Boondee in 1818. The maharajah also receives through the British Government a tribute of 72,700 Salim Sahi rupees, on account of Pertabgurh, but he has no feudal supremacy over that state. He receives credit for this tribute as part of his contribution towards the Malwa contingent, and it is realized from Pertabgurh one year in arrears.

In the war with Jeswant Rao Holkar, Lord Lake gave many lessons how to deal with the less coherent forces of Asiatic rulers. Jeswant Rao Holkar, when he opposed the British in 1803, had 100,000 regular troops, amongst whom were 50,000 light horse, and 130 guns with the fortresses of Chandore and Galingurh. From the tactics he adopted, this moveable force baffled the British commanders and all the military power of India from April 1804 till the 15th February 1805. But on the 2nd April 1805, Jeswunt Rao Holkar, was defeated by Lord Lake, who marched all night and at daybreak entered Holkar's camp, which he completely broke up: in this, in going and coming, Lord Lake marched fifty miles. Lord Lake subsequently, in December 1805, marched in his pursuit 405 miles in 43 days from Secundra to the Beas river at the Rajghat. In Jeswant Rao Holkar's final overthrow Lord Lake marched 350 miles in a fortnight. Sir D. Ouchterlony was defending Delhi against the Mahrattas. But on their

abandonment of Delhi on the 14th, or 15th October 1803, Lord Lake followed them, and at length, with a small body of 3,000 British horse and artillery amongst which were the 8th and 27th dragoons, made a forced march of about 48 miles, defeated the forces of the Mahrattas about 60,000, near Furruckabad, followed 10 miles in pursuit and returned to camp, making a journey of about 70 miles in 24 hours, with a loss of 22 dragoons killed, and 20 Europeans and natives wounded.

At that time, Amir Khan, the Rohilla chieftain of Rohilcund forsook the Bhurtpore rajah, but was followed by General Smith whom Lord Lake sent in pursuit. After a march of 700 miles in 43 days. Amir Khan's army was overtaken and defeated at Afzalghur at the foot of the Himalayas on the 2nd March 1804 and Amir Khan was conveyed across the Ganges and Jumnah in March, but he rejoined Holkar's camp under Bhurtpore. At Laswari, in Central India, in 1803, Lord Lake and General Fraser fought and won a battle against the battalions of Scindia and Perron.—*Treaties and Sunnuds*

HOLLAND, a country in Europe with great possessions in the Eastern Archipelago which are designated Netherland India, also the Dutch possessions in India.

HOLLOUNDA. Hind. Phaseolus rostratus.

HOLLYHOCK. Eng. Althæa rosea. This is a plant, of the genus Althea, and its varieties are well worth cultivating on the plains during the cold months of India. Seeds should be sown freely in wooden boxes successively during the rains. When they have formed 3 or 4 leaves they should be planted out in the flower garden. Nothing can excel their gaudy appearance, if planted in well prepared soil, where they will grow from 6 to 12 feet high. Double flowers will rarely be had on the plains. They take about four weeks or two months from the time of sowing to flowering. Native of China.—*Jaffrey.*

HOLMA. Hind. Leea aspera.

HOLOCENTUS RUBER, a beautiful red fish of the New Hebrides. It is poisonous at certain seasons.—*Bennett.*

HOLOCANTHUS INSPERATOR. C. and V.

Kulloo Koli min, Tam.

A fish frequently taken at Madras. H. semicircularis. C. and V. also a Madras fish.

HOLOFERNES, general of king Nebuchodnozor, he was killed by Judith B. C.—?

HOLONG. Hind. ? A tree of Chota Nagpore, furnishing a hard, red timber.—*Cal. Cat. Ex.* 1862.

HOLOSTEMMA RHEEDIANUM. *Spr.* This is the Ado-Modien of the Hortus Malabaricus. This plant is very abundant in the hills about Purulea, and is also found in the neighbouring plains, of Chota Nagpore. It is known to the Kol by the name of Apoong. The fibre is said to attain its best condition after the rains. This plant was introduced into the Calcutta Garden from Western India, and was well known to Dr. Wallich, who immediately recognized it as the Holostemma Rheedianum of Sprengel.—*Royle Fib. Pl.*, p. 306.

HOLOTHURIA.

Trepang;	Malay,	Biche de Mer,	Fr.
	Japan.	Sea Cucumber,	Eng.
Swala,	,,	,, Slug,	,,
Hoy-shun,	Chin.	Holothurion,	Lat.
Cornechou,	Fr.	Biche-da-Mar,	Sp.

Several of the holothuria are used as food. They are found in the Eastern Archipelago, Australia, Mauritius, Ceylon, Zanzibar, &c., and are occasionally brought to Bombay from the latter place, and re-exported to China.

There are several species but the Trepang of commerce is a large black species. The great sea-cucumber of Europe, is the largest of all the known species and is probably a foot in diameter.

H. oceania, *Lesson*, is about 40 inches long; and secretes from the surface of its body, a fluid, which causes an intolerable itching.

H. lutea, *Quoy* and *Gamard*, is the Stychopus luteus *Brandt.*

H. tubulosa, of the Mediterranean; the Fierasfer fontancsii, a parasite fish, dwells within it.

In the Ladrones, H. guamensis is preferred.

H. edulis, the trepang of the Malay is fished for in April and May. It is relished in China and in Malay countries. It is harpooned at great depths. They are boiled in water, then flattened by stones, dried on mats in the sun and then smoked.—*Figuier.* It is, for the most part, caught by the hand, for it has little power of locomotion, but in deep water, sometimes by diving. It sells at Singapore 8 to 115 dollars per picul of lbs. 125. Trepang, although an article of considerable importance in the trade of the Indian islands, is never found in the printed price-currents of an European emporium, because seldom dealt in by Europeans, which arises from nice or rather capricious distinctions in their quality, which no European is competent to appreciate. We can discover no mention of the trepang in the early Portuguese writers; which seems to be a proof that the Chinese, who carry on

the trade and advance the funds, had not yet settled in the Archipelago when the Portuguese first appeared in it.

The Hon'ble Mr. Morrison mentions that it is found in all the islands from New Holland to Sumatra, and also on most of those in the Pacific; but is produced in the greatest abundance on small coral islands, especially those to the south of the Sulu group. The Chinese at Canton call it hoy-shun, which means sea ginseng.

The holothuria of Raffles Bay is about six inches long and two inches thick. There are six sorts, the best lying about twelve feet deep. It is an unseemly looking mollusc. Upwards of not less than 8,000 cwt. are yearly sent to China from Macassar. Large quantities of trepang and of the cuttle fish are annually collected and dried for the market in China. The naked Cephalopods, also, are not only eaten fresh, but one species, a Loligo, forms in its dried state a considerable article of traffic. The preparation consists in removing the ink-bag without laying open the mantle. After all impurities have been removed by water the mollusc is submitted to a slight pressure and ultimately exposed to the sun. Small bundles of one katty weight are tied up with slips of ratan, and enclosed in cases holding ten katties and upwards. The pekul sells at the rate of 14 to 16 Spanish Dollars.—*Beng. As. Soc. Jour.*, No. 208. *Collingwood, Journal of the Indian Archipelago*, Vol. IV, p. 480. *Hon'ble Mr. Morrison's Compendious History*, p. 141. *Crawfurd's Dictionary*, 440. *Figuier.*

HOLWAN, In A. H. 16, when the Arabs had taken this city, 300 horsemen returning from this enterprise under the command of Fadhilah, towards the end of the day encamped between two mountains in Syria. Fadhilah, having intimated that it was time for evening prayer, began to repeat with a loud voice, the usual form "God is great," &c., when he heard his words repeated by another voice, which continued to follow him to the end of his prayer.—*Bibliotheque Orientale, d'Herbelot in Rich's Residence in Koordistan*, Vol. I, p. 51.

HOLWELL, Mr., the chief of the settlement of Calcutta, when, on the 18th June 1756, it was taken by Suraj-ud-Dowlah, Mr. Holwell and 146 of his people were thrust into a guard room 20 feet square, from which in the morning only twenty-three re-issued alive. This guard room was known in Indian history as the blackhole of Calcutta. It was in the corner of Tank Square, near where was Messrs. Lyell, Mackintosh and Co.'s office, but it was removed about the beginning of this century. See Black Hole, Calcutta.

HOLY LAND, See Palestine, Syria, Holy Sepulchre, Kenissat-ul-Kiamat.

HOM of the Zendavesta is the Soma of the Vedas and supposed to be the Sarcostemma brevistigma, but possibly is the vine of Bacchus, the ampelos, and identical with the Gaogird tree, which enlightened the eyes.

HOMA, a sacrificial offering of the hindus. It consists of clarified butter or ghi presented to the fire in sacrificial ladles. The word is Sanscrit from "hoo" to offer. Mr. Wheeler is of opinion that the homa fire sacrifice was introduced by the brahmans to displace animal sacrifices.

HOMAGE, is shown in Rajputanah, by offering of water. The kullas is a household utensil of brass. A female of each family, filling one of these with water, repairs to the house of the head of the village, when, being all convened, they proceed in a body to meet the person to whom they render honour, singing the suhailea, or 'song of joy.' The presenting of water as a token of homage and regard, is especially common in Mewar. —*Tod's Rajasthan*, Vol. ii. p. 98.

HOMAI. See Persian Kings.

HOMALIUM TOMENTOSUM ? Myouk-kyan Burm. A tree of Moulmein, with a strong wood for any ordinary purpose.—*Cal. Cat. Ex.* 1862.

HOMALONEMA AROMATICA. Schott.

Calla aromatica, Roxb.	Zante-deschia aromatica, Spreng.
Kuchu gundubi, Beng.	

A perennial plant, native of Chittagong, tubers covered with the dried sheaths of the leaves, with long white fibres proceeding from every part. When cut they exhale an aromatic scent like ginger. As a stimulant it is highly esteemed in India. Dr. Wight figures also H. calyptratum, and H. rubescens. *W. Ic. Roxb.* iii. 513. *O'Shaughnessy*, p. 625. See Hydridæ.

HOMALOPSIDÆ, a family of harmless snakes of the order Ophidia, suborder Serpentes Colubrinæ nonvenenati as under;

Fam. Acrochordidæ..

Acrochordus Javanicus, *Hornst.* Penang.
Chersydrus granulatus, *Schneid.*

Fam. Homalopsidæ.

Cerberus rhynchops, *Schn.* Bengal, Moulmein, Andamans.
Homalopsis buccata, *Linn, Kuhl.* Martaban.
Herpeton tentaculatum, *Lacep.*
Tytheria hypsirhinoides, *Theob.* Andaman.
Hypsirhina enhydris, *Schn.* Calcutta.
, plumbea, *Boie.*
chinensis, *Gray.*

Fordonia unicolor, *Gray.* Penang.
Cantoria elongata, *Girard.*
Ferania Sieboldii, *Schl.* Pegu.
Hipistes hydrinus, *Cantor.* Rangoon.
Gerarda bicolor, *Gray.* Bassein.

HOMARARI a Baluch tribe who occupy Tambu. See Kelat.

HOMBU. HIND. of Kanawar, a species of Myricaria.

HOMOS. EGYPT. Cicer arietinum. *Linn.*

HONEY.

Ussul-ul-nahl ;	AR.	Mel,	LAT.
Injubin,	„	Madu, Ayer-maddu manisan labah,	MALAY.
Pya-ya,	BURM.	Shahad,	PERS. HIND.
Honig, Honing,	DUT.	Med,	RUS.
Dibs ; Asal,	EGYPT.	Madha,	SANS.
Miel,	FR. SPAN.	Mipanny,	SINGH.
Honig,	GER.	Tayn,	TAM.
Mad'h,	GUZ. HIND.	Teyna,	TEL.
Debash,	HEB.	Asal,	TURK.
Medh ; Madh,	HIND.		
Mele,	IT.		

Honey is obtained from the honeycomb of the Apis mellifica *Linn*, or Honey-Bee, of the Order Hymenoptera, *Linn.* Honey is secreted by the nectaries of flowers, sucked by the bee into its crop, where it undergoes some slight changes, and is then stored up in the comb for the food of its community. The finest honey is that which is allowed to drain from the comb; and, if obtained from hives which have never swarmed, it is called Virgin Honey. Honey consists essentially of sugar, with variable proportions of gum, wax, and aromatic and colouring principles. It is nutritive and slightly laxative. In some localities it is poisonous, owing to the deleterious nature of the plants from which it is collected. When of fine quality it is liquid and viscid, but translucent, having a fine, though peculiar odour, and a very sweet taste, but the best appears to some people slightly acrid, from the uneasiness experienced in the fauces. After a time honey becomes thick, white, and granular in texture. Inferior qualities are of a reddish brown colour, granular, and intermixed with impurities, and are usually obtained by pressure of the comb. Diluted with water, it undergoes the Vinous fermentation, and Hydromel, or Mead, is produced. The honey of the Archipelago is a thin syrup, very inferior in flavour to that of temperate climates. The comb is chiefly sought on account of the wax, which forms a large article of exportation to Europe, India, and China. The honeys of the Aravally and of Kashmir are praised, selling at ten pence the pound. There are wild bees in the woods of Kashmir but the zemindars have also hives in the walls of their houses. The bees are quite domesticated, and are as large and much resemble those of Europe. The price of honey is very moderate —about four pence a pound. Sir E. Tennent never heard of an instance of persons being attacked by bees in Ceylon, and the natives there assert that those most productive of honey are destitute of stings. On the Neilgherry Hills, bees when disturbed, attack with great fury. The pain is however readily relieved by a preparation of ammonia, the two most easily to be had being sal volatile and hartshorn. Dr. Hooker has stated that in some parts of Sikkim, the honey of Rhododendron flowers is believed to be poisonous, Azalea pontica, the Anabasis informs us, poisoned the soldiers of Xenophon in the retreat of the ten thousand. *Crawfurd's Des. Dic. of the Indian Islands*, p. 152, *Nat. His. of Bible*, *McCulloch's Commercial Dictionary*, *Tod's Travels*, p. 27. *Royle. Productive Resources; Materia Medica.*

HONAGUL, CAN. A Mysore wood.—*Mad. Cat. Ex.* 1862.

HO-NAN is bounded on the North by Pe-che-le, on the South by Hoo-pih, on the East by Gan-hwuy, and on the west by Shen-se ; it is also called by the Chinese Tong-hoa. The capital is situated on the south bank of the Hwang-ho, which flows through the whole breadth of the province. *Sirr's Chinese* i, 421.

HONAY. CAN. Calophyllum inophyllum.

HON-CAU, a low island in the Chinese seas called also Pulo Ceicer de Terre.

HONE. A fine kind of stone obtained from Germany and Turkey, used for sharpening or setting cutlery. It is of a greenish colour, inclining to yellow, often marked with thin dendrical lines, and is moderately hard, having a fine close texture, resembling indurated clay. Hones of good quality are obtainable in the Cuddapah and Kurnool districts of India.—*Waterston. M. Ex. J. Rep.*

HONEGA. CAN. Felis pardus. *Linn.*

HONEY DEW, a secretion on plants, from species of aphides.

HONEY-EATERS of the South Sea islands, are species of Melithreptes.

HONEY OF RAISINS. SHER. PERS. The juice of the unripe grape, after it is boiled to a syrup and is formed into a solid mass, like congealed honey out of the comb. It is supposed to be this honey to which Ezekiel, writing of Tyre, alludes. (Ch. xxvii. v. 17.) Judah, and the land of Israel, traded with thee ; corn of Minnith, honey of raisins and (in some editions honey alone), oil, and balm gave they to thee for thy wares." It is made in Syria and is exported to Egypt. *Baron De Bode's Travels*, *Vol.* II. *p.* 146.

HONEY SUCKER,—the name of a genus of birds, the Cinnyris, of which several species are common in India and the Archipelago. They are also called the sunbirds, and they take the place, in India, of the humming birds of S. America. They are easily distinguishable, however, as humming birds have straight bills, while the bill of the sun bird is curved. The species are all of small size, with some feathers of a bright metallic lustre. They hover over flowers, and extract the honey with their tongues. Dr. Jerdon, arranges the Cinnyridæ of Swainson and the Promeropidæ of Gray under the Family Nectarinidæ of Vigors and notices the following genera, Aracnothera magna and A. pusilla, the large and little spider hunter: Æthopyga miles, Æ. vigorsi Æ. gouldiæ, Æ. ignicauda; Æ. nipalensis, Æ. Horsfieldii and Æ. saturata; Leptocoma Zeylonica and L. minima. Arachnechthra Asiatica and A. lotenia.—*Tennent. Jerdon.*

HONEYSUCKLE: species of the genus Caprifolium, seldom cultivated on the plains of India, in a very satisfactory condition: with few exceptions, the species are natives of cold countries, require rich vegetable soil, grow freely from cuttings under glass, if not kept too damp.—*Jaffrey.*

HONG. Burm. Coculus indicus, Eng.

HONG, A word used in original Malayan invocations in the same way as the Arabic Bismillah is used in the modern ones. Hong is deemed a very unhallowed word, of great power, and so panas, (hot), that if any man use a Hong invocation three times, nothing that he undertakes for himself will succeed, and he will live powerful but miserable, able to afflict or assist others, but unable to assist himself. It appears to be considered as a recognition of an essence or first principle beyond God and an appeal to it for power which God has not granted to man. It is used in Javanese invocations and a Javanese explains it to mean Embryo of Being, Primeval Essence, so that Sir T. Raffles' conjecture, that it is the budd'hist and hindoo Om (Aum), is probably correct.—*No. 5, Jour. Ind. Arch.*

HONG. Chin. A term applied to a united firm, a mercantile corporation.

HONGAY or HONGE.

Hip-pe.	Can.	Moha.	Hind. Mahr.
Kuranj.	Hind. Mahr.	Nella Kalawalu.	Tel.

Under these names are known two different trees growing in the woods of Mysore. Oil is obtained from the seeds of both, but the oil of the Hongay is very smoky and bad though clear to look at; that of the Hippe, is as white and good as the cocoanut oil. The Hip-pe trees are extensively planted in topes in front of villages, for the purpose of obtaining oil. They seem to be species of Bassia or perhaps Pongamia glabra. *M. Ex. of* 1857.

HONG-KONG, a large island at the entrance of the Canton river, about 22 miles in circumference, but very mountainous and generally barren. The highest peak has 2,000 feet of elevation. The island was ceded to the British in the beginning of 1841 and Victoria town is on the north side of the island. The houses of the European Residents are built terrace like, on the face of the hill. Hong-Kong is the Heang-Keang of the Chinese and the name signifies the valley of fragrant waters, it is one of the group of islands which lie north of the estuary leading to Canton, in L. 22° 17," N. and L. 114° 12" E., and is distant from Macao 42 miles, and from Canton 105 miles. Hong-Kong is about ten miles in length, and four and a half in breadth; the noble harbour is nearly four miles in length, and rather more than one and three quarters in width. Hong-Kong is one of that cluster of islands, called by the Portuguese the Ladrones, or Piratical Islands, Its rocky sterile mountain rises from the shore, 2,000 feet above the level of the sea, houses of every variety of form have sprung up in the town of Victoria, with continuous ranges of buildings. The neighbourhood is liable to violent storms in the end of summer.—*Lay's Chinese as they are p.* 280.

HONG-LA-NE. Chin. Coptis teeta.—*Wall.*

HONIG. Ger. Dut. also Honing, Dut. Honey.

HONIGBERGER, Dr. a German medical man at the court of Ranjit Singh. Author of a work on the medicinal products of the Panjab.

HONNAY, Can. Saunders Wood? Pterocarpus marsupium.

HONORE, on the coast of Canara, a place of considerable trade in pepper, rice, &c. It is mentioned by many writers; is the Honor and Onor of Deb and Cesar Frederici, Hinawar, Hannaur of (Abulfeda), Manor and Hunawur of Abdur-Razzak, and probably the Nandor of the Catatan Map, Hunawar or Onodre (properly Hunur ?). Abul Fadl describes it as a fine place with pleasant gardens and a mahomedan population with a great export trade of rice and much frequented by shipping but long a nest of pirates. *Yule Cathay* ii. p. 451.

HONOVER, the most sacred prayer of the Parsees. It is very ancient, consists of

three times seven holy words, divided into three lines of equal length. It mentions the two words Mazda Wise, then Ahura, living, from which the name Ormuzd has been derived. The words are now regarded only as a magical formula. *Bunsen, God in History.*

HOREB. The mountains Horeb and Sinai, are part of the Jab'l-ul-Tur range, with Hor or Seir, now called Jab'l Harun or Aaron's mountain.

HOUTMAN, a native of Holland who served the Portuguese in the Eastern Archipelago, but in A. D 1595. commanded in the first expedition of the Dutch to the East.

HOODED, in natural history, a term applied to describe several animals. The hooded chameleon is the Chamæleo cucullatus. The Corvus cornix is the 'Hooded Crow' of Europe, Asia Minor, Afghanistan, Japan and Barbary, and the Hooded Presbytes is one of the Simiadæ.

HOOGHLY a district of Bengal to the south of Bardwan; the chief town, Hoogly is 27 miles from Calcutta and the river Hooghly, has on its banks the chief towns also called Calcutta, Serampur, Chandernagore, Hooghly and Moorshedabad. Hoogly fort was taken by the troops of shah Jehan by assault after a siege of three months and a half. More than a thousand Portuguese were slaughtered, and 4900 men, women, and children, were made prisoners of war. The best-looking young persons were sent to Agra, and circumcised, and made mahomedans. The girls were distributed among the harems of the emperor and his nobility. Hooghly was the first place where the press was set up in India. It was put up in 1778, by Messrs. Halhed and Wilkins, on the occasion of the publication of a Bengalee Grammar by Halhed. The Bandel church is the oldest christian church in Bengal, built, according to the inscribed date, in 1599. Prior to Hoogly, the royal port of Bengal was Satgaon. The Ganges formerly flowed by this place, and came out near Andool, and the remains of wrecked vessels have been turned out beneath the earth which has overlaid the bed of the deserted channel. Satgaon is of great antiquity, having been known to the Romans under the name of Ganges Regia. *Tr. of Hind. Vol*, I. *p.* 13, 15.

HOOGLY RIVER is formed by the junction of the Bhagaruttee and Tellinghee, two branches of the Ganges. It runs S. to Calcutta; S. W. to Diamond Harbour; E. and S. W. into the sea at Saugor roadstead, by an estuary 15 miles wide. Its length is 160 miles by winding of stream. It receives the Dummoodah, 350 miles, Dalkissore, 170 miles, Cossy, 240 miles Mor., 130 miles and about 49,000 sq. miles are drained. It was formerly navigable for a line of battle ship to Chandernagore; now, vessels drawing more than 17 feet, are not safe in passing from Calcutta to the sea, by reason of shoals, amongst the largest of which is that known to seamen as the James and Mary (jahazmara, ship-struck). The only class of Bengal fishermen who have seabuilt boats inhabit villages situated near the entrance of the Hoogly. Their chief and most profitable employment consists in attending with their boats, on the shipping entering and leaving the river, for which they receive 16 rupees per diem. Whenever this employment fails, they resort to work with their nets, which they drag during high water along the coasts of the Sunderbunds. The highest high water, being the highest rise of the river Hoogly spring tides during the freshes, or from July to September, from 1806 to 1835, was 20 feet 6 inches. In August 1856, neap tide rose 15 feet 6 inches, above the datum sill of the Kidderpore dock, and upon the 18th August 1856, spring tide rose to 22 feet 3 inches above the same datum. In the dry season the lowest fall of river spring tide at Calcutta is to 1 foot 9 inches above the datum of Kidderpore dock; the neaps 2 feet 8 inches, whilst the tides in the Salt Lakes only fall to 7 feet 10 inches above datum. The following is a table, showing the relative height of the river Hoogly and the salt water lakes:

	Dry weather.				Rainy season.			
	springs		neaps.		springs		neaps.	
	ft.	in.	ft.	in.	ft.	in.	ft	in.
River tide, lowest....	1	8	2	8	9	0	10	3
Calcutta, highest ...	17	3	9	0	23	4	15	11
Salt Water, lowest...	7	10			11	0		
Lake Tides, highest.	11	6			12	0		

The greatest rise of the Hoogly at Calcutta being 23" 4; average spring 17" 41. The greatest rise of the Salt Lakes being 12 feet. This is on the western side of the delta, very different from what occurs on the eastern side, where the tides rise from 40 to 80 feet.

The silt held in solution, earthy matter, carbonate of lime, magnesia, sulphates of lime and iron at three feet of depth, varies at Calcutta and in the Gasper channel from 7·34 to 18·92.

The water discharged has been found to be

Observers, and place and time of observation.	Width of River.	Mean depth.	Sectional area.	Mean velocity per second.	Discharge per second.
	Feet.	Feet.	Sq. feet	Feet.	Cubic feet.
Lt-Col. Goodwyn, B. E. at Calcutta, Clive Street Ghat to Howrah, in March	2·060	36·0	74·160	4·5	444, 960.
A. Bedford, Esq., H. C. S. river Surveyor. At Moyapore, 13 miles below Calcutta, March, 1854.	3·300 (nearly)	29'20'2	,,	2·88	507,060 (H. P.)
A. Bedford, Esq., at Jiggerkolly, Semaphore below Diamond Point and N. W. by W. 2, from Culpee Pagoda, in March 1854*.	8·600	32'1"3	,,	4·596	1,277,009 (H. P.)
Average of the Mississippi river as given in Mr. Ellet's work p. 30 41	3.300	115·6	200,000	Surface. 7.00	979,240 below New Orleans.

*And below the point where the Damooda and Roopnarain join the Hoogly. The flood tide from the sea much augments the volume of water here so that the discharge shown is that of the whole tidal water of the estuary rather than that of the river.

The bore, at seasons, rushes up this river. The great tidal wave taking its origin in the Southern Ocean, rushes with impetuosity up the Bay of Bengal, breaking in an angry surf all along the Coromandel Coast, and at times cutting off all communication between the shipping and the shore. This wave, when aided by the south-west monsoon and by the full and change of the moon, rushes with great impetuosity up the rivers of the Gangetic delta where it is opposed by the freshes that descend from the up-country during the prevalence of the south-west monsoon, and, then for three or four days at the full and change of the moon, the bore may be seen racing up the Hoogly river at the rate of twenty miles an hour, dashing from side to side of the river according as the bends, or reaches, deflect it in its course. Upon the approach of this wave a distant murmur is heard which soon turns into the cry ban! ban! ban! from the mouths of thousands of people, boatmen, sailors, and

others who are on the look out for this much dreaded wave. This cry is the signal for all sorts of craft to push out into the centre of the river, the only spot where the wave does not curl over and break. Should any boat or larger craft be caught in that portion of the wave that breaks, instant destruction is inevitable. Numerous boats from the up-country provinces are lost every year from the crew being ignorant either of the existence of the bore, or from not knowing the correct position to take up so as to meet it. Ships at anchor in Calcutta though not exposed to the breaking portion of the bore frequently part their cables when struck by the wave. If standing on the shore during the rapid rushing passage of the bore, it is a curious sight to see the lower portion of the river or that nearest to the sea, six or eight feet higher than the upper portion of the river, the tide rising that number of feet in an instant. The height of the bore in the Hoogly varies from five to twelve feet, it is exceedingly dangerous in some parts of the river, but more moderate in others; it never breaks on both sides of the river at the same time. Deep water engulfs its force, but shallow water, or a sand bank, brings out all its power and fury. Dr. Hooker mentions, that at the mouth of the Megna river, also, the great object in the navigation is to keep afloat and to make progress towards the top of the tide and during its flood, and to ground during the ebb in creeks where the bore (tidal wave) is not violent; for where the channels are broad and open, the height and force of this wave rolls the largest coasting craft over and swamps them. The bore in 1782, flowed as far as Nuddea in the Hoogly but at the present day it falls short of that place by many miles, not ascending much beyond Sooksagor, It reaches Dacca on the Buree Gunga and Castee on the Horinghatta branch. See Bore.

HOOIN-THSANG, visited Balabhi, in the 7th century and found there 100 buddhist monasteries and 600 buddhist priests and the ruler was a buddhist. See Hiwan-Thsang.

HOOJEREE or Hujeri. ARAB. A term applied to one of the servile races of Arabia Qu. Khijra?

HOOKA. HIND. The native pipe and apparatus for smoking. The argyle of Damascus, is the common hooka of India, and this word is a corruption of the Persian 'Nargyle.' The common hookah consists of a cocoanut shell containing water, in which an upright reed, or wooden pipe ornamented or otherwise and about eighteen inches long is fixed, to support the tobacco

holder and lighted charcoal (chillam.) This perpendicular tube is grasped by the person who smokes; who draws the tobacco smoke through the water, by means of a similar reed, or pipe curved or straight reaching from the globe to the mouth. These tubes are sometimes made of silver, as well as the vase itself, and richly sculptured. The ordinary hookah of India, is termed by Europeans the hubble bubble from the noise created in the water.

The hookah has almost ceased to be used by Europeans in India, but natives continue to use it with gurako or prepared tobacco. Some hookah snake tubes are very costly, the precious metals and precious gems, being largely employed in their manufacture. The snake or pliable ornamental tubing lengthens out into several coils, and the smoke passes through a water-vase, while the mouth-piece is of amber, silver, &c.—*Simmond's Dict. Robinson's Travels*, Vol. II, p. 226.

HOOKER, Dr. Joseph Dalton, F. R. S., son of Sir W. J. Hooker, born at Hallsworth on the 30th June 1817, a medical officer of the British Navy, and a botanist of the highest scientific character. He was the naturalist under Sir James C. Ross, in 1840—1842, in the voyages to the Antartic Regions, and published his researches in six volumes. He dwelt amongst the Sikkim Himalaya and journeyed into Thibet, and published his Himalayan Journal, and subsequently his works on the plants of the Galapagos, and flora of the Malayan Archipelago and tropical Africa. Joint author with Dr. Thomas Thomson, of 'Flora Indica,' and Præcursores ad Floram Indicam in Linnæan Society's Journal. Drs. J. D. Hooker and Thomas Thomson travelled extensively in India and in 1865, issued the first volume of the Flora Indica, which would have summed up the labours of all previous writers, but it has not gone beyond that first volume and the loss to science seems, at present, irreparable, for no others are at present alive possessing equal knowledge of India and its plants. Dr. Thomson collected about 2,500 species, in Loodianah, Punjab, Rohilcund and along the whole line of the Himalaya, and Dr. Hooker, in 1848, 1849 and 1850, aided by Dr. Thomson, collected about 7,000 species.

HOO-KWANG, a province of China. Hunan, is the southern division of the ancient province of Hoo-kwang, and is larger than the northern portion, but it is not so thickly populated. See Hoo-Pih.

HOOL. Mahr. Chickrassia tabularis.

HOOLHOOL. Gynandropis pentaphilla.

HOOLI SHENA. Can. Tamarindus Indica.

HOOLOCK one of the Simiadæ.

HOOLOOGOO, grandson of Chengiz Khan, who sacked Baghad A. D. 1259; his name is said to have been Ali khan.

HOOLY, or Hohli, a hindu festival, in honour of Krishna, which takes place in the month Phulgoon, February—March, at the commencement of the joyous spring. The amusements on this occasion consist in dancing, singing, and play. Their songs are called kuvgeer, or extempore stanzas, principally in allusion to the charms of Krisna and his amours with the Gopia, and are not marked by an excess of delicacy. One of the dances, is the favourite 'tipree' dance, or rasa-mandala, in which 20, 30, or more form a ring, each having a short stick in the hand, which the dancer strikes, alternately, those of the persons before and behind him, keeping time with it and his foot, the circle move round, keep time to a drum and shepherd's pipe, of three or four sweet and plaintive notes. In Major Moor's Hindu Pantheon is a beautiful plate on this subject, in which Krishna (with Radha) in the centre, is described as the sun, and the circle of dancers as the heavenly bodies moving round him. In the Hooly, the players throw a red powder, sometimes mixed with powdered talc to make it glitter, into the eyes, mouth, and nose, or over the persons of those who are the objects of the sport, splashing them well at the same time with an orange-coloured water. The powder is sometimes thrown from a syringe and sometimes put into small globules, which break as soon as they strike the object at which they are aimed. The hindu women are expert in throwing these. The Hooli among the hindus, reminds one strongly of the saturnalia of the Romans: people of humble condition take liberties with their superiors in a manner not admissible on other occasions. The chief fun in public is throwing the coloured powders above alluded to on the clothes of persons passing in the streets, and squirting about the tinted waters. Dignified personages avoid, as much as they can, appearing abroad while these jocularities are passing, unless with the view of gaining popularity they condescend to partake in them: in general they confine themselves to their houses, and amuse themselves with their families. In pictures, belonging to a series illustrating the domestic occupations of the Indians, the family diversions of the Hooli appear like those more publicly exhibited: scattering

yellow and red powders, and squirting coloured water. Sending simpletons on idle errands contributes also to the delights of the Hooly; this is performed exactly similar to our ceremony of making April-fools on the 1st of that month, and is common to all ranks of hindus, and mahomedans, indeed, join in this, as well as in other items of Hooly fun and humour. Another opportunity of merriment, similar to the May-day gambols of England is afforded to the hindus in a festival in honour of Bhavani, that always falls on, or near, that day. The Hooly seems a festival in honour more especially of Krishna. A log is burned, and it is supposed to be the Yule log.—*Cole. Myth. Hind.* p. 382. *Moor's Hindoo Pantheon.* See Hiel.

HOOM, MAHR. Guatteria cerasoides. *Duval.*

HOOMA, a fabulous bird, the Phœnix of classical writers.

HOONDEE, an Indian draft or bill of Exchange, drawn by or upon a native banker or sirraf, commonly written shrof.—*Simmond's Dict.*

HOONSAY, CAN. A Mysore wood.

HOONSOOR, a large teak forest here has been much neglected, and requires to be conserved, for there has been wasteful exhaustion of teak. The Cooroobus have done immense damage, this forest alone if worked under a systematic plan would give a regular supply of good timber to the state and the public. It has better means of communication than any in the belt of teak, and contains about one hundred and thirty square miles of timber trees.—*Madras Conservator's Report.*

HOOSSAINI SYED, a descendant of Hoossain, son of Ali.

HOOPER SWAN, See Birds; Crane, Cygnus.

HOO-PIH, is the northern division of the ancient province of Hoo-kwang, and is bounded on the North-West, by Shen-se, on the South-East by Ho-nan, on the East by Gan-hwuy, and the West by Sze-chu-en. Its population is about twenty-seven millions. Hunan is the southern division of the ancient province of Hoo-kwang, is larger than the northern portion just described, but it is not so thickly populated. See Hoo-kwang.

HOOPOE, the *Upupa epops* is common in Southern Asia during the cold season, and on the table lands at all seasons. It is, to all appearance, a bird of fluttering and feeble flight, but has repeatedly been observed, during the seasons of migration, at altitudes considerably above the limits of vegetation. On the western side of the Lanak pass, about 16,500 feet, Major Cunningham saw a Hoopoe; also, at Momay (14,000 to 15,000 feet elevation), under the lofty Donkia pass in Northern Sikkim.

HOOR-I-SHADEED, the martyr.

HOORHOORIYA, BENG. Polanisia icosandra.

HOORINGATTAH, an entrance to the Ganges, on the west of Rabnadab Island.

HOORMUL, SEED.

Lahoori Hoormul. HIND. | Harmalæ semina. LAT.

Seeds of Peganum harmala, grey, small, pyramidal and triangular, and used as rue.—*Ben. Pharm. p.* 207.

HOORMUZ, the name of one of those parthian kings, known to the Romans as Artabanus. Of the Parthian kings, there were five of the name Artabanus, the first in B. C. 216 and the last about A. D. 235, and with whom ended the Arsacidæ, he having been slain by one of his officers, Ardashir Babegan (Artaxerxes) who became the first of the Sassanidæ. It is supposed by Malcolm, that Artabanus iii. was the Shahpoor of the Greeks. His son, Vonones, reigned for a short period. His name is sometimes written Pollas: he was the Volageses of the Greeks whose war with the emperor Nero, and embassy to Vespasian, are related in the Roman history. Hoormuz appears to have been Artabanus the fourth of the Romans.—*Malcolm's History of Persia, Vol.* i. p. 85. See Greeks of Asia Kabul, p. 437.

HOOR-HOORYA, BENG. and HIND. Polanisia icosandra.

HOOROOF-I-TAHJEE, the Arabic alphabet, any alphabet.

HOOROOYA, Sapium Indicum.

HOOSSAINI BULBUL, also called the Shah-bulbul, is of the sub-family Myagrinæ and is known also as the Paradise-flycatcher. It is of a chesnut colour for many months, but becomes white in the breeding season, in its plumage des noces. It is a very graceful bird, with very long tail feathers and it is a pretty sight to see it flitting from tree to tree: how the birds prevent the long tail feathers from becoming entangled in the thorny trees is difficult to understand. In Ceylon, the bird in its chesnut dress is called the Fire thief and the white bird the cotton thief, it is also called the Sultana Bulbul. Its colouring is chaste and its movements graceful. Mr. Layard has often watched them, when seeking their insect prey, turn suddenly on their perch and whisk their long tails with a jerk over the bough, as if to protect them from injury. It is common about Madras. It is the Tchitrea paradisi *Linn* and Europeans call it also "the Bird of Paradise."—*Tennent's Ceylon.* p. 249.

HOOSNEIN, meaning Hussun and Hosein sons of Ali and Fatimah.

HOOSUNZYE, an Afghan tribe.

HOOZAR or Hujar, a river near Rutlúee in Kotah.

HOPEA, a genus of plants of the Natural order Dipterocarpaceæ. A species of Hopea, the "Thin-ga-do" of the Burmese, is a large tree, abounds in the same localities of British Burmah as H. odorata, but the wood is not equally valued. A cubic foot weighs lbs. 52. in a full grown tree on good soil, the average length of the trunk to the first branch is 100 feet and average girth measured at 6 feet from the ground is 20 feet. It sells at 12 annas per cubic foot. H. decandra, *Buch.* called Ooroopa in Malayala, is a tree which the natives of Canara prefer to teak for building ships, being more durable and close grained. H. discolor, *Thw.* is a large tree of Ceylon growing in the Saffragam and Ambagamowa districts, at no great elevation. The under side of the leaves are of a rich brown colour. H. faginea, *Wall*, is a tree of Penang. H. floribunda? "The-ah" also "Tan-the-ya" of the Burmese is a very large tree of Tavoy.—*Dr. Brandis, Cal. Cat. Ex.* 1862. *Ain's. Mat. Med.* p. 207- *Thw. En. Pl. Zeyl.* I p. 36.

HOPEA ODORATA, *Roxb.*

Thengan, BURM. | Then-gan-pha-yung BURM.

This species grows in Chittagong, in Burmah and in Tenasserim, is considered the most valuable indigenous timber tree in the southern provinces of Tenasserim and at Tavoy and Mergui is sawn up for building purpose. The Thingan trees grow to a height of 250 feet; they are found near Moulmein in laterite and sandstone chiefly. The best canoes are made of it, and it is used extensively in native boat building. It is plentiful in the Tenasserim Forests, is scarce in Pegu, and a few trees are to be found about the vicinity of Rangoon. It is a light-brown wood, is used extensively by the Burmese in the construction of boats carrying 3 or 4 tons, formed from the trunks of these magnificent trees. The trunk is scooped or burnt out and stretched in the centre, whilst warm, by means of cross pieces of wood. When the required breadth is obtained, the sides are built up to obtain a greater capacity. These tree boats, if they may be so called, are from 7 to 8 feet beam. The breaking weight of Hopea odorata may be stated at 800 lbs. with a specific gravity of 45 to 46 lbs.—*Drs. Mason, McClelland.*

HOPEA SUAVA, *Wall.*

Engyin, BURM.

A valuable tree found in the Eng. forests of British Burmah, but large trees are not common in Pegu. Wood tough and hard but heavy, used in house building, for boats and a variety of other purposes, and said to be as durable as teak. A cubic foot weighs 55 lbs. In a full grown tree, on good soil, the average length of the trunk to the first branch is 60 feet and average gifth measured at 6 feet from the ground is 7 feet.—*Dr. Brandis, Cal. Cat. Ex.* 1862.

HOPFEN, GER. Hops.

HOPLOBACTRACHUS CEYLONICUS, *Pet.*, a reptile of Ceylon, of the sub class Batrachia, Order Batrachia Salientia and Family Ranidiæ.

HOPLOGNATHIDÆ, a family of fishes, with one genus Hoplognathus in which are three species. See Fishes.

HOPLOPTERUS VENTRALIS, in Jerdon's Catalogue of the birds of the peninsula of India Chœtusia gregaria was mistaken for Hoplopterus ventralis.

HOPPER.

Apum, TAM. | Appas, SINGH.

A term employed in Southern India to cakes made of wheaten flour and cocoanut milk. The Apps of the Bombay Presidency are made from the Holcus or Sorghum vulgare. The hopper is made of rice flour in Ceylon.

HOPS.

Hoppe,	DUT.	Luppoli,	IT.
Houblon,	FR.	Humulus lupulus,	LAT.
Hopfen,	GER.	Chmel,	RUS
Bruscandoli,	IT.	Oblon,	SP.

The Hop plant has been introduced into India, grows well at Kaolagir, in the Dhoon, but flowers sparingly. The best hops are grown near Canterbury in England. The properties of hops of giving the bitter to beer, and, by preventing acetous fermentation, enables it to be kept much longer. To it, no doubt, is owing a portion of the stomachic properties of malt liquor, as we see exemplified in the bitter, often called Indian, ales. Hops are hypnotic, especially when stuffed into a pillow, but they should be first moistened with spirits, to prevent the rustling noise. Fomentations also have been used. Hops are thought, to be diuretic (as is also the root), and to be useful in correcting lithic acid deposits.—*Royle.*

HOR or Hor-pa. TIBETAN, Kao-tse CHINESE. This race call themselves Ighur. They seem to be Bhot. They dwell on the north-western frontier of Tibet, on the confines of the Turk districts of little Bokhara. Some of them are mahomedans and Mr. Hodgson considers them to be Turks.—*Latham's Ethnology.*

HOR. HIND. Terminalia chebula, *Retz.*

HORA. Sans. Lat. The 1-24th part of the natural day, answering to a European hour. A measure of time probably introduced into India by Europeans.—*Kala Sankalita.*

HORA. A goddess of Byblus, worshipped at Babylon as Hera, the equivalent of Juno. Her name in Tyre was Itea.—*Bunsen.*

HORAALIA. Singh. A rogue or must elephant.

HORA-BORA. A tank; now in ruins, in the Bintenne district of Ceylon. Its length is eight or ten miles, and breadth three or four. The embankment is from fifty to seventy feet high, and its base is 200 feet broad.—*Tennent's Ceylon.*

HORAN. A place to which Terah returned from Ur of the Chaldees.

HORANAWA. A shrill musical pipe, in use with the Kandians. Its tones have some resemblance to those of the bagpipe. Its mouth-piece is made from the talipot leaf; and its other parts of jack-wood and brass.—*Sirr's Ceylon.*

HORDE, an English word introduced from the Turkoman word Urdu.

HORDEUM, a genus of plants of the Natural Order Panicaceæ, furnishing the barley so much used by the more northern nations of the world. H. vulgare, *Linn*, is the spring barley of Europe, H. hexastichon *Linn*, is the common barley, and H. distichon *Linn*, is a plant of Tartary.

Hordeum ægiceras, *Royle, M.S.S.* has ears cylindrical; florets arranged in a confused manner, not in rows; awns soft, short, hooded, and bent downwards; grains loose in the husk. It is found in the northern parts of India, and probably in Tartary, as its grains have been sent to England under the name of 'Tartarian Wheat.' Its appearance is more that of wheat than of barley, and its naked grains assist the resemblance. It is however a genuine species of Hordeum. It appears to be a productive plant but little is as yet known of its quality in the climate of England.

Hordeum gymnodistichum, has the ear cylindrical; awns almost parallel with the ear; grains loose in the husk. Naked Barley, a species but little cultivated now, is of unknown origin. It is said to have been introduced into England in the year 1768; but it is reported to have preserved its characters unaltered from time immemorial in some parts of Europe.

Hordeum gymno-hexastichum, has the ear cylindrical: awns very long, rough, and rigid, rather spreading away from the ear; grains loose in the husk. The origin of this, the Naked Six-Rowed Barley, is unknown. It is extremely productive, and in some parts of Europe it is reckoned the most valuable of all. The French call it, on account of its good qualities, Orge celeste.—*Eng. Cyc.* quoting *Lowe's 'Elements of Agriculture,' p.* 238.

HORDEUM CŒLESTE.

Elo of Barley	Chenab. Eng.	Grim also Nas of Ujou Punjabi Ua of	Ladak. Sutlej.

This is found in the Sutlej valley between Rampur and Sungnam up to 15,000 feet. The beardless variety is most esteemed. Barley ripens in the end of May, several weeks before wheat. The dough made of it is called "ampe" in Ladak. *Cleghorn's Punjab Report, p.* 66. *Dr. J. L. Stewart*, 256.

HORDEUM DISTICHON. *Linn.*

Zeocritum distichon Beauv.

Dhourra, Shair.	Ar.	Krithe	Gr. of Dios.
Mu yau.	Burm.	Shoreb.	Heb.
Barley of Exod. ix, v. 31.	Eng.	Jao.	Hind. Pers.
Summer Barley of England.	,,	Barley arisi.	Tam.

This is commonly stated to be a native of Tartary. Colonel Chesney found it wild in Mesopotamia, upon the banks of the Euphrates. It is much cultivated in Europe and is the common Summer Barley of England, and that which cultivators seem to prefer; its ears are not so large as those of H. hexastichum, but the grains are heavier. Ear cylindrical; awns almost parallel with the ear; grains adhering to the husk. *Eng. Cyc. Voigt.* p. 714.

HORDEUM HEXASTICHON. *Linn. Roxb.*

Dhourra also Shair.	Ar.	Yoa of Kangra.	Jav.
Juvo.	Beng.	Soa; Jhotak;	
Mu-yau.	Burm.	Shiroka	of Ladak.
Thanzatt, nai, jaw jawa,	of Chenab.	To-sa	of Nepaul.
		Tro, Ne of Pangra.	
Sa-too.	Duk.	Situs-hooka;	Rus.
Ijœir.	Egypt.	Chak of Sutlej.	Sw.
Common barley: Barley.	Eng.	Barley arisi.	Tam.
Winter Barley.	,,	Barley Biyam.	Tel.
Krithe of Dios.	Gr.	Yava: yava biyamu: Pachcha yava;	
Shoreb.	Heb.		
Jao.	Hind. Pers.	yavalu.	,,

This species of barley is grown in northern India. It is frequently cultivated as a cold-weather crop in the plains of the Punjab, as it requires less labour and gives more produce than wheat even in inferior soils and where the water is deep below the surface. Above 8,000 feet of elevation, it is much more common than wheat, while at lower heights it is less grown. In Lahoul and Ladak it is abundantly cultivated with Fagopyrum up to 13,000 feet in Ladak, some kinds of barley may be seen up to 14,000

feet, about Hanle, near the Tsomoriri lake. and this is found in the Sutlej valley between Rampur and Sungnam at an elevation of highest limit 15,000 feet and much cultivated. Barley is cultivated much in the same way as wheat, but is ready for cutting somewhat sooner; it grows much on "sailaba" and "barani" lands: in the Punjab, it is much less esteemed than wheat and sells much cheaper, though it produces much more, and requires worse lands and less watering than wheat. The varieties are "jau-desi," (common country barley), and "jau paighambri." "Ghoni" jau is barley that has scarcely any husk at all but only a fine skin. Barley is one of the cheapest of the grains found in the bazaars of Kaira in Guzerat. *Powell, Hand Book, Econ. Prod. Punjab, p.* 228. *Cleghorn Punjab Report, p.* 66. *Dr. J. Stewart Punjab plants, p.* 256.

HOREHOUND, the black species is Ballota Nigra.

HOREHOUND, *White.*

Pucha Pat,	Beng.	Patch Patta,	Guz.
Patch leaves,	Anglo-Hind.	Marrubium Indicum,	Lat.

This plant grows at elevations of 2,000 to 7,000 feet in the N. W. Himalaya, in Kashmir, the Salt Range, on the Chenab and Trans-Indus. The leaves are of a whitish-gray colour, having a woolly appearance, and possessing a faint agreeable odour, and a sharp bitter taste. That met with in Bombay, is imported from Singapore and is used in various ways by the natives, but chiefly as an ingredient in Gooracoo, and when combined with other herbs, for scenting the hair of women. The essential oil is in great request among the superior classes of natives, for imparting the peculiar fragrance of the leaf to clothes.—*Faulkner. Dr. J. L. Stewart,* p. 169.

HOSHEARPUR, between this and Kangra are valleys and broken country.

HORI-KOWAN. Mahr. Alstonia scholaris.—*R.*

HORINGHATA, one of the mouths of the Ganges. See Saugor island; Hooringattah.

HORINGI MARAM, also Horingi Tanga Maram. Tam. and Maleal. species of soap-nut trees. See Koringi.

HORKIKALLY, a river near Bishenpasha in Sylhet.

HORMARA, a section of Beluchistan, adjoining the Arabian sea. The Hormara tribe say they came originally from Sind. See Kelat.

HORMISDAS, son of Sapor. See Sassanian kings.

HORMUZ, or Ormuz, is an island at the entrance of the Persian Gulf, presenting a rugged appearance, its north end is in lat. 27° 5′ N., long. 56° 29′ E. It is the eastern extremity of the chain of the volcanic mountains, which runs parallel to the coast of Kirman, and at Hormuz, it consists of a number of isolated hills of rock-salt and sulphur, which compose a mass of about 15 miles in circumference, destitute of springs and vegetation, but abounding in copper and iron ore. On a plain, near the northern extremity of the island, are the cisterns and other remains of the once commercial Hormuz, which, in the time of its prosperity, under the Portuguese, when it was a great entrepot of Indian trade, had 4,000 houses and 40,000 inhabitants. The port and anchorage, which gave such importance to the spot, are within two miles of the town. The present inhabitants number about 3,000, and are employed in preparing rock-salt, from which the sultan or imam of Muscat as proprietor, derives a considerable revenue. The island lies, from the estuary of the Minnow river, nearly 16 miles, =300 stadia, according to Nearchus, which, at 111½, would give 16⅛ miles. The island gives its name to the Straits of Hormuz.

The islands of Larrack (or Larek) and Hormuz are twelve miles apart, and Hormuz is about twenty-six miles north of Ras Mussundum. Larrack is 400, and Hormuz 700 feet high. From Larrack we have specular iron ore as its characteristic; and from Hormuz, rock-salt, sulphur, gypsum, iron-ore, and pyrites. Hormuz is described as consisting of a plain of salt-rocks about 50 feet above the level of the sea, out of which rise several white peaks which attain the altitude mentioned.

Hormuz takes its name from a place on the neighbouring continent in Karmania; the Harmozia and Armuza or Harmozusa of Greek writers, where Nearchus landed and found one of his countrymen wandering from Alexander's camp, in which, some days after, the admiral was received with such well-merited honours by his sovereign. But in Alexander's time, the insulated Hormuz is generally supposed to have been the Organa of Arrian and Ptolemy and Tyrina or Gyrena of Strabo. The companions of Alfonzo de Albuquerque in 1507 took Hormuz, after a combat described with much animation by one of his countrymen; a few hundred Portuguese having contended, as he assures us, for eight hours against thirty thousand Persians and Arabians, valiantly defending

a place naturally strong and well fortified by art.

> High on a throne of royal state, which far
> Outshone the wealth of Ormus and of Ind:
> Or where the gorgeous East with richest hand
> Shower's on her kings barbaric pearl and gold."

Under the Portuguese it was a place of great trade, but in 1662, it was taken by shah Abbas the Great, with the assistance of the English, and the trade was destroyed.

The people on the neighbouring coast seem to be identical with the races who are known to have dwelt there two thousand years ago; and known to the ancients as the Ichthyophagi. From Basrah to Hormuz, the sea-coast people still principally live on fish. The mahi-abah and mahi-ashnah, literally fish bread and fish soup, used among the people of Lar is prepared from fish, (more particularly a small kind found near Hormuz) by exposing it to the sun. Strabo and Arrian relate, that the ancient Ichthyophagi, made into bread in a similar manner, the fishes which they had dried and roasted. The region of the Ichthyophagi commenced at Malana near Cape Arabah and ended between the ancient Dagasira and the place now called Cape Jask, or more properly Jashk. "Churchill's Collection of voyages" mentions that "the coastes of Persia as they sailed in this sea, seemed as a parched wildernesse, without tree or grass; those few people that dwell there, and in the islands of Lar and Cailon live on fish, being in manner themselves transformed into the nature of fishes. So excellent swimmers are they, that seeing a vessel in the seas, though stormie and tempestuous, they will swimme to it five or six miles to begge almes. They eate their fish with rice, having no bread: their cats, hennes, dogges and other creatures which they keepe have no other dyet." Nieuhoff who travelled in 1662, says that about Gambroon, "the common people make use of dates instead of bread or rice; for it is observable that the ordinary food of the Indians all along the coast from Basora to Sinde, is dates and fish dried in the air; the heads and guts of the fishes they mix with date stones and boil it altogether with a little salt water, which they give at night to the cows after they come out of the field where they meet with very little herbage."—*Taylor's Travels from England to India, Vol. I. p. 266. Churchill's Collection of Voyages, Vol. II. p. 250 (first edition). Ouseley's Travels, Vol. I. pp. 158 228. Townsend's Outram and Havelock, p. 297. Kempthorne's Survey of the Eastern shores of the Persian Gulf. In Vol. V. Part II., p. 274, of the Royal Geographical Journal Yule's Cathay I. p. 56. Chesney, p. 42. Horsburgh. Parad. Lost B. II.*

HORMUZD or Hormisdas son of Sapor. See Sassanian kings.

HORN.

Horn,	Eng. Gebm.	Cornu,	Lat.
Hoorn,	Dut.	Tanduck Sungu,	Malay.
Corne,	Fr.	Kombu,	Tam.
Sing,	Hind.	Kommu,	Tel.

The horns of animals are largely utilized in the manufactures of the south and east of Asia and are both imported and exported. Horn is soft, tough, semi-transparent, and susceptible of being cut and pressed into a variety of forms. Horn of kinds is extensively used in the manufacture of handles for knives, walking sticks, spoons, combs, lanterns, snuff-boxes, powder flasks, buttons, hair-pins, &c. Glue is sometimes made of the refuse of horns. Horns and bones of various animals are brought to China in junks from the adjacent countries and islands, and form an important article of import with the native vessels. Buffalo horns are worked into lanterns, some of which are highly elegant, and small boxes in which to put opium to carry about the person; handles, and other useful articles, are also made; and the bones are burned into lime. In a single year, 502 peculs have been brought to Canton. In China, horn is softened by very intense heat, and then extended into thin laminæ of any shape. The best sort of rhinoceros horns comes from Cochin-China, and sells at times for $,300 a piece; an inferior sort is imported into China from India, of which some probably are from southern Africa, which are sold for $30 and upwards a piece. The Chinese work the finest of these horns into elegant cups and other articles, but the most of the importation is used as a medicine; it also forms an article of commerce in the Chinese junks trading to Japan. The horns and antlers, exported from all India average more than Rs 30,000 a year. These are the dense antlers of the "Samber" Cervus hippelephas, of the "barking deer" Cervus muntjac, of the "Axis" Cervus axis, the Neilghai Damalis rusa, and other species of Indian deer —also the horns of the Indian buffalo, ox, antelope, "thar," gural and yak, are exported to Europe and Ceylon.—*Hon'ble Mr. Morrison's Compendious Summary; Royle Arts, &c., of India p. 513. Faulkner. Powell, Hand-Book Econ. Prod. Punjab, p. 159.*

HORN WORK, such as Ivory, buffalo and deer horn, porcupine quill, &c., such as chessboards, work and knitting boxes, tea-chests and tea-caddies, ink-stands, baskets &c., which are lined with sandal wood, are generally very neatly made at Vizagapatam.

But they are far surpassed, both in cheapness and workmanship, by articles of a similar description, the produce of German industry, which are largely exported to England. The following are selling prices of Indian work; of Vizagapatam and of Viziadroog in the Concan.

	Rs.
Ivory backgamon board,	85
Do. fluted envelope case,	25
Do knitting box,	12
Sandalwood and Ivory box,	8
Porcupine quill do.,	8
White elk-horn inkstand	12
Black do. do.,	18
Porcupine quill, ivory and buffalo horn work box.	35
White elk-horn do.,	30
Buffalo horn do.,	18
Do. do. tea chest,	18
Sandalwood and ivory basket,	18
Porcupine quill basket,	5

—*M. Ex. Jur. Rep.*

HORNBEAM, Eng. Carpinus viminea.

Charkre of Ravi. | Shirash of Beas.
Imar of Sutlej.

A moderate sized tree growing in the N. W. Himalaya, at from 5,500 to 6,000 feet up to the Ravi. Its wood is esteemed by Carpenters.—*Dr. J. L. Stewart.*

HORNBILLS, a family of birds Buceridæ, of the genus Buceros, whose bills arrest attention. Their food consists of fruits, berries, flesh, and even carrion, in short, omnivorous. In B. cavatus, the throat, ear-coverts, circle round the eye, and a narrow-band at the occipital edge of the protuberance of the beak, are black; neck dirty straw-colour, the feathers of the back of the neck elongated; body and wings black, greater coverts and quill-feathers tipped with white; thighs, upper and under tail coverts, white; as is the tail also, with the exception of a broad black band about three inches from the tip; beak yellowish, inclining to scarlet at the tip, under mandible black at the base; tarsi black. It is a native of India, the Himalaya Mountains, Java, and most of the Islands of the Archipelago.

B. pica, *Scopoli* is the B. coronata *Boddært* and the Kuchila kai of the Singhalese; the female is built up in the nest and fed by the male during incubation.

B. rhinoceros, the Rhinoceros Hornbill, the bill about 10 inches long and of a yellowish-white, the upper mandible red at the base, the lower black. The horn, or casque, varied with black and white. The body black, of a dirty white below and posteriorly; tail about 12 inches, the feathers white at the base and tip, black in the middle; feet and claws obscure gray. It is a native of India and the Indian Islands, Sunda, for instance.—*Eng. Cyc. Vol.* III. p. 139. *Gould. Sir J. E. Tennent's Ceylon.* See Birds. Buceros.

HORN BOW, a bow made of horn is sometimes used in the East.

HORNBLENDE, Sp. gr. 3·202. occurs frequently in small dark colored grains or crystals embedded in other rocks, the form of the crytals is usually very oblique, four-sided prisms often found in pairs, rarely it occurs in six-sided prisms. It also forms large masses of a greenish black or dark-brown color, greenish grey in the streak; it is semi-hard and breaks into long quadrangular pieces, the fracture is shining, coarse and granular; it is rather brittle and melts into a greyish black glass before the blowpipe.

HORNED HOG, The Babirousa, or Horned Hog of travellers, is a wild hog that inhabits the woods of Java, Celebes, and others of the larger Sunda Isles. Its upper tusks are of great length, and curved form, and grow upwards and backwards like the horns of the Ruminantia. It is probably the Sus tetraceros of Ælian.—*Eng. Cyc. p.* 359.

HORNET.

Tsireah. Heb. | Crabo, Lat.

HORNSTONE, See Quartz.

HOROCKA TREE of New Zealand, syn. of Aralia crassifolia.

HOROLOGE, Horologien. Fr. Clock.

HORRE. Singh. A hard, though coarse, open-grained, heavy Ceylon wood.

HORRE. Singh. Dipterocarpus lævis.—*Buch.*

HORRFROED. Dan. Linseed.

HORSBURGH, Captain J., A celebrated hydrographer, who wrote the East India Directory, and in his honor a light-house was erected on Pulo Aor near Pedra Branca. His sailing directions are reckoned indispensable in navigation. The island of Pedra Branca is called Batu Putih by the Malays, both these terms signifying white rock. Prior to the quarrying operations on it, it was covered by the dung of the numerous sea-birds, that frequented it as a resting place. The rock is situated at the extremity of the Straits of Singapore, nearly in mid-channel, and as it advances beyond the month of the Straits considerably into the China sea, it has for ages served as the principal leading mark to vessels passing out of or into the Straits.—*Dr. Buist's Catalogue. Journ. of the Ind. Archipelago, July and August* 1852.

HORSE.

Son; H'nyet,	Burm.	Sus,	Heb.	Aswa,	Sans
		Ghora,	Hind.	Aver,	Scotch.
Hest,	Dan.	Cavallo,	It.	Caballo,	Sp.
Paard,	Dut.	Equus,	Lat.	Hast,	Sw.
Prad,	Eng.	Caballus,	,,	Kudri,	Tam.
Ross,	,,	Asp,	Pers.	Guramu,	Tel.
Cheval,	Fr.	Kon	Pol.	Sukk,	Turk
Pferd,	Germ.	Loschad,	Rus.	Cefl,	Welsh.
Gaul,	,,	Asu,	Sans.	Aspa,	Zend.
Ἵππος,	Gr.	Hya,	,,		

The king Sesonchosus, of Egypt, is supposed to have been the tamer of the horse. But, from time immemorial, the horse has been domesticated and subservient to man. In Eastern countries, the horse has been largely used in war; an ancient Eastern prince, (Job xxxix, 19-25,) describes the horse as a creature

——— impatient when the trumpet soundeth.
He saith among the trumpets Ha! Ha!
And smelleth the battle afar off,
The thunder of the Captains and the shouting.

Judging by its varied names, the horse seems to have been very generally diffused over the Central parts of the old world, some of the terms being derived from its neigh;

Horse.	Eng.	Hya.	Sans.	Caballo.	Sp.
Hest.	Dan.	H'nyet.	Burm.	Cefil.	Welsh
Ross.	Eng.	Paard,	Dut.	Equus.	Lat.
Asp.	Pers.	Prad.	Eng.	Kon,	Pol.
Asu.	Sans.	Pferd.	Germ.	Loschad.	Rus.
Aswa,	,,	Cheval	Fr.	Kudri,	Tam.
Hast.	Sw.	Gaul.	Germ.	Gurum.	Tel.
Aspa.	Zend.	Cavallo.	It.	Sukk.	Turk.
Hippos.	Gr.	Caballus,	Lat.	Son.	Burm

The horse has been termed the most noble conquest made by man and amongst every nation of the Old World its use and beauty have made him a favorite. Supernatural powers have even been attributed to him by some nations and he was sometimes considered the most acceptable sacrifice that could be offered to heathen deities, thus we read in 2nd Kings xxiii, 11, that Josiah took away the horses that the kings of Judah had given to the Sun. According to Herodotus the horse was the most appropriate offering that could be made to the Sun, on account of its great swiftness; the Persians dedicated horses to the Sun, and Sextus Pompeius sacrificed to Neptune by throwing horses into the sea. The Greeks and Romans highly appreciated the horse and races were among their favourite amusements, and were so popular that their kings often sent horses to compete. According to Greek mythology the horse was the result of the contention of two deities, Minerva having bestowed on mankind the olive tree, Neptune, in rivalry to the goddess of Wisdom, presented him with the horse.

White horses have always been much esteemed. The sacred horses of the Germans were white and the well known device of the Saxons was a white horse. Marco Polo tells us that 100,000 white horses were presented to the Great Khan on new year's day, and the Tartar chiefs continued at least to the time of Kanghi to present a tribute of white horses to the emperor.

Native princes in all parts of India are fond of white horses, and generally have one or more favourites of this colour in their stud. This taste extends among the zemindars and petty princes. A favourite colour for state occasions is cream colour. The royal carriage of Britain on state occasions is drawn by six cream coloured horses. In earlier ages, the horse he was different in many respects to the great variety of breeds we now possess. The horse represented on Greek and Roman bas reliefs was a small, compact, and spirited looking little animal, not larger than what we would call a pony, but he must have been perfectly trained, for neither bridle, nor bit, nor saddle, were used by his rider who guided him by a small stick, tapping him on either side of the neck as he wished to turn.

The history of the horse is lost in prehistoric times. There are, at present, numerous varieties, presenting great differences in size, shape of ears, length of mane, proportions of the body, form of the withers and hind quarters and especially of the head, and it is generally believed that the pedigree of a race horse is more to be relied on in judging of its probable success, than its appearance. Naturalists generally believe that varieties of all horses have descended from one species.

Horses become greatly reduced in size by living on mountains and islands, apparently caused by want of sufficient nutritive food.

The horse can bear both intense heat and intense cold. In Siberia are wild horses in lat. 66° N., and he comes to the highest perfection in Africa and Arabia. Much humidity seems more unfavourable to the horse than heat or cold, and this perhaps will explain why, to the eastward of the Bay of Bengal, over a humid area of enormous extent, in Burmah, Siam, Malayan Archipelago, the Loochoo islands and a large part of China, full sized horses do not occur. In Japan, to the east, they recur. The range of colour in horses is very great. The English race horse is said never to be dappled; cream coloured, light and mouse coloured duns are occasionally dappled; Horses of varied colours, of diverse breeds and from various parts of the world have a tendency to become streaked, and race

horses often have the spinal stripes, the stripe being generally darker than the other parts of the body—they occur on the shoulder and on the legs. Darwin considers the whole horse genus to have had, for a progenitor, an animal striped like a zebra, but, perhaps, otherwise very differently constructed, the common parent of our domestic horse, whether or not it be descended from one or more wild stocks, of the ass, the hemionus, quagga and zebra. He says that the spinal stripe, in the English race horse, is more common in the foal than in the grown animal. The ass, not rarely has distinct transverse bands on its legs, like those on the legs of the zebra. The spinal stripe occurs on horses of all colours, but on the mouse duns and on duns the transverse bands occur on the legs and sometimes, also, a faint shoulder stripe. In the Kattywar breed, a horse without stripes is not considered purely bred; the spine is always striped and the legs barred, and a shoulder stripe is common, and sometimes is double or treble. The ass, has, almost always, a dark stripe or band on the shoulder which is sometimes even double, but is always variable in length and breadth. The koulan, of Pallas, has been seen with a double shoulder stripe. The hemionus has no shoulder stripe, but their foals legs are generally striped.

The prevailing belief amongst the Europeans in India, is that the native breeds of horses have decreased under British rule. Up to the beginning of the nineteenth century, there were several horse fairs in Rajputanah, especially those of Bhalotra and Poshkur, to which the horses of Cutch and Kattywar, the jungle, and Mooltan, were brought in great numbers. Valuable horses were then bred on the western frontier, on the Looni, those of Rardurro being in high estimation. But the successes of the British, over the Mahrattas and the Pindarah, dried up the sources of supply, the breeding studs of Rardurro, Cutch, and the jungle became almost extinct, and the horses from the west of the Indus were carried to the Sikhs. The destruction of the predatory system, which had created a constant demand lessened the supply. The Lakhi jungle, was well known in India for its once celebrated breed of horses, extinct since the early part of the nineteenth century.

Colonel Henry Shakespeare thinks that the cause of the decline of the native horse in India, arises from the fact that Government has encouraged the supply of a larger description of animal than the country naturally produced; and that failure in the brood farms has resulted from having imported English horses, which as a rule are too large for the small country mares. The hardy small breeds of native horses have thus been neglected, while a larger breed has been produced inheriting all the unsoundness and vice as well as the constitutional delicacy of the English horse. Perhaps, however, the chief causes of the decline in their numbers is their non-requirement for the predatory bands and parthian-like cavalry since the contentions of the princes of India have been extinguished; also cultivation has been extending over grazing lands; and as the several Governments of India and their military servants were the largest buyers of horses, though the British continue to buy extensively, the soldiers and the guns of the British Indian army are larger than those in use by former native powers, and the British admit only horses into the ranks of their armies and even in their equipage a mare is rarely seen.

Punjab.—Under native rule, the Punjab maintained an enormous cavalry force, mounted chiefly, if not entirely, on horses bred in the country, but that territory is now unable to meet the demands of its irregular force which is numerically insignificant compared with that kept up by the former government. The reasons assigned for this are three in number: 1*stly*—Large numbers of brood mares were withdrawn from the Punjab at the time of the annexation. 2*ndly* extensive demands were made on the province for both horses and mares during the mutiny. And, 3*rdly*, A large proportion of the remounts of the Sikh army were mares, which were regularly bred from; but under the British system, which requires remounts to be available for service at all times of the year, this cannot be done; it has therefore occurred that mares introduced into irregular cavalry corps, on account of their tractable nature, are not permitted to breed, and the result is that every one bought up for military purposes, and even every one bought up by the European community, may be regarded as a brood mare lost to the country. It has also been ascertained that breeders are parting with their best mares; the Dhunnee caste, of the Rawul Pindee districts, the best in the province, is almost extinct from this cause. Yet, many excellent brood mares were left, especially in the Rawul Pindee, Jhelum, Goojerat, Googaira and Lahore districts. There were also very good mares in the frontier districts, such as Bunnoo, Kohat, Dhera Ismail Khan and Dhera Gazee Khan; although small, they possess good blood and great powers of endurance, which is everything in the horse.

Pahlunpore has a really good breed, the mares of which are justly and highly esteemed and command considerable prices even among natives.

Rajputanah.—Few of the Rajpoot princes have generally good horses in their territories. The Marwar horse, contains apparently much Kattywar blood and bred with great care in many places throughout the country by the thakoors and others, is a valuable animal in every respect. Good mares are also scattered, but the generality of horses met with are inferior animals in every respect.

The breed of horses in Jeypore is exceedingly poor, as little care has been taken to improve the country animal in any way. Some few of the thakoors possess and breed good animals. The horses of Sheekawuttee are said to be good.

A late rajah of Ulwar, Bunnee Singh, founded a fine breeding stud, consisting of well selected Arabs and Kattiawar horses, and in Ulwar the troopers were better mounted than native cavalry generally, and a better stamp of horses was met with than in anyother Rajpoot state. The stud was still kept up. The finest of his cavalry were, however, almost annihilated on meeting with the rebels in superior numbers in 1857.

In Bhurtpoor also some attention has been given to the breed of horses, but they are inferior to those of the Ulwar district.

The Dekkan breed of horses was highly improved about the beginning of this century by crosses with the Arab horse. The small blood horse of the Bhima valley or terai, are of this breed, and the mares are beautiful. The horse very rarely grows above 14 to 14-1 in height. They have the fine limbs, broad forehead and much of the docility and all the enduring properties of the Arabs and have been mistaken for them. He is not so fiery as the small and blood Arab, and more manageable in the ranks. Malligaon, about twenty-five miles from Ganga Kheir on the Godavery is a great mart for the Dekkan horse and purchasers from all parts of the peninsula annually resort to the fair. Some of the horses are really very fine.

In the Dekkan, the larger horses are bred about the Gor river and Aligam between Punah and Ahmednuggur.

The Hyderabad territory in the Dekkan can breed about 2,000 horses a year, and 500 good colts could be purchased at lower rates there than are paid for Arabs or Cape or Australian horses.

The low statured horses of the Bhima and Man rivers, the Bhima terai and Man terai, are good. The Bhima horse has all the best points of the high-bred Arab without his very fine skin, irritable temper and rather long posteriors and has generally better feet. The marches of the Mahratta and Pindaree horsemen during the early part of the present century are well known and the Mahratta pony to this day, when of the proper breed, commands a high price in the Indian Markets. The little ponies used in Madras in the Jatka or little carriages are brought from Punah, Sholapoor Hubli, Dharwar, and a good pony costs 150 Rupees. A few of the ponies in use are brought from Kangayam, in the south of the peninsula.

The tattu or pony of the Dekkan is a wonderful animal, often with great speed, or great strength and much endurance, and sometimes goes 20 miles a day. Their colours are generally bay, or brown or chesnut. Grey seldom, and dun still more so. They are generally taught to amble four or five miles an hour.

The Kathi or Kathiwar horse was a large and powerful blood animal, but is now nearly extinct. They had fine lean heads, with much substance below the knee and made admirable cavalry chargers; commonly of a dun colour, with black points and black manes and tails. It has been said but not, seemingly, with correctness, that few of the Kattiawar horses of the present day are of the real Kattiawar breed, being much crossed with Arabs and half-bred horses of sorts. The pure bred Kat'hi are fine powerful horses, with one great deficiency in shape—a want of bone below the knee, and a fiery screaming temperament. This breed is specially preferred by native chiefs, who give very large sums for handsome Kattiawars. The stable of a chief or rajah is a sort of paradise for favorite horses; with plenty to eat of all fattening and stimulating substances, their carcases become so overloaded with fat that they resemble in the body a sleek dray horse with legs small enough to please an untaught lady's eye. The commoner or crossed breed are useful lasting animals, while the ponies and galloways are specially good animals.

The Ghoont, or Khund, is a hill breed of horses, of the Himalaya mountains, generally small, strongly made, hard-mouthed, and sometimes almost unmanageable. In ascending hill faces, or passing along the declivities of mountains, it is best to let them have their own way, for in an intricate passage they often show more sagacity than the rider; their common pace is a kind of amble, and they stop every now and then to breathe, when no application of the whip will move them; they are sure footed, and

sometimes halt at the edge of a precipice, to the terror of the rider; they are not so quick in ascending hills as the low country horses, but they descend with double the speed, and endure great fatigue. The Ghoont, though a useful animal, seldom carries any burden but a man, the total number in Spiti is 295; they are bred chiefly for sale. They have two breeds, one a small Ghoont, never above 12 hands high, peculiar to the country; and the other a large breed, from 13 to 13½ hands high, is bought from the Chinese, and usually comes from Choomoortee: for a Chinese ghoont two years old they give a Spiti ghoont four years old. All are equally hardy and are kept out the whole winter, except the yearlings, which are housed. During winter the ghoont live on the roots of the stunted bushes, and are very expert at scraping the snow from off them with their fore feet. The breed of ghoont might be improved with a little care. Many are killed during winter by wolves and leopards.

The Yarkand pony is a hardy little animal, and fetches a high price, being in request for the hill-stations in the north-western provinces of India. The variety called the Tangun piebald is common. They are shy and timid at first, and evince a strange dislike to Europeans, but soon get accustomed to their new masters, and for their strength, endurance, and sure footedness are well adapted for alpine travelling. While crossing the Kara Koram mountains, whole caravans are sometimes overwhelmed by snow storms, and I was told by Billah Shah, the chief merchant of Leh, mentioned that in many places the route to Yarkund is only traceable by the bones of horses.

The Tanghan of Thibet are wonderfully strong and enduring; they are never shod, and the hoof often cracks, and they become pigeon-toed: they are frequently blind of one eye, when they are called "Zemik" (blind ones), but this is thought no great defect. They average 5*l*. to 10*l*. for a good animal in Tibet; and the best fetch 40*l* to 50*l*. in the plains of India, where they become acclimated and thrive well. Giantchi (Jhansi-jeung of Turner) is the best mart for them in the eastern part of Tibet, where some breeds fetch very high prices. The Tibetans give the foals of value, messes of pig's blood and raw liver, which they devour greedily, and it is said to strengthen them wonderfully; the custom Dr. Hooker, believes, is general in Central Asia. Humboldt (*Per. Nar.* IV. p. 320) described the horses of Caraccas as occasionally eating salt meat.

The Thibetan pony, though born and bred 10,000 to 14,000 feet above the sea, is one of the most active and useful animals in the plains of Bengal, powerful and hardy and when well trained early, docile, although by nature vicious and obstinate.

China.—The horse commonly seen in China is a mere pony, not much larger than the Shetland pony: it is bony and strong, but kept with little care and presents a worse appearance than it would if its hair were trimmed, its fetlocks shorn, and its tail untied. This custom of knotting the tail is an ancient practice, and the sculptures at Persepolis show that the same fashion prevailed among the Persians. The Chinese language possess a great variety of terms to designate the horse; the difference of age, sex, color and disposition are all denoted by particular characters.

Archipelago.—The horse has been immemorially domesticated by most of the more advanced nations of the Malay Archipelago, wherever it could be made use of. The chief exceptions are the Malay peninsula, the eastern seaboard of Sumatra, and nearly the whole of Borneo; countries in which the people dwell on the marshy banks of rivers, in which there is not even a bridle path, and fit, therefore, only for the boat and the buffalo. The native horse is always a mere pony, seldom reaching 13 hands high, and more generally of about 12 hands. There are many different breeds, every island having at least one peculiar to itself, and the large islands, several.

Beginning with Sumatra, there are here at least two distinct races,—the Achin and Batubara, both small and spirited, but better adapted to draught than the saddle. The small but excellent breed of horses, reared in Achin excel all those of the Archipelago, excepting those of Bimah in Sumbawa. Those of Achin have fine crests and good strong shoulders, in which latter particular, as also in height of wither, they differ very much from the horses of Java, and the islands to the eastward which are generally deficient in these points. They are exported to Penang and Singapore and are driven in small carriages.

Of all the countries of the Archipelago, Java is that in which the horse most abounds, and here we find several different breeds, as those of the hill countries, and those of the plains. Generally, the Java horse is larger than that of Sumatra, but in the language of the turf has less blood and bottom. The lowland horses, the great majority, are somewhat coarse and sluggish,

but the upland are spirited, smaller, and handsomer.

The horse, although of a very inferior breed, is found in the islands of Bali and Lomboc, but the next island to these eastward, Sumbawa, produces the handsomest breeds of the whole Archipelago. They are the Arab of the Archipelago, yet the blood is not the same as the Arab, for the small horse of Sumbawa, although very handsome, wants the fine coat and the blood head of the Arabian. There are in this island, and adjacent islets, three different races, that of Tambora, of Bima, and of Gunung-api, the last being most esteemed.

Next to Java, horses are most abundant in Celebes. These are inferior in beauty to those of Sumbawa, but excel all others of the Malayan portion of the Archipelago, in combining the qualities of size, strength, speed, and bottom.

A very good breed is produced in Sumba, called in our maps Sandalwood island.

But perhaps the best breed of the whole Archipelago, although still but a pony, is that of the Philippines. It is superior in size to any of the breeds of the western islands, which it may owe to the superior pastures of the Philippines, and, possibly, to a small admixture of the Spanish horses of America, although this last is, by no means, an ascertained point. Generally, the horses of the Archipelago are hardy, surefooted, and docile. The horses are all entire, and the mares used only to breed and as beasts of burden.

By the natives of the Archipelago the horse is only used for the saddle or to carry burdens, and never for draught, either for plough, or wheel-carriage. To see horses drawing a native carriage, except in imitation of Europeans, we must go to the sculptures on ancient temples in Java, where they are thus represented.

In two islands only of the Archipelago is the horse found in the wild state, Celebes and Luzon, the only ones that are known to have extensive grassy plains fit for its pasture, and in these it is caught by the lasso and broke in as in the Llanos of America. In such situations it is certainly far more likely to have become wild from the domestic state than to be indigenous. In so far as Celebes is concerned this view is rendered probable by the name being a corruption to the Javanese from one language of that island, the Wugi, while in another, the Macassar, the horse is called 'the buffalo of Java.' In the Philippines it is not even alleged that the wild horses are anything else than domesticated ones become so. In Pigafetta's enumeration of the domestic animals of Cebu, he makes no mention of the horse. In the city of Manilla a pair of good riding horses cost from 100 to 120 dollars, and a pair of carriage horses from 120 to 130. Of course they are much cheaper in the provinces where they are reared. The horses of Sambawa, Celebes and Sumba, are largely exported to Java, to the British settlements in the Straits of Malacca, and even as far as the Mauritius. In Batavia a good Bima or Batak horse is worth from £10 to £15.

The Barb so famed in Europe was never brought to India: reared by the Moors of Barbary and Morocco, during their dominion in that country the Barb was introduced into Spain, where, however, it has been suffered to degenerate greatly since their expulsion. The noble Barbs are of rare occurrence even in their own country. The common horse of Barbary is a very inferior animal. In the beauty and symmetry of their forms, however, even the Barbs are far from excelling: their valuable qualities, and in these they are perhaps unequalled by any other breed in existence, are, unrivalled speed, surprising bottom, abstinence, patience and endurance under fatigue, and gentleness of temper.

Arabian Horses are latterly comparatively little seen in India. The demands of India have become greater, and a larger horse, with greater power, has been needed, to meet the wants of the British Government for its heavier ordnance and heavier soldiers and for the larger carriages now in use, by Europeans and the wealthier natives. Also, the prices demanded for the Arab horses are beyond the means of ordinary people, and the Arab never was in great request in India except as a riding horse.

The famous Algerian chief, Abdel Kader, speaking of Arab horses said—"A thorough bred horse is one that has three things long, three things short, three broad, and three things clean. The three things long, are the ears, the neck, and the fore-legs. The three things short, are the dock, the hind legs, and the back. The three things broad, are the forehead, the chest, and the croup. The three things clean, are the skin, the eyes, and the hoof. He ought to have the withers high, and the flanks hollow and without any superfluous flesh. These are very nearly the words which writers use in describing perfection in horses, and in these matters, therefore, they seem to have borrowed their ideas from Arabian writers.

The best Arab horses are bred in the desert by the Anizi Arab, in whose territory, before the conquest of the Wahabees, the district

of Nejid was included, where the richest pasture of Arabia is found. That name, in India, used to procure a high price, at all times, for a horse.

The Arab people do not keep any long pedigrees of their thoroughbred horses. The certificates which they furnish merely give the names of the clans, under the assumption that the purity of blood is notorious throughout the tribe. Of all their domestic animals, Arabs put the greatest value on their horses. Of these, says Niebuhr, they have two great branches, the Kadischi, whose descent is unknown, and the Kochlani, of whom a written genealogy has been kept for two thousand years. The Kadischi are in no better estimation than European horses, and are usually employed in bearing burthens, and in ordinary labour. The Kochlani are reserved for riding solely. They are highly esteemed and consequently are very dear. They are said to derive their origin from king Solomon's studs. However this may be, they are fit to bear the greatest fatigues, and can pass whole days without food. The Kochlani are bred chiefly by the bedouins settled between Basra, Merdin, and Syria. That of Dsjulfa seems to be the most numerous.

The Arab horse, says Colonel Shakespeare, ever has been deemed by all the British officers in India, as the very best under saddle and for general purposes that can be procured in India, and has invariably commanded the highest price whether bought for a racer, a charger, a hunter, or a hack. He is the soundest horse, the most enduring, the most beautiful to the eye, the most courageous, and the most easily broken in. Bombay and Bangalore are the chief marts for the Arab horse. The Nejid from the province of that name and a pure Arab breed, and Anizah in the desert two marches from Baghdad are the best. The Anizah is the produce of the Arab stallion and the Turcoman mare. In the Arab, the favorite colors are grays of kinds. The "nila," i.e., a gray with a blue skin, is generally more hardy than the "sabza," a gray with a light coloured skin, and the feet of the "nila" are more generally black than the sabza. The other colours are bay and brown of different shades, and chesnuts. Black is very rare. Arab roans are common. The high caste Arab, like most bloodhorses, goes rather near the ground, and thus trips in his walk, but will go at full speed over rock and stone, when the soil is not visible, or up and down the sides of a precipice and, if properly handled, never make a mistake.

Some of the Aniza Arabs have a great prominence in the foreheads, and are not marked at the root of the ears with the firing iron, like the Nejid and other Arab horses.

The mark put on the highest form of Nejid horse is a very fine crescent not more than half an inch from the points of its horns.

Source of Supply.—Arabian horses are latterly but little seen in India. The demands of India for horses have become greater, and a larger horse with greater power has been more and more needed, to meet the wants of Government for its heavier ordnance and the requirements of the community for the conveyances which are now so commonly in use, by all Europeans and the wealthier natives. Also the prices demanded for the Arab horse are beyond the means of the people, and it never was in great request except as a riding horse. Mr. Palgrave tells us that, at the present day, more than half of the Arab horses exported to Bombay are shipped from the seaport of Koweyt. They are generally brought from the north of Arabia, or the Syrian desert and are real Arab though not of Nejdean breed. There are good horses of this kind at Hayel and Jabl Shomer. Those of Shomer or Anizah breed are high blooded and often very perfect in all their points. The best of the Nejid horses are small, few reaching fifteen hands, and fourteen being about the average, but their small stature is not observed, in their excellent shape. Full in the haunches, sloping shoulder, slightly saddle backed, sufficient to ensure springiness without any weakness; head broad above and tapering to a nose, fine enough to drink out of a tumbler, a full eye, with an intelligent yet gentle look, sharp thorn-like ear, legs fore and hind, clean but sinewy, like hammered iron, a neat round hoof, just the requisite for hard ground, the tail projecting at a perfect arch. Coat smooth, shining and light, mane long but not overgrown or heavy, and air and step jaunty. But the genuine Nejid breed is obtainable only in Nejid and the distinctive points of the Nejid Arab horse, are the full rounded haunch; the slope of the shoulder and the extreme cleanness of the shank. In Nejid breeding, care is taken to select a good stallion and good mare. The total number is about 5,000 and horses are kept only for war or parade, all travelling and other drudgery being performed on Camels or on asses. The Nejid horses are esteemed for their great speed and endurance, and in the latter quality, indeed, they are unequalled, bearing up through abstinence and labour, for 48 hours, under an Arab sky. They are often ridden, without bit or bridle, saddle, rein or stirrup, but they yield to the pressure of the knee or thigh and to the voice, can be

wheeled and turned and brought to a dead stand in mid career of full gallop. Mares are never parted with and good stallions rarely so. Those of Hayel and Jabl Shomer are a fine breed and horses from them often find their way to Europe where they are sold at high prices. These are generally the produce of a Jabl Shomer mare, with Nejid stallion or the reverse. Their height varies from 14 to over 16 hands; but their shape is less elegant than the Nejid and often indicates some defect such as a heavy shoulder; small rump, shelly or contracted hoof or small eye.

To the east and south of Toweyk, the Arab horse loses in beauty and perfection, in size and strength, and in Oman, they resemble the tattoo of India.

The Arab colts bred in India from either pure or imported stallions or mares, do not come to their strength and size till they are six or often seven years old.

The Cape horses brought to India are fine looking animals, with sound limbs.

Syria.—Mr. Robinson says there are three breeds of horses in Syria, the true Arab breed, the Turkoman, and the Kurdy, which is a mixture of the two former. The bedouins of Syria count five noble breeds of horses, descended as they say from the five favourite mares of Mahomed, Tanese, Manekeye, Kokeyl, Sablaye, and Djulfie. These five principal races diverge into ancient ramifications. Every mare, particularly swift and handsome, belonging to any one of the chief races, may give origin to a new breed, the descendants of which are called after her, so that the names of different Arab breeds in the desert are innumerable. The horses of the bedouin of Syria are mostly small, seldom exceeding fourteen hands. They ride, almost exclusively, their mares, having the advantage over the horses in speed and good temper. The latter they sell to the towns people, or to the fellahs. They object to them, not only because they are more vicious than the mares, but because they neigh, which in an expedition by night, might be the means of betraying them. They are first mounted after the second year, from which time the saddle is seldom taken off their backs. They are kept in the open air during the whole year, never entering the tent, even in the rainy season. In summer, they stand exposed to the mid-day sun. In winter, a sackcloth is thrown over the saddle. Like his master, with very little attention to his health, he is seldom ill. Burning is the most general remedy, and as this is done with a hot iron, it has given rise to the erroneous notion that the Arabs mark all their horses.

S. Arabia. In the south of Arabia, the horses are mere 'rats,' short and stunted, ragged and fleshless, with rough coats and a slouching walk; but with fine snake-like head, ears like reeds, wide and projecting nostrils, large eyes, fiery and soft alternately, broad brow, deep base of skull, wide chest, crooked tail, limbs padded with muscle, and long elastic pasterns. And the animal put out to speed soon displays the wondrous force of blood. In fact, when buying Arabs, there are only three things to be considered, blood, and again blood.

In Marco Polo's time Aden supplied the Indian market, and it was told to Captain Burton (*Pilgrimage*, III, 269) that the Zu Mohammed and the Zu Husayn, sub-families of the Beni Yam, a large tribe living around and north of Sanaa, in Yemen, have a fine large breed called El Jaufi, and that the clan El Aulaki, rear animals celebrated for swiftness and endurance. The other races are stunted, and some Arabs declare that the air of Yemen causes degeneracy in the first generation. The bedouins, on the contrary, uphold their superiority, and talk with the utmost contempt of the African horse.

The prices of horses in Arabia continue high. In Solomon's time the Egyptian horse cost 150 silver shekels, which, if the greater shekel be meant, would still be about the average price, £18, and Wellsted tells us (i, 306) that several of the Imam's horses in his time were of the noblest breed in Nejid, some of his mares being valued at from 1,500 to 2,000 dollars.

Persia.—Arabian horses are not very common in the north of Persia; but the breed between them and a Persian mare is all elegance and elasticity, being of a rather stronger mould than the Arab of Nejid, the best race of the country. The Persian horses never exceed fourteen, or fourteen and a half hands; yet, certainly, on the whole, are taller than the Arabs.

The horses of Persia, although neither so swift nor so beautiful as those of Arabia, are larger, more powerful, and all things considered, better calculated for cavalry. Of the several breeds of horses in use in Persia, the most valuable is that called the Turkoman. In the eyes of an English jockey, however, these horses would hardly seem to possess a single good point. They are from fourteen hands and a half to sixteen hands high, have long legs and little bone under the knee, spare carcases and large heads. But what renders the

Turkoman horses so valuable to the natives is their size, and extraordinary powers of supporting fatigue; for they have been known to travel nine hundred miles in eleven successive days. The Arabian blood has also been introduced into Persia, and some horses bred in Dushtistan, in point of speed and symmetry, emulate the most admired coursers of Nejid. Their usual food is chopped straw and barley: the bed is made of dung, which is dried and beat into powder, and regularly every morning exposed to the sun. No people are fonder, or take more care of their horses, than the Persians. They are clothed with the greatest attention, according to the climate and season of the year, and in the warm weather are put into the stable during the day, but taken out at night. The horses in Persia are not so subject to internal disorders as in England; but their heels are invariably contracted, from the badness of shoeing.

The Persian horses brought to Bombay from Basrah, and Bushaher and those bred on the shores of the gulf, are in use with the British Government and some are of great power, strong and enduring. The Gulf horses are out of Persian mares by Arab horses.

Turkoman. Horses of excellent breed are found amongst the Turkomans who export the finest to Afghanistan, Persia and India. The Akhal and Yomut horse is little inferior to the Arab in swiftness, endurance, and beauty of form.

The Turkoman horse is a fine animal, between fifteen and sixteen hands high. He is bred from the Arabian: but the cross of the breed of the country, and the fine pasture, have given him great size and strength. There are probably no horses in the world that can endure so much fatigue. Sir J. Malcolm ascertained, after minute examination of the fact, that the small parties of Turkoman who ventured several hundred miles into Persia, used both to advance and retreat at the average of nearly one hundred miles a day. They train their horses for these expeditions as we should for a race, and the expression they use to describe a horse in condition for a chapow or forage is, that "his flesh is marble" and may be purchased for a comparatively small sum.

The Turkoman horse stands very high for an Eastern horse, and the reports as to his feats show him to be a very superior animal, but they are almost unknown in India. The Turkoman horse around the Hindu Kush is carefully reared. It is a large bony animal, more remarkable for strength and bottom than symmetry and beauty. Its crest is nobly erect, its head is not so small or its coat so sleek as the brood of Arabia, and the length of its body is greater. They will perform six hundred miles in 7 or even 6 days. Those that reach India are reared about Balkh and Andkhu and Maimana.

The horses of the Turko-Tartar races are

1. The Turkoman horse, or Argomak, chiefly in the western and southern parts of the Khanat.

2. The Uzbek horse, more especially in the north of Bokhara, and in Miankale; and lastly,

3. The Khokand horse, in the neighbourhood of Samarkand, and the east of it.

Independently of the above mentioned three breeds, there are two more, which are, however, inferior to the former; these breeds are the following,—the Kirghiz horse and the Karab Airi, the latter being a cross-breed from the Turkoman stallion and an Uzbek mare, and *vice versa*. All these breeds differ from each other by their coat, as well as by other qualities.

The Argomak is usually tall, well-shaped, with slender legs, and a swan-like neck, carrying its head proudly and with ease aloft.

But its great beauty consists in the peculiar lustre of its coat, which is especially observable in the bay coloured Argomak. Their defects are, a narrow chest, and a scanty tail and mane, in addition to which, some have the defect of being saddle-backed. These defects incapacitate the Argomak for undertaking long journeys, and it would be above all things unadvisable to make use of them in travelling over the steppes of the Kirghiz, because they are so much spoiled by the excessive care which is taken of them, that they are almost incapable of finding food for themselves not only in winter, but even in summer.

The Uzbek horses, which are smaller than the former, and inferior to them in point of external beauty, have, nevertheless, many redeeming qualities, of which the principal is their strength. Some of their defects arise in consequence of their being badly broken in by the Uzbeks. With these horses, the pace is neither a walk nor a proper trot, but what the Kossaks term a grana or short trot; qu? does Baron de Bode here mean the amble? The second defect is that the Uzbeks never geld their horses, which renders it impossible to picket them together, but each horse is obliged to be attached to a separate stake; a circumstance which, although trivial at first sight, is one of the reasons why the Uzbek camps take so much room, and are therefore more exposed to sudden attacks.

The strongest race of the Turko-Tartar horses is undoubtedly that of Khokand; hence they are usually employed by carriers for transporting goods from one place to another. Five batman is the usual weight of a loaded cart, although they increase the weight sometimes to seven and eight batman from Bokhara to Samarkand. The power of these horses becomes still more apparent when they are used as packhorses. Baron de Bode has seen a horse loaded with two large tents, some kettles flung over the back, and a man sitting astride. It accompanied him in this fashion the whole way from Samarkand to Karshi, and from thence to Bokhara.

The Karab-airi is a very handsome race of horses, in size equal to the Uzbek horse, but in the shape of the head and legs resembling the Argomak. They are reckoned good racing-horses in Bokhara, but as they are trained for the game of kukbari, in which, after running a certain distance, the riders rest, these horses cannot hold out a protracted race, especially as they exhaust their strength from the very outset.

The horses of the Kirghiz Kazak are trained to run races, in distances sometimes from twenty-five and thirty to forty and fifty versts. Every Kirghiz, in setting out on a journey, fastens to his saddle a bag of "kurut" or cheese made from sour milk. He soaks some of it in water, and thus appeases his hunger and thirst together.

Muss of the Kirghiz is the wild horse of the Asiatic plains. This animal is not like the wild horse of S. America, which undoubtedly sprung from those taken into the country by the Spaniards. He is of a distinct race from the Asiatic horse, very small (not so large as an ass), beautiful in form, having a small head and short ears, and varying in colour from black, bay, grey, and white, the latter being the most rare. He is called 'muss' by the Khirghiz. His sense of smell is very acute, which renders him most difficult to approach. He is exceedingly fleet, and few horses can run him down. In hunting him, a great number of Kirghis assemble and when the scouts have found the herd, the horsemen form an extended line at a considerable distance towards the steppe. When so much has been accomplished they gradually ride up, forcing the herd towards a pass in the mountains. As they approach near to the ravine the hunters draw closer, forming a crescent, and proceed with extreme caution till the stallions enter the pass. While this has been going on, another party of hunters, have made their way into the pass, taking their stand in the narrowest part, and waiting till the herd appears. Having signalled to the hunters on the plain that the pass is secured, the whole body close up and the wild animals are in a trap. They are now driven onward till stopped by the hunters above, when the work of slaughter begins, and vast numbers of these beautiful creatures are killed by their battle-axes. The Kirghis consider their flesh the greatest delicacy the steppe affords.

Imported horses.—The supplies in British India itself, and from the neighbouring inland countries, have been insufficient to meet the demands and wants of India, and ever since 1840 small batches have been received from the Cape of Good Hope. These are horses of good figure and good temper, suitable for riding horses and for draft, but, like the Arab horse, higher priced than can easily be afforded. Australia however has taken a hold on the Madras and Calcutta markets and are termed "Walers." What number of new horses of all sorts are needed for British India annually, is not known, but, the town of Madras alone takes about sixty every month and the following have been the numbers of Walers imported into Calcutta since 1863-64.

1863-64	1,020	In 1867-68	899
1864-65	469	1868-69	1,198
1865-66	667		
1866-67	1,025		5,278

—*Huc and Gabet. Eng. Tr.*, 239. *Yule's Cathay*, I, p. 143. *Darwin Animals and Plants. Tod's Rajasthan Vol.* II. p. 162 & 227. *Powell's Handbook. Captain Gerard's, Account of Coonawur*, p. 112. *Adams* p. 269. *Dr. Hooker, Him. Journal, Vol.* I. p. 118, ii p. 131. *William's Middle Kingdom* p. 253. *Crawfurd's Dictionary*, p. 155. *Eng. Cyc.* p. 383. *Skinner's Overland Journey*, Vol. II. p. 70. *Niebuhr's Travels*, Vol. II. p. 301. *Shakespeare's wild sports of India. Palgrave*, i. & ii. p. 97. *Robinson's Travels*, Vol. II. p. 167, 356. *Porter's Travels*, Vol. II, p. 536. *Wellsted's Travels*, Vol. I, p. 306. *Kinneir's Geographical Memoir of the Persian Empire*, pp. 38 to 41. *Malcolm's History of Persia Vol. II. p.* 241. *Baron Clement A. De Bode's Bokhara its Amir.* p. from 198 to 201. *Vigne's A Personal Narrative*, p. 455. *Atkinson The Upper and Lower Amoors*, p. 326.

HORSE ALMOND TREE. Eng. Sterculia fœtida.—*Linn.*

HORSE-CASSIA. Cathartocarpus Javanicus.

HORSE-CAT. Civet.

HORNED CHERRY. Eng. Prunus padus.—*Linn.*

HORSE CHESNUT. Æsculus hippocastanum also Pavia indica.—*Royle.*

HORSE GRAM. Eng. Dolichos uniflorus. —*Lam.* Cooltee, Hind.

HORSE HIDE. See Leather.

HORSE RADISH.

Cran de Bretange, Fr. | Raphanus rusticanus, Lat.

The pungent root of the Cochlearia armoracia of *Linneus*, a perennial plant common in moist places of Europe and grown in India. It is used as a condiment, and is besides an article of the materia medica.—*Waterston. Faulkner.*

HORSE RADISH TREE.

Hub-ul ban, (seeds) Ar	Sagul, Mahr.
Sujna, Beng.	Moriaben, Pers.
Sohurjana, Duk.	Sigrumalla sohanjana, Sans.
Munga-ke-jhar-ki-jar, Hind.	Muranghai ver, Tam.
Sagul-ke-jhar-ki-jur, „	Munaga veru, Tel.
Moringa pterygosperma Hyperanthera moringa, Lat.	

This tree grows easily from seeds, in gardens, only requiring watering for the first few months. The scraped roots are very like horse radish, and are served up as a substitute. The long pods are boiled and used as a vegetable, also made into curry. The flowers and leaves are used as a vegetable, and its gum is used medicinally.—*Faulkner. Voigt.*

HORSE-SHOE BAT. See Cheiroptera.

HORSE TAIL The tails of the horse and of the Yak are used as standards. Amongst the Turkoman, the Tupha, Tugh or Tau, according to Remusat, is the Turkish name of the horse-tail standard, but is applied also by the Chinese to the Yak-tail, which, respectively with those nations mark the supreme military command.—*Rech. sur les langues Tartares*, 303; *also D'Ohsson*, I, 40 *in Yule Cathay*, I, pa. clxxiv.

HORSFIELD, Dr. Thomas and Mr. Moore's Catalogue of Birds in the India House Museum, appeared in 1856 and 1858. Dr. Horsfield was one of the earliest naturalists labouring in India, though the extent of his labours in Java and Sumatra, is unfortunately but little known. His researches in Java and the neighbouring islands began in 1802, and were continued till 1819. During that time he collected upwards of two thousand species, the most curious and interesting of which have been published by Messrs. Brown and Bennett, in the 'Plantæ Javanicæ rariores' one of the most profound and accurate botanical works of the day, and one most important for the Indian botanist to study with attention.—*Drs. Hooker and Thomson.*

HORTON PLAIN, a few miles from Nuwera Elia, in Ceylon, is the highest table land in that island. The pitcher plant, Nepenthis distillatoria, grows in great luxuriance on it.

HORTUS MALABARICUS, this botonical work was undertaken at the suggestion of Henry von Rheede, a Dutch Governor of Malabar: the specimens were collected in 1674 and 1675 by brahmans, and sent to Cochin, where drawings of them were executed by Mathæus, a Carmelite and missionary: corresponding descriptions were at the same time made in the Malabar language, which were afterwards translated into Portuguese by Emanuel Carneiro, a Cochin interpreter, and from that into Latin by Hermann van Douep, the Secretary to the city of Cochin: the whole was under the superintendence of Casearius, a missionary there. The work was at length published at Amsterdam between 1686 and 1703, in 12 volumes folio with 794 plates, and was edited by Commelyn, who has occasionally added remarks on the plants.—*Wight's Prodromus Florœ*, Vol. I, p. vii.

HORU, of Surat. Urtica heterophylla.

HORUS, a god of the Egyptians. One of the most remarkable fictions in the Egyptian and Syrian mythologies is that of the annual disappearance and resurrection of Horus, or the solar Osiris, and the lamentations for Adonis and the joy at his restoration. These as well as the Deot'han of India, bear evident reference to the sun's annual motion. *Elliott Supp. Gloss.* See Macrob. Saturn. Lib. I. Cap. 21. and the authorities quoted in the Fetes de la Nature. vol. I. p. 125.

HOSEA, king of Israel, murdered king Pekah B. C. 728, and began to reign B. C. 727. Salmanassar attacked him B. C. 721 and made him tributary, and in 719 Samaria was taken and the people carried away to Assyria and Medea. *Bunsen.*

HOSEIN, a son of Ali.

HOSEIN ABDOOL, see Baba Wullee.

HOSEIN KE FAQEERAN, Moharram faqeers.

HOSHANGABAD, a town in the central provinces of India in the Sagur and Nerbudda territories. Mandoo, now in ruins, was some time the capital of the independent mahomedan kingdom of Malwa. It is on a spur of the Vindhia mountains, overlooking the valley of the Nerbudda and the plains of Nimar, having a site at an elevation of more than 2,000 feet above the sea, and a climate not unlike that of the Mohtoor sanatarium with similar scenery. The city of Mandoo was founded by Hoshung shah, also the founder of Hoshungabad; the second

king, Mahomed Khiljee, erected a mausoleum of white marble over the remains of Hoshung shah, still in good preservation. The Mandoo hill, on which the hindoo queen would recline, to gaze on the sacred Nurbudda winding through Nimar; close to this terrace was erected a palace, near a well known spring, which to this day is called the Queen's fountain. In general, mahomedan ruins are situated on the plain, without any imposing back-ground to the picture, but at Mandoo the ruins are situated in the midst of beautiful mountain scenery, so that the combination of works of art with the beauties of nature is most charming.

HOSHIARPUR, in L. 31° 32' 2; N. L. 75° 53' 9, E. a large civil and military station, in the Panjab, N. of Ludhiana. Mean height of the cantonment, is 1,066 feet above the sea.

HOTA, SANS. he who directs the homa or burnt offering, from "hoo" Sanscrit, to offer. The Hota throws the clarified butter on the fire in the burnt offering, repeating the proper formulas. *Ward's view of the Hindoos.* vol. II. p. 17.

HOTRI, See Hindu or Hindoo.

HO-TSING, according to the statement of the missionary Imbert, the Fire-springs, "Ho-tsing" of the Chinese, which are sunk to obtain a carburetted-hydrogen gas for salt-boiling, far exceed the European artesian springs in depth. These fire-springs are very commonly more than 2,000 feet deep; and a spring of continued flow was found to be 3,197 feet deep. This natural gas has been used in the Chinese province Tse-tschuan for several thousand years; and "portable gas," in bamboo-canes, has for ages been used in the city of Khiung-tscheu. More recently, in the village of Fredonia, in the United States, such gas has been used both for cooking and for illumination. *Curiosities of Science.* p. 118.

HOT SEASON. Noay kalaoo-doo Burm.

HOT-SPRINGS occur, in Ceylon, in two places in the Kandyan province, at Badulla, at Kitool near Bintenne, near Yaviootoo, in the Veddah country, and a fourth at Kanneah 7 miles beyond Trincomallee. and there are two in the province of Oova. Their waters are considered efficacious in cutaneous ailments and rheumatism. A fifth is said to exist near the Patipal Aar, south of Batticoloa. The water in each is sufficiently pure to be used by the natives for domestic purposes.

In the hot springs of Kannea, the water flows at a temperature varying at different seasons from 85° to 115°. In the stream formed by these wells, M. Reynaud found and forwarded to Cuvier two fishes which he took from the water at a time when his thermometer indicated a temperature of 37° Reaumur equal to 115°. of Fahrenheit. The one was an Apogon, the other an Ambassis, and to each, from the heat of its habitat, he assigned the specific name of "thermalis." Also a loche, Cobitis thermalis, and a carp, Nuria thermoicos, were found in the hot springs of Kannea, at a heat of 40° Cent., 114° Fahr, and a roach Leuciscus thermalis, when the thermometer indicated 50° Cent. 122° Fahr. Fish have been taken from a hot spring at Pooree when the thermometer stood at 112° Fahr., and as it belonged to a carnivorous genus, they must have found prey living in the same high temperature. Fishes have been observed in a hot spring at Maniha which raises the thermometer to 187° and in another in Barbary, the usual temperature of which is 172°, and Humboldt and Bonpland, when travelling in South America, saw fishes thrown up alive from a volcano, in water that raised the temperature to 210° being two degrees below the boiling point. The springs of Kanneah are situated in low ground, abounding in quartz, surrounded by low jungle, in an unhealthy country, Of the two warm springs in the province of Ouva, one is at Badalla, in Upper Ouva, about 1861 feet above the level of the sea, where the mean annual temperature, is about 69°; the other is about a mile and a half from Alipoota, in lower Ouva, near the path on the way to Kotahowa, about 1061 feet above the level of the sea, where the mean annual temperature is probably about 76°.

There are two warm springs in the bed of the Godavery.

Hot springs, about 150 in number, occur near Wujerabaee, in the Bhewnday talooka of the Tanna collectorate. The Bombay district, in which they occur borders upon the river Tansa, on the Duganel side of the Bhewndy talook, and is seemingly confined to the villages of Akulkolee, Guneshpuri, Gorad, and Nimbuwullee, in a tract about 3 miles long and a mile broad. The Argurd Koond spring, which is the hottest, has a temperature of 130.60. Hot springs, having a temperature of 87°, rise through the limestone near the Pindee hills and globules of gas escape from round holes in the debris and mud covering the bottom of the ravine. About five miles north of the hot springs of Urjunah and four miles south of those of Kair, sandstone caps a gently rising ground, covered with basaltic soil. Near the last mentioned town many hot springs

rise in the argillaceous limestone, which has been remarkably broken up and altered by the globular basalt protruding through it in different places. The principal springs issue at the foot of the rising ground, where the rock is most remarkably altered. Their temperature (87°) was the same as that of Urjunah, on the other side of the Pindee hills, and it did not vary during the hot and cold months of 1831 and 1833.

Beluchistan.—Lt. Pottinger halted at Basman, and found the hot well upwards of twelve yards in circumference, and two or three feet in depth; in the centre of it was a circular pipe built of red burnt brick, about eight inches in diameter, and within as many of being level with the water, which boiled out of it as thick as a man's thigh, with considerable violence, and, at noon, so heated that he could not venture to put his hand into the ebullition. One side of the well had been gradually worn away by the incessant gushing of water over it, and thence a limpid brook flows past the village, and suffices the husbandmen for the irrigation of their grounds. He bathed in this stream about five yards from its source, and found the water pleasantly tepid, with a strong sulphureous smell and taste, which unfit it for culinary purposes; but the Belooches regard it as aperient in its effects, and an excellent specific in cutaneous disorders.

Bheerbhoom.—Hot springs occur at Bukkesur in Bheerbhoom. There are about eight of these, each being enclosed by little walls of sandstone in the form of wells, and known by different names, taken from those of the hindoo gods. The spring that has the highest temperature is the Soorajkoond, in which, says a hindu traveller, we could not dip our hand, and in which an egg may be boiled, but not rice, of which he threw in a handful to try the experiment. A few paces from the Soorajkoond is a cold spring. There are springs in the bed of the Paphara, the washer-of-sins. The water of the Setgunga has a milky whiteness, whence the origin of its name.

Confervæ abound in the hot springs of Soorajkhund, and two species, one ochreous brown, and the other green, occur on the margin of the tanks themselves, and in the hottest water; the brown is capable of bearing the greatest heat and forms a belt in deeper water than the green: both appear in broad luxuriant strata, wherever the temperature is cooled down to 168° and as low as 90°.

There is a hot spring near Chirana Puteh, and another at Salanama in Rambu. Tin has been procured near Taba, and also near Chirana Puteh.

There are two hot springs in the village of Kujoorah.

Sind.—Pectines, a few coats of small spiral and bivalve shells are met with, but in no abundance, till nearing the Hub or Pub river beyond the basin formed by the curved ridges, small fossil crabs and other fossils similar to the Kurrachee bed from all the other formations in Sind. There are a few other springs in the neighbourhood of these hot springs, but they are cold and chiefly salt. The other hot springs of Sind are the Lukkee and Gazee Peer springs; of the latter Lt. Maclagan gave the following account: There is, he says, a hot spring on a considerably elevated plateau upon the hill called Bhil, above Gazee Peer, a saint's shrine, a few miles west of Shah Hussun, on the Meunchar lake. He could not hold his hand in the spring for any length of time. The water fills a small reservoir under a clump of trees, then escapes in a narrow stream which flows along to the edge of the plateau, and throws itself over the rock in a white cascade." The sulphur springs near the village of Lukkee, like the springs at Mungul Peer, are three in number, but are much more highly impregnated with sulphur, though their temperature is not so great. The following is the temperature of sulphur springs near Lukkee pass, lower Sind;

1st Spring at 12 A. M. water 102° F. in shade 82° F.

2nd spring at 12-12 A. M. water 103°" F. in sun 86° F.

3rd Spring at 2 P. M. water 105°" F. in shade 68 F.

Water boiled at third spring by thermometer, at 212°75' and at Kurrachee by same thermometer at 214°—Difference, 1°25.'

Nos. 1 and 2 might almost be called one spring, as they are separated only by a foot or two of rock, No. 3, being some little distance from them at the foot, but the waters of all unite and flow through the lower range or rather ridge of rocks, and are then lost in the sandy bed of what must, during the rains, be a mountain torrent, the water collected in the pools had an azure hue: there is a great deal of sediment contained in it on first issuing from the rocks, which is deposited, as it flows along the margins of the stream and on the stones at its bottom in a red, yellow and white, and all three combined gave a crustlike congealed froth.

Munnie Karu is situated on the right bank of the Parbutti (or Parub) river. There is a large village here, and high mountains covered with snow environ the place. There are several hot springs, three or four of which boil furiously. The latter issue out of rocks near the edge of the river, and dense steam rises out of them in considerable volumes, heating the air all round, absolutely darkening the path for a few yards, and the heat is very distressing.

All the inhabitants of Munnie Karn cook their food in these boiling springs, and wood is never used by them for culinary purposes.

Ladak.—Many hot springs occur in Ladak but the best known are those of Nubra, Puga, and Chushul, the two first have clear water and a temperature of 167 ° with beds of soda below the springs. Those at Puga, occur in the bed of a rivulet, where they bubble out at temperatures from 80 ° to 140 °. The hottest contain chloride of soda, and sulphuretted hydrogen in solution and those of low temperature chloride, and borate of soda. The hot spring of Chushul has a temperature of 96 ° without taste or smell, but is said to have medicinal properties.

A hot spring occurs at Behitsil in the Basha valley in Little Tibet, from which a deposit of sulphur occurs. Two hot springs, sulphureous and chalybeate, also occur near the village of Duchin, in Little Tibet. The temperature of one, visited by Mr. Vigne was 154 ° Fahr. One occurs twelve miles east of Rajawur, the temperature about 140 °. It is sulphureous and deposits sulphur in its course.

Sind.—The following means of temperature of the hot springs at Peer Mungul, or Munga, or Mungear, were taken in September 1844 by Major Baker and Lt. Maclagan.

Temperature of 1st Spring. Fahrenheit.

			Water.	Air.
4th	11·30	A. M.	119·	89 ° 25
4th	4·45	P. M.	118·25	86·
4th	9·5	P. M.	117·	86·
5th	5·45	A. M.	119·	78·
5th	9·5	A M.	119·	83·

Temperature of 2nd Spring. Fahrenheit.

4th	11·45	A. M.	127·5	91·
4th	4·55	P. M.	126·25	86·5
4th	9·25	P. M.	126·05	80·
4th	5·50	A. M.	128·25	78·
5th	9·15	A. M.	128	83·

2° 25' hotter than the hottest spring of Switzerland. Temperature of 3rd, and principal spring which is the saint's shrine, and which feeds the alligator ponds,

4th September 1844, 5-30 P. M. Temperature of water, 99 F. Temperature of air, 85°5' F.

The water of these springs, where it first issues, has a slightly sulphureous smell and taste, but after a short exposure to the air, becomes perfectly sweet and pure; it leaves a slightly blackish deposit on the pebbles. The rocks in the vicinity are found in ridges in nearly concentric curves. The strata appear to dip from the centre of the course at an angle varying from 50° to 80°. They consist of an upper cap of coarse limestone overlaying coarse soft sandstone, below which the strata is hidden by debris. The rocks abound with exuviæ of zoophites, echini and pectines, a few casts of small spiral and bivalve shells are met with, but in no abundance, till nearing the Hub or Pub river. Beyond the basin formed by the curved ridges, small fossil crabs and other fossils similar to the Kurrachee bed form the other formations in Sind. There are a few other springs in the neighbourhood of these hot springs, but they are cold and chiefly salt.

The other hot springs of Sind are the Lukkee and Gazee Peer springs; of the latter, Lieutenant Maclagan gave the following account: "There is a hot spring on a considerably elevated plateau upon the hill called Bhil, above Gazee Peer, a saint's shrine, a few miles west of Shah Hussun, on the Meunchar Lake. He could not hold his hand in the spring for any length of time. The water fills a small reservoir under a clump of trees, then escapes in a narrow stream which flows along to the edge of the plateau, and throws itself over the rock in a white cascade." The following is a memorandum of the temperature of the sulphur springs near the village of Lukkee. Like the springs at Mungul Peer, they are three in number, but are much more highly impregnanted with sulphur, though their temperature is not so great.

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unite and flow through the lower range or rather ridge of rocks, and are then lost in the sandy bed of what must, during the rains, be a mountain torrent: the water collected in the pools, had an azure hue: there is a great deal of sediment contained in it on first issuing from the rocks, which is deposited, as it flows along the margins of the stream and on the stones at its bottom, in red, yellow and white, and all three combined gave a crustlike congealed froth, but he did not know what it contains. On adding a little nitrate of silver to about a wine glass full of the water, a considerable flaky white deposit fell immediately to the bottom, which shortly after acquired a violet hue, and on exposure to the sun's rays became almost black; on adding a few crystals of barytes to another glassful, the water in which was perfectly clear, it at once became like milk and water, but shortly after it settled, a considerable white deposit falling to the bottom of the glass. On adding a little potass to another glass of water, a few minute bubbles of air or gas escaped from the crystal, but eventually the water became slightly turbid and on clearing, a slight white deposit was observed on the bottom of the glass. The high range of rocks in their vicinity are a kind of soft limestone, at least the parts exposed to the weather are soft and white, almost like chalk, but seemingly with small crystals of sulphur in it. The lower range or rather ridge is coarse sandstone, capped with lime; the strata in some parts is almost perpendicular, and in others curved." There is seen from top, a jumble of hills of all sizes, shapes and colours; the lower ones apparently full of beds of gypsum, the continuation of them, beyond the Lukkee pass, was full of that substance. Nasseer Khan commenced to work the sulphur here but found it a losing speculation owing to his not having descended deep enough through the blue marl at the base of the ridge.

There is a sulphurous hot spring at Tulsiram in the centre of Geer, in Kattyawar.

Ayarpanas (hot water) spring near Malacca; its water 115° is said to be useful in rheumatism.

Hot springs, issue from the flats near a stream at Chung-leng, 16,170 feet above the sea; the temperature 122° to 130°. The hot springs of India are resorted to by the people for the cure of lingering ailments.—*Beng. As. Soc. Jour.* Nos. cx. civ, August 1848. *Forbes Eleven years in Ceylon*, vol. ii. p. 49. *Bengal As. Soc. Journal*, No. cx,civ, August 1848. *Mrs. Hervey's Adventures of a Lady in Tartary*, Vol. I, pp. 94 and 95. *Journ. As. Soc. of Beng.* v. vi. p. 465. *Patterson's Zoology, Pt.* II. p. 211; *Yarrell's History of British Fishes*, Vol. I. In p. XVI. quoted in *Tennent's Sketches of the Nat. Hist. of Ceylon*, p. 59. *Davy's Travels in Ceylon*, p. 42-46. *Carter's Geological Papers on Western India*, p. 21, 22. *Pottinger's Travels Beloochistan and Sinde*, p. 179. *Hooker Him. Jour. Vol. I.* p. 28. *Tr. of Hind. Vol. I.* 61.

See Indus. Jell.

HOTTENTOTS. See India. p. 310.

HOTUKI. See Afghan, Nasiri.

HOUBARA. A genus of birds of the Order Grallatores, Tribe Pressirostres, and family Otidæ.

HOUBARA MACQUEENII, *Gray.*

Otis marmorata, *Gray.*	O. Macqueenii, *Gray.*	
Macqueens Bustard ENG.	Tilaor,	HIND,
Indian Houbara Bustard, „	Dugdoor	of AFFGH.
Hurriana Florikin, „	Obarra,	W. PUNJAB.

This bird is rare in Europe, but occurs in N. West India and Afghanistan. It has a beautifully crested head, is 25 to 30 inches long, and extended is 4 feet. It weighs 3¼ to 3½ lbs. It is supposed that both the male and the female assume the ruff in the breeding season. It is found throughout the plains of the Punjab, and upper Sind, where it is much hawked with the Charragh falcon, the Falco sacer. It also occurs in Delhi, in Afghanistan, in Mesopotamia, in Europe and England. It occasionally baffles the hawk by ejecting on it a horribly stinking fluid which besmears and soils the hawk's plumage.—*Horsfield and Moore.*

HOUBARA UNDULATA, occurs in N. Africa and Arabia and visits Spain.

HOUEN TSANG, visited the kingdoms of Fa-la-pi (Ballabhi) Su-la-cha (Surashtra.) His itinerary is, however, very confused. See Hiwan Tsang.

HOULUGU, grandson of Chengiz Khan, on the 22nd of January 1258, appeared with his army before Baghdad. On the first of February, he took the city of Baghdad by storm, and put an end to the power of the caliphs. He had made Mostassim believe that he was willing to give his daughter in marriage to the Caliph's son. But when the principal people were thus all got together, the Tartars set on them, and put them all to death. Baghdad, the city of science, learning, and pleasure, was given up to pillage and slaughter, and more than 800,000 persons were mercilessly destroyed. Sanut declares that Houlugu killed the caliph by pouring molten gold down his throat. Whilst the Mongol were covering Poland with blood and ruins, Houlugu, in the East, was completing the conquest of Syria. After the capture of Baghdad he entered Mesopotamia, seized on Merdin and

Harran, passed the Euphrates, and made himself master of Aleppo and Damascus. The Tartar general had sent orders to Nassir, the sultan of Aleppo, to submit at once, and come in person to meet him. All his eloquence made small impression on the Tartar Houloogoo, who immediately advanced his army, and laid siege to Aleppo. Twenty catapults played for five days against the town, and it was taken by assault on the 18th of January 1260. An incredible amount of treasure was found in it, and the carnage was still more horrible than at Baghdad. The streets were choked up with corpses, and it is stated that 100,000 women and children were taken and sold for slaves in Little Armenia, or in the territories of Europeans.—*Huc's Christianity, Vol. I. p.* 268.

HOUR. A ghuree contains 24 minutes, and 60 ghuree make up the 24 hours.

HOURI, in mahomedan belief a woman in paradise. It is translated in Sale's Koran Chapter LV," beauteous damsels having fine black eyes."

HOURI GUNGE. See Khiva; Khanat.

HOUSES. In the granitic country of Telingana, the houses are usually of adhesive earth or clay of a square or rectangular form, smeared often with red earth, and picked out with perpendicular bands of slaked lime, with a pyramidal roof of palmyra leaves or grass. Houses in the Carnatic are of mud walls with roofs thatched with grass or palm leaves. Houses on the banks of the Kistna near its debouchure have circular walls of adhesive earth.

Houses of the Mahratta country are flat roofed, built of mud, and roof covered with mud. The houses are huddled close together and enclosed in a gharri or fort.

Houses in Telingana are detached from each other, outside the Gharri.

In Arab and mahomedan countries of Persia and India, houses have a common court yard, with numerous rooms leading from them.

The houses of Africa and upper Egypt, are circular and conical with only one opening for a door way.

The Yezdy, a Kurd family, settled near Aleppo, build a stone wall, and erect over it a goat hair roof.

Houses with a flat roof, have a parapet (Deut. xxii. 8.) to prevent any one falling into the street.

Persia. The cottages of the Persian villagers and peasantry are buildings of mud, or rough stones cemented with mud, and mostly consist of two rooms. The walls, which are usually about seven feet high, are very thick, and full of niches and recesses, which serve as cup-boards for depositing all manner of miscellaneous articles. The roofs of the larger Persian houses are flat; and many have tall bad-gir or wind towers rising high above. The bad-gir is a large square tower, covered on the top, but opening below into the apartment above which it is erected. The four sides are laid open in long perpendicular apertures like narrow windows; and within these are partitions or walls, intersecting each other, so as to form four channels in the tower. By this contrivance, from whatever quarter the wind blows, it is caught in the tower and conveyed into the room below, so that a constant current of air is kept up, except when it happens to be a dead calm.

Houses in lower Bengal are of wattle walls, with mud daub.

In Tibet the peasant's house much resembles a brick kiln in shape and size. It is built of rough stones without cement and has two or three small apertures for ventilation. The roof is flat.

Houses in Burmah are raised on piles, some on the river side, are built over the river on piles several feet high with wooden, or bamboo matting walls. The whole frontage on the left bank of the Moulmein river is built over, as also in Mergui.

The arrangement of many of the oriental houses satisfactorily explains the circumstances of the letting down of the paralytic into the presence of Our Lord, in order that he might heal him. (Mark ii. 4; Luke v. 19). The paralytic was carried by some of his neighbours to the top of the house, either by forcing their way through the crowd by the gateway and passages up the stairs, or else by conveying him over some of the neighbouring terraces; and there, after they had drawn away the awning, "they let him down along the side of the roof, through the opening or impluvium, into the midst of the court before Jesus."

Acts x. 9. tells us that Peter went upon the housetop to pray.' All the flat roofed houses of India, would admit of this, but some of the rich hindoos have a room on the top of the house, in which they perform worship daily.

Matthew x. 12, 14. says 'And when ye come into an house, salute it. And whosoever shall not receive you, &c.' It is the custom amongst hindoos of a stranger to go to a house, and, as he enters it to say, 'Sir, I am a guest with you to-night,' If the person cannot receive him, he apologizes to the stranger.

2 Samuel xi. 2. says 'And it came to pass in an evening-tide, that David arose from off his bed, and walked upon the roof of the king's house.' It is common in India, with

mahomedans and hindoos, to sleep in the afternoon. The roofs of houses are flat; and it is a pleasing recreation in an evening to walk on the flat roofs.—*Horn's "Critical study of the Scriptures" Vol. I. p.* 385, *Dr. Shaw's Travels, Vol. I. pp.* 374-376, *and Hartley's Researches in Greece, Vol. II. p.* 240.—*Robinson's Travels,* Vol. II. p. 351. *Ward's Hindoos.*

HOUS-KHASS, a village, four or five miles from the Kootub minar, where the good Firoz lies buried.—*Tr. of Hind.*, Vol. II, p. 241.

HOUT KASSIE. Dut. Cassia lignea.

HOVELL-THURLOW. The Hon. T. J. author of "the Company and the Crown."

HOVA. The tombs of the Hova race of Madagascar, consist of stone vaults made of immense slabs of stones, flat inside, forming a subterranean grotto. They also erect stone pillars similar to Menhir. The supposed aborigines of Madagascar were the Vasimba, whose tombs are small tumuli or cairns, surmounted by an upright stone pillar.

HOVENIA DULCIS, has, like the cashew nut, a succulent peduncle, and is much esteemed as a fruit in China.

HOVI. Dut. Hay.

HOWA. Arab. Hind. Pers. Atmospheric air. Ab-o-Howa. Prrs. Climate.

HOWA. Ar. Eve, the mother of the human race

HOWA. Hind. Solanum gracilipes.

HOWDAH, a seat, pad, or open litter, fixed on the back of an elephant, on which people ride.

HOWEISH. See Khalis.

HOWRAH, Seenagunge, Syndurah and Beejai, rivers and nuddies in Comillah.

HOYA. See Kyan.

HOYA, a genus of plants, of the natural order Asclepiaceæ. The species occurring in Southern Asia, are,—Hoya carnosa, fusca lanceolata, linearis, ovalifolia, pallida, parasittica, pottsii, pauciflora, pendula and viridiflora. Several of the species, under the name of wax plants, are cultivated on account of their elegant flowers. H. imperialis *Lindl.* of Borneo, the imperial wax flower plant is highly beautiful, its large and rich purple flowers being relieved by the white, ivory-like centre, it is epiphytal. H. carnosa, *R. Br.* the Flesh colored wax plant, is a native of China.—*Voigt. Wight. Eng. Cyc. Low's Sarawak*, p. 67.

HOYA PENDULA.—*Wight and Arnott.*

Asclepias pendula. Roxb. | Hova revoluta, Wight.
Asclepias rheedii, W. & A. | Nasjera patsja, Malbal.

* This plant grows in the Circar mountains, Malabar and Neilgherry hills and is used in medicine. Its flowers, are middle sized white and fragrant.—*Voigt.*

HOYA PLANIFLORA. Wall. Syn. of Tylophora asthmatica. *W. and A.*

HOYA REVOLUTA. Wight. Syn. of Hoya pendula.—*W. and A.*.

HOYA VIRIDIFLORA, *R. B.* Green flowered Hoya the Asclepias viridiflora of *Roxb.* A native of Coromandel, Sylhet and the Neilgherry hills. The root and tender stalks produce nausea and promote expectoration. The leaves peeled and dipped in oil are used by the natives of India as a discutient in the early stages of boils and in the more advanced stages to promote suppuration. See Vegetables of Southern India.

HOY SHUN. Chin. Biche de Mar.

H'PA-LAN. Burm. Bauhinia racemosa. —*Lam.*

H'SÆ LEE. Burm. Daphne, *sp.*

H'SAI-THAN-BAYAH. Burm. Gloxium bifarium, Gelonium bifarium.

H'SA-NWEN. Burm. Curcuma longa.—*Roxb.*

H'SAT LAY KHYOUNG. Burm. Commelyna cœspitosa.

H'SAY-DAN. Burm. also H'say-dan shwaywa. Burm. Yellow sulphuret of arsenic.

H'SEIK-KYEE. Burm. Sapindus rubiginosus.

H'SEN. Burm. Elephant.

H'SÈN YOUK. Burm. Garuga, *sp.*

H'SOKE GYEE. Burm. Agyreia coccinea.

H'SOO. Burm. Carthamus tinctorius. *Linn. Roxb.*

H'SOO-KYAN-BO. Burm. Cæsalpinia sepiaria, *Roxb.*

H'SOO KOUK. Burm. Cæsalpinia paniculata.

H'SOUK. Burm. Elæodendron integrifolia *McClell.*

H'TAH'MEN. Burm. Agyreia.

H'TA-H'MEN H'SOKE GYEE. Burm. Agyreia coccinea.

H'TEE. Burm. This is the umbrella, or canopy of gilt iron filagree, which crowns every pagoda in Burmah. Now-a-day, generally, a bottle is put on the H'tee, and a similar practice is said to be pursued in Ceylon, originating as it is surmised from the knowledge that glass is a non-conductor. —*Yule's Embassy.*

H'TEIN. Burm. Nauclea parvifolia, *Roxb.*

H'TEIN-GA-LAH. Burm. Nauclea elliptica, *Dalzell.*

H'TEIN-THAY. Burm. Nauclea ? ? *Species.*

H'TEN-ROO. Burm. Casuarina muricata, *Roxb.*

H'TOUK-GYAN. Burm. Terminalia macrocarpa.—*Brandis.*

H'TOUK SHA. Burm. Vitex arborea. —*Roxb.* V. leucoxylon.—*Roxb.*

H'TOUNG H'PYU. Burm. Calcis carbonas.

H'TWA-NIE. Burm. Eriolæna candollii.—*Wall.*

HUB, (qu. Pub.) a river which falls into the sea at Cape Monze. Hot springs occur in the neighbourhood. A district on the river, called Chuha is occupied by a people of that name, who are said to be of Sumrah or Brahui origin.

HUBER. Hind. Juniperus communis.

HUB-OOL-MOOSHK. Ar.

Musk-okro, Eng. | Kali dustoogree, Beng.
Mushkdana, Hind. |

These are the seeds of Abelmoschus moschatus. The plant abounds in mucilage, which is employed in the West Indies and in North Western India in the process of clarifying sugar. Its seeds are scented as if with musk, hence their name, and are employed in India as a cordial medicine and in Arabia are added to coffee.

HUB-UL-BAN. Ar. Seeds of Moringa pterygosperma.

HUBUK-UL-BUKIR Ar. Anthemis nobilis.—*Linn.*

HUB-UL-GHAR. Ar. Laurus nobilis.

HUBUL-UL-HUBER. Arab. Juniper berries.

HUB-UL-MASHK. Ar. Abelmoschus moschatus, *Mœnch.*

HUB-UL-NIL. Arab. Pharbitis cærulea.

HUB-US-SOUDAN. Ar. Cassia absus.

HUB-US-SUFFURGUL. Arab. Quince seed.

HUBLA, a weight for pearls and diamonds used in Scinde; about two grains troy.—*Simmond's Dict.*

HUC AND GABET. Two missionaries, who by a route, hitherto quite unexplored by any European, passed among the mountains north of Bootan and Ava, and so made their way due east to the plains of 'the Central Flowery Land.' M. Huc wrote an account of his travels.—*Prinsep's Tibet, Tartary and Mongolia*, pp. 32 and 33.

HUDANG. Malay. Shrimp.

HUDDI. Guz. Hind. Bone.

HUE or Fue. Chin. a secret society.

HUDDEEAROO. Hind. a kind of ring used at mahomedan marriages.

HUDDEES. Arab. a saying, but generally applied to the sayings which tradition has attributed to Mahomed. These are divided into two classes, the Huddees-i-Nabawi, or the sayings of the prophet; the other the Huddees-i-Qudsi, or the holy sayings, which they believe the angel Gabriel brought from heaven.

HUGEL, Baron Charles, author of Visit to the Himalaya mountains, and the valley of Cashmere. The 'Fische aus Caschemir' were described by M. M. von Hugel and von Heckel. Baron Hugel met other two travellers in Cashmere, and they agreed to carve the following inscription on a black marble tablet and set it up in the little building on the Char Chunar island:—"Three travellers in Kashmir on the 18th November 1835, the Baron Ch. Hugel, from Jamu; Th. G. Vigne, from Iskardu: and Dr. John Henderson, from Ladak, have caused the names of all the travellers who have preceded them in Kashmir to be engraven on this stone. Bernier, 1663, Forster, 1786, Moorcroft, Guthrie, and Trebeck, 1823, Victor Jacquemont, 1831, Joseph Wolff, 1832. Two only of these, the first and the last, ever returned to their native country."

In the list they did not include catholic missionaries; Forster did, strictly speaking, return home, but he came out again and died at Madras. When Chunar island was visited by Dr. Adams, in 1854, the tablet had been removed.—*Baron Hugel's Travels in Kashmir and the Punjab*, pp. 144 and 145. *Dr. Buist's Catalogue. Adams' Naturalist in India.*

HUGH LINDSAY was the first steamer that conveyed an overland mail from Bombay to Suez, also the first steamer that entered the Persian Gulf and was of teak-wood, built in Bombay. She was lost coming out of the roads of Bassidore, a port on the island of Kishm, in the Persian Gulf.

HUGONIA MYSTAX. *Linn. W. Ill.*

Modera kanni, Maleal. | Agur, Tam.

A shrub growing in Southern India, in Malabar, the Coromandel Coast and Ceylon with large blossoms of golden yellow colour. It is employed in native medicine.—*Dr. W. Ill. Voigt* 101.

HUGUIN. See Camelus dromedarius.

HUIAN THSANG. See Inscriptions p. 376. Hiwen Thsang, Houen Thsang.

HUIDEN. Dut. Hides.

HUIER. Beng. Cocculus villosus.

HUILE. Fr. Oil: Huile-de-Girofle. Clove oil. Huile-de-Olives. Olive oil. Huile-de-Palme, also Huile-de Senegal, Palm oil. Huile-du-ricin. Castor oil.

HUITRE. Fr. Oyster.

HUJ. Ar. Hind. A pilgrimage.

HUJAM. Hind. A barber, in Central India it is usual for the village Hujam, or barber, particularly the mahomedan ones, to have some knowledge of medicine; they

are expert also at setting broken limbs; and their wives usually act as midwives.—*Malcolm's Central India.* Vol. II. p. 206.

HUJOOLOHA, Hind. an epithalmium.

HUJRA. Fr. A chamber, in Afghanistan, a house set apart for the accommodation of travellers, and where, in the evening, the old and the young assemble, to converse and smoke the chillam.—*Masson's Journeys* Vol. I. *p.* 119.

HUJR-OOL-USWAD, the black stone at Mecca. See Hajr.

HUKEEM, a physician, a mohurrum faqeer.

HUKKA, a pipe used in India, in which smoke is made to pass through water.

HUKKAH BARDAR, a pipe bearer. See Hookah.

HUKMANDAZ. Hind. Carpesium racemosum.

HUKMCHIL. Hind. A dark colored gum obtained from the date palm.

HU-KONG. See India p. 346.

HULA. Hind. Rumex acutus.

HULAETA. Hind. in Hindustan, the first ploughing of the season, which is generally preceded by the taking of omens, and other superstitious ceremonies. The note of the Koel bird, amongst other auguries, is considered very favorable, and its utterance is of such authority as to enable the cultivator to dispense with a formal application to a brahmin. *Ell. Supp. Gloss.*

HULAKOO, The Mogul conqueror of Persia and grandson of Jengez khan. *Mignan's Travels.* p. 78. See Hooloogoo; Khalif.

HULAL-KHOR, scavengers, persons to whom all sorts of food are considered lawful.

HULAM HIK-GAHA, Singh. Chickrassia tabularis. *Ad. Juss.*

HULANHIK, Singh. Melia, *Sp.*

HULAN-MARA, Singh. Albizzia stipulata, *Boiv.*

HULARI, A mountainous district near Shiraz, with fine vineyards, from which the choicest Persian wine is prepared, both red and white. This wine has much body, and resembles the strong Cape wines, and is fit to be exported.

HULAS, Hind. Snuff.

HULAS KASHMIRI, Hind. Rhododendron campanulatum.

HULASA, Hind, Rhus vernicifera.

HULASHING, Hind. Rhus buckiamela, R. succedanea, also R. semialata.

HULDA, Mar. Chloroxylon swietenia.

HULDAH, Duk. Myrobalan: Terminalia chebula.—*Retz.*

HULDEE, Beng. Duk. Hind. Turmeric, Curcuma longa *Roxb.* The huldee takes an important place in many of the customs of the people of India. Huldee Mehndi is a mahomedan ceremonial, as also are Huldee or Munja baithna, Huldee chor and Huldee saoo. The Hindoo races use it largely for smearing their bodies and dye with it portions of their new clothes to avert the evil eye. It is sown in beds like ginger, and when ripe, in twelve months, is taken up and dried. It is extensively cultivated in most parts of India, and sells, green, from eight to eighteen seers the rupee.

HULDI, Beng. Ovate gardneria, Gardneria ovata.

HULDI-ALGOSA-LUTA, Beng. Bent back dodder, Cuscuta reflexa.

HULDI-BUSUNT, Beng. Lindenbergia ruderalis.

HULDI-LUNKA-MURICH, Beng. also Huldi-Murich, Capsicum frutescens.

HULDI-MOORGA, Beng. Celosia aurea.

HULHUL, Hind. Kashm. Cleome viscosa. C. pentaphylla. Gynandropsis pentaphylla.

HULI, See Hooly, Kali, Krishna.

HULIM, Beng. also Chunser, Guz. Hind. Cress.

HULI SHENA, Can. Tamarindus indica, *Linn.*

HULKUSHA, Beng. Leucas liniifolia.

HULLAH, Hind. or Neembolee, a neck ornament worn by mahomedans.

HULLAH Hind. also Hurla, Huldah or Zungeehur, Terminalia chebula, *Willd.* Chebulic myrobolan.

HULLIHAL, a town in Mysore.

HULLUD HULDI, also Daru Hullud, Mar. an inferior kind of turmeric.

HULLANDA, Hind. Phaseolus rostratus. —*Wall.*

HULSEE, Beng. Ægiceras fragrans. *Kon. Æ.* majus *Gært.*

HULUG, Rhus semialata, R. buckiamela.

HULUKOO, the Mogul conqueror of Persia, grandson of Chengiz Khan.—*Porter's Trav.* Vol. I. p. 288. See Hooloogoo.

HULUKAN, See Khajah.

HULWAI, Hind. a confectioner. In the Lower Doab the term "halwai" has become an appellation of a caste, or tribe.

HUM, Mar. Guatteria cerasoides.

HUM, Hind. Fraxinus floribunda. *Wall.*

HUMATU, Maleal. Datura alba.—*Rumph.*

HUMAYUN, son of the emperor Baber, an emperor of Hindustan who reigned twice, viz., from A. D. 1530 to 1543, when he was driven out by Sher-Khan and endured great distress in crossing the Sind desert, to Amerkot. At Amerkot, the empress Hamidah Banu, gave birth to their son, Akbar, and leaving his wife and son there, Humayun marched against Bikker. He

recovered his kingdoms in A. D. 1555, but died the following year and was buried at Delhi: a white marble dome covering his tomb forms a conspicuous object for miles around. The mausoleum was erected by Hamida Banu, at the cost of fifteen lacs of rupees, in sixteen years from 1554 to 1570. The enclosed area forms a square of 300 yards, laid out in beautiful shrubberies and fragrant flower beds.

In a corner room towards the left, lies Hamida Banu, who spent the years of her long widowhood in those pious acts and charities which earned to her the surname of Hadju Begum, by which she is popularly remembered.—*Tr. of Hind.* Vol. II. p. 259.

HUMAZ. Hind. Polygonum *sp.*

HUMBETHER. Guz. Hind. Myrobalan.

HUMBU. Hind. Myricaria Germanica, also M. elegans.

HUMBULEE. One of the four principal sects of the mahomedans.

HUME, Allen Octavius, C. B., a Civil servant of the Bengal Presidency. While magistrate of Etawah, by force of will and mild obstinacy of purpose, he overcame much resistance from the natives, and for years continued toiling at schools and christianity and all that elevates the human heart. He was an instance how much can be done in India by the influence of one man. It is in India where such influence attains its highest sway. A place more desert looking and hopeless of growth for any European seed could hardly be selected, yet this one pale Englishman, of slender frame and ascetic habits, developed upon that fiery soil a caste of natives unsurpassed in firm allegiance and educational distinction.—*T. J. Hovell-Thurlow, The Company and the Crown.* pp. 89—90.

HUMEA ELEGANS. A native of New South Wales, grows to the height of five or six feet, colour of the flower red, and well adapted for borders; it requires a good soil. *Riddell.*

HUMMATU. Maleal. Thorn apple, Datura alba.

HUMPEY. A ruined town in the Bellary district, known at one time as Bijanagar, also written Vijayanuggur, and Vijianagar, properly Vidianuggur or the town of learning. It was founded in the reign of Mahomed Toghlak, according to one account, by two fugitives from Telingana, but according to Prinsep, in 1338, by Bilal Deo, of Karnata, who resisted Mahomed Toghlak and founded Vijianuggur. In 1347, Krishna Rai, ruled there: in 1425, Deva Rai: in 1478, Siva Rai. Vijayanuggur was the seat of the last great hindu empire in India. The sovereigns claimed to be of the Yadu race. In the beginning of the 16th century they granted to the E. I. C. the tract around Madras, engraved on a gold plate, which was lost in 1746 when Madras was captured by the French, under Labourdonnais. Towards the fifteenth century, it had become the capital of a great hindu power which ruled over the hindu chiefs to the south of the territories of the Adil Shahi, Nizam Shahi and Kutub Shahi kings of the Dekhan. In the middle of the 16th century, these three mahomedan kings, fearing the growing power of Ramarajah, the sovereign of Bijianuggur, made war against him, Rama was then in his 70th year. He met the confederates at Talicottah on the 25th January 1565 with a great army of 70,000 horse, 90,000 foot, 2,000 elephants and 1,000 pieces of cannon, but he was defeated with a loss of 100,000 men, and was taken prisoner. The authors Khafi Khan and Shahab-ud-din, state that the elephant on which he was mounted ran away with him into the confederate's camp. He was beheaded at Kala Chabutra in the Raichore doab, and his head remained for 200 years at Bejapore as a trophy. Vijianuggur sank into an insignificant place, and is now known as the ruins of Humpey. The rajah's brother, however, took refuge in Penicondah, and subsequently at Chandargiri, whence the English merchants obtained the grant of the ground on which Madras was built. The descendant of Rama rajah is the Rajah of Anagoondee, whose title is Sree Mudrajadhee Raja, Raja Paramaswara, Sree Veerapratapa, Sree Veera Teroomala, Sree Veeravenkata Ramarawya, Dava Maharawya Sumstan Vedaya Nagarum.—*Wh. H. I.*, p. 459. See Humpee.

HUMULUS LUPULUS, *Linn.* the hop, has been extensively distributed in the Himalayas. At 2,500, in the Dehra Dhoon, it grows well: and at an altitude of 6,000 feet in the Government gardens Missoori, but, in those regions, the best limit appears to be 4,000 or 4,500. A small sample grown in the Kangra valley was pronounced equal to the finest Kent hops, but, more recently, the accounts have been less favorable. Lowther states that he had heard of the hop plant being seen in Kashmir (as others have done elsewhere in the Himalaya) but it is nowhere indigenous. In 1851 he proposed its introduction in Kashmir. It has been successfully cultivated in Dehra Doon for many years, so far as mere growth is concerned; but heavy rain at the flowering period prevents the flower from reaching perfection as to quantity and quality of the powder, on which its value depends, and the results have,

on the whole, been unsatisfactory.—*Dr. J. Stewart Punjab Plants*, p. 217. See Hops.

HUMUZ. Ar. Cicer arietinum. *Linn.*

HUN. Hind. A gold coin of the South of India of about 50 grains weight.

HUN. The Tartars are in European history styled Hun and were known in ancient times under the general denomination of Scythians. They consist of numerous tribes, who wander about the plains of Central Asia and live partly by hunting and partly by plunder. The Huns, who afterwards appeared in the west, dated their empire from one of the princes of the Heea dynasty. Their country was of great extent, situated on the west of Shen-se, of which they possessed the western parts, and their posterity still inhabit a part of that territory, the present Ele or Ili. They belonged to that extensive tribe which the ancients comprised under the name of Scythians. The country they inhabited was so barren as to render agriculture little available to the maintenance of life. Their indolent, pastoral habits had for them greater attractions than the constant toil of the Chinese peasant. Hunting is their chief amusement, and next to their herds, their principal means of subsistence. Without the arts of civilized life, they are cruel and blood-thirsty, desirous of conquest, and insatiable in rapine. Even the eastern provinces of the Grecian colonies were often molested by the savages who dwelt in the plains beyond the Oxus and Jaxartes. The famous valour of the Persian heroes, Rustam and Asfendiar, was signalized in the defence of their country against the Afrasiabs of the North; and the invincible spirit of the same barbarians resisted the victorious arms of Cyrus and Alexander. The Huns were not the least amongst those numerous hordes. Their rulers, named Tanjou, gradually became the conquerors and the sovereigns of a formidable empire. Their victorious arms were only bounded by the Eastern Ocean; the thinly-inhabited territories along the banks of the Amoor acknowledged their sway: they conquered countries near the Irtish and Imaus; nothing could stop them but the ice-fields of the Arctic seas. Their principal strength was in their innumerable cavalry, which appears to have been very skilful in the use of the bow. Their march was neither checked by mountains nor torrents; they swam over the deepest rivers, and surprised with rapid impetuosity the camps of their enemies. Against such hordes no military tactics, no fortifications, proved of any avail. They carried all before them with irresistible power, and never waited until a numerous army could be assembled to overwhelm them. Hardy to an extreme, they could support fatigue and hunger; and never lost view of the object of all their excursions—plunder.

It was to check the inroads of these warlike pastoral tribes, that the Great Wall of China was built. The generals of the emperor Che-hwang-te having subdued the people in the south, nothing more remained to be done than to subdue these Tartars, or, at least, to put a stop to their inroads. Some of the northern states had eventually built a wall, to keep these unbidden guests out of their territories. Che-hwang-te therefore resolved to erect the great wall, which commences at Lin-teëaou, in the western part of Shen-se, and terminates in the mountains of Leaou-tung, in the sea, a distance of more than fifteen hundred miles. It runs over hills and rivers, through valleys and plains, and is perhaps the most stupendous work ever produced by human labour. He lined it with fortresses, erected towers and battlements, and built it so broad that six horsemen might ride abreast upon it. To lay the foundation in the sea, several vessels, loaded with ballast, were sunk, and upon this the wall was erected. Every third man in the empire was required to work on it, under the direction of Mung-tëen, 240 B. C. Some of the Huns having acknowledged the supremacy of China, committed only occasional depredations; while others were fighting against their neighbours, and therefore wanted leisure to turn their arms against China. They finally resolved to turn their whole strength towards the west; they therefore directed their march towards the Wolga and Oxus, settled in the steppes east of the Caspian sea, where they were frequently involved in hostilities with Persia, but growing at length more civilized, they became acquainted with the comforts of a settled life.

One division of their hordes directed their march towards the north-west, and crossed the Imaus. Inured to the dreadful cold of Siberia, they lost nothing of their natural ferocity; but, unable to withstand the reiterated attacks of the Seën-pe (who with the Woo-Hisan form the Eastern Tartars) their implacable enemies, and of other tribes, they emigrated farther to the west. But the country had already been taken possession of by the Alani, a tribe equally fierce and brave with the Huns; but whose love of freedom was still greater, since they did not suffer slavery amongst them, Being descended from the Germanic and Sarmatian tribes, war was their principal occupation. A naked scimetar stuck in the ground was

the sole object of their worship, the scalps of their enemies formed the trappings of their horses, they treated with contempt the warrior who patiently awaited a natural lingering death. Unwearied in war, and considering all nations as their enemies, they had spread terror and desolation over all the regions of the Caspian sea, but encountered on the Tanais, their masters, the Huns. Their king was slain, their nation dispersed, and the remainder of this once large nation found an asylum in the inaccessible mountains of the Caucasus. The torrent of this immense swarm of barbarians, increased by the fugitive Alani, rushed further towards the west with irresistible force. There the Huns A. D. 372, met the well disciplined Ostrogoths, who shuddered at their approach. These semi-barbarians viewed the Huns as the offspring of witches and demons, who had just emerged from the boundless deserts of Asia, in order to inundate and destroy the world.

Hiatilla or the white Huns, was a tribe of Tartars who issued from the plains near the north wall of China, made themselves masters of the country of Transoxania and anticipated the irruption of those Turkish tribes, who some years afterwards expelled the Hiatilla from the lands that they had taken from the Sacæ or Scythians. There is every ground to conclude, that it was an army of the Hiatilla that invaded Persia in the reign of Bahram-Gor: and that it was to one of their kings that Firoz fled.

Ili is a valley and town in Central Asia, from which Lassen supposes the Szu Tartars were expelled by the Yue-tchi or White Huns, B. C. 150. The Szu Tartars he supposed to be the Sacæ and the Yue-tchi to be the Tochari. After occupying Tahia or Sogdiana for a time, they are stated by the Chinese to have been driven thence, also, by the Yenger, some years afterwards, and to have established themselves in Kipen, in which name Lassen recognises the Kophen valley in the Kohistan. The great Kirghis horde is adjacent to Ili and Tarbagatai. It is under the dominion of China and exchanges large quantities of cattle on the frontier for silk goods.—*Gutzlaff's Chinese History Vol. I. p. from 220 to 262. Malcolm's History of Persia Vol. I.* p. 126. See Kabul p. 434. Kirghis.

HUN or Hoon, amongst the Scythic tribes who have secured for themselves a niche with the thirty-six races of India, is the Hun. At what period this race so well known by its ravages and settlement in Europe, invaded India, we know not. D'Anville, quoting Cosmas, the traveller, informs us, that the white Hun occupied the north of India; and it is most probable a colony of these found their way into Saurashtra and Mewar. It is on the eastern bank of the Chumbul, at the ancient Barolli, that tradition assigns a residence to the Hoon; and one of the celebrated temples at that place, called the Sengar Chaori, is the marriage hall of the Hun prince, who is also declared to have been possessed of a lordship on the opposite bank, occupying the site of the present town of Bhynsror. In the twelfth century, the Hun must have possessed consequence, to occupy the place he holds in the chronicle of the princes of Guzerat. The race is not extinct. One of the bards pointed out to Colonel Tod the residence of some in a village on the estuary of the Myhie, though degraded and mixed with other classes. There are two tribes in the Himalaya who have preserved this designation. The one in Gnari Khorsum, who call themselves Hunia; the other being the Limbu in Nepal and Sikkim, a large division of whom are called Hung.—*Tod's Rajasthan*, Vol I, p. 109, 110. See Hun-des.

HUNDA, near Attock, on the Indus, a marble slab obtained here, has an inscription in Sanscrit mixed with Hindi, of date the seventh or eighth century, probably, or later. It is in the Deva Nagari and mentions Deva, the husband of Parbati. The flesh-eating Turushca (Turks) are mentioned.—*Beng. As. Soc.* Vol. VI., p. 879.

HUNDA PALE, a Malabar and Canara tree, which grows to about 18 inches in diameter, and 20 feet high. It is not of much use except for its fruit which is eaten by the natives and by wild animals.—*Edye's Forests. Malabar and Canara.*

HUN-DES, is the snow tract of the further Himalaya. The Hunnia all drink tea and travel great distances living on it and 'sattu,' the flour of a parched grain. The Hunnia only grow small patches of 'Uwa' a kind of barley, and obtain their other grains from the hill territories of British India. They keep three years supply of grain in store; to obviate the stoppage of the roads. They are thorough barbarians. They are a nomade people, their villages are mere tents. See Garkun, Gartok, Sarkan, Shib chid, Zumpun.

HUNDI. Hind. A Bill of Exchange.

HUNGARIAN. See India. Koros.

HUNGOO. See Khyber, p. 517.

HUNGRUNG, a district adjoining Ladak belonging to the raja of Bisatun, its villages lying from 9,500 to 12,000 feet above the sea. See India, Maryul and Kunawar.

HUNGSHA. Sans. a duck, goose, or swan. Hangsa-Duta. Sans. from hangsa, a duck, or goose, and duta, a messenger.

HUNIYA. See Sheep.

HUNKARA. Sans. Capparis horrida.

HUNKATA JULI. Beng. Phyllanthus vitis-Idæa.

HUNNI. Hind. Quercus annulata.

HUNNOMAN, the Hindoo monkey-god. See Hanuman.

HUNNU. Sing. Quick lime.

HUNSRAJ. Hind. Adiantum capillus veneris also A. lunulatum, *Burm. Spr.*. See Ferns.

HUNTER, Dr. Alexander, M. D., a medical officer of the Madras Army who founded the first School of Industrial Arts, seen in India. The first step he took, about the year 1851, was to appoint a committee of persons interested in the arts and manufactures of India, and with much devotion and self sacrifice, by the year 1871, he had taught one or other branch of Art to upwards of two thousand young men, all of whom had found ready employment. His success led to the formation of several other Schools of Art in various parts of India.

HUNTER, the hunter race, who style themselves Bhowri, are known as Hirn Shikari and Hirn Pardi. They do not use the gun, but snare or net birds and quadrupeds.

HUNTER, Dr. W. W. L. L. D. a Bengal Civil Servant, Author of Rural life in Bengal; Comparative Dictionary of the Non-Aryan languages of India.

HUNTING LEOPARD, or Hunting Cheeta, Felis jubata. See Cheeta, Felis.

HUNUFEE, one of the four principal mahomedan sects.

HUNU-KIRILLE, Singh. Grewia paniculata.—*Roxb.*

HUNUMAN, Singh. Presbytes priamus. See Simiadæ.

HUNYAL? a pheasant? of the Himalayas.

HUNZA-NAGER, are two adjoining towns and include a small tract of country on the upper course of a large feeder of the Gilgit river, having an area of 1672 square miles. See Kailas or Gangri Range.

HUN-ZIL, Arab. Pers. Colocynth.

HUPPUNA KULGA MANYAM, Kakn. tax on people of the salt-maker's caste who use buffaloes.—*Wilson.*

HUR or HURA. Hind. Terminalia chebula. Myrobalan.

HUR! The battle shout of the Rajpoot.

HURA CREPITANS. *Linn.* The sand box tree, a middle sized tree of rapid growth, native of tropical America. The trunk is strongly armed, the wood light and useless. The seeds are poisonous.—*M. E. J. R. Voigt. Hort. Gard.*

HURAKAH, Can. Paspalum frumentaceum.

HURALA. Can. four sorts of this seed are grown in Mysore, viz., Maraharatta, Chitta Hurala, Doda Hurala, and Turaka Hurala. They are called, in English, Lamp oil seeds. The second and third are largely exported to the adjacent countries.—*M. E. of* 1857.

HURALI. Can. Dolichos biflorus.

HURBARAH. Duk. Cicer arietinum.

HURDA. also Har-Hara, also Hurra. Mar. Gond. Hind. Terminalia chebula, Myrobalan.

HURDI-MURDI. Pers. in Persia a term employed to designate all the trifling but necessary articles which travellers fling in small bags, and carry across the saddle on a journey, in order to have them at hand.

HURDOO? Hind. Nauclea cordifolia.—*Roxb.*

HURDOUR or Hardaur, is the name given in Hindustan to the oblong mounds, raised in villages, and studded with flags, for the purpose of averting epidemic diseases, and especially the cholera morbus. It is called after Hurdoul Lala, the son of Bursing Deo, from whom are descended the rajas of Duttea. The natives have a firm persuasion that the cholera broke out in lord Hastings' camp in consequence of beef having been killed for the European soldiers within the grove where repose the ashes of this Bundelcund chief. So rapid has been the extension of this worship, that it now prevails throughout the Upper and Central Doab, a great part of Rohilcund, and to the banks of the Sutlej. To the eastward, the worship of Hoolka Devi (the goddess of vomitting) has been prevalent since the same period.—*Elliot Supp. Gloss.*

HURDWAR. The chief towns on the banks of the Ganges are Hurdwar, Bijnour, Furrakkabad, Cawnpore, Mirzapore, Benares, Ghazipur, Patna, Monghir, Bhagulpur, Rajmahal, Rampur, and Pubna. Hurdwar, situated on the right bank of the Ganges near Roorkee, is a well known place of hindoo pilgrimage. Every twelfth year the 'Koomb' fair, as it is called, assumes large proportions. The fair which was held in April 1867, was termed by the brahmins the 'Maha Kidar Koomb,' and, as it was supposed by many devotees to be the last Koomb of any magnitude which would be held at Hurdwar the gathering was proportionately great. Hurdwar, means the gate of the Ganges from Dwara, a door.—*Ann. Ind. Adm.*, Vol. XII, p. 102.

HUREE-HARA. Sans. both words are derived from rhree, to take away, possibly the source of the English word to harry.

HUREE-PRIYA. Sans. signifies beloved.

HUREETUKEE, Beng. Terminalia chebula.

HUREE-VALA. Sans. the last word is the imperative of vala, to speak.

HURFAREORI. Hind. also Chelmeri, Hind. Cicca disticha.

HURFEE. Arab. Beng. Guz. Hind Cress seed. See Hurif.

HUR-GANJ. A name of Khiva.

HUR GOVIND. See Sikh.

HUR, Har, or hara, also "hul." a plough, The ordinary plough of India has neither coulter to cut the soil, nor mould-board to turn it over. Nevertheless, simple as the Hul is and wretched in construction, it is admirably adapted to the light Indian soil, and does its duty well under the able agriculturists of India. The average produce of the province of Allahabad is fifty-six bushels of wheat to the English acre: the drill, which has within the last century been introduced into British field husbandry, and had, till lately, in the Northern counties to combat many native prejudices, has been in use in India from time immemorial.—*Elliot Supp. Gloss.*

HURHURYA. Hind. Cleome viscosa; Polanisia icosandra.—*W. and A.*

HURI.—?Casuarina muricata.

HURIAL. An animal of the goat or deer tribe inhabiting the Salt Range.

HURIDA. Beng. also Huridra Sansc. Curcuma longa, Turmeric, from "hurit," Sansc. light yellow.

HURIF. Ar. Beng. Guz. Hind. Cress seed. See Hurfee.

HURIHAYA, Sans. from harit, light yellow, and haya, a horse.

HURINHURA, Beng. Hind. Aglaia rohitica, Amoora rohituka. *W. and A.*

HURI-KANKRA, Beng. Erythrina ovalifolia.

HURI PURBAT, a peak in the mountain Takht-i-soliman.

HURI TUKI, Beng. Terminalia citrina, *Roxb.* also T. chebula.

HURKU of Kanawar, Rhus acuminata, *D. C.*

HURMAL.—Hind. Harmala ruta, Peganum harmala, wild rue.

HURMULI, See Purmuli.

HURNA, See Kattyawar.

HURNA, Beng. Duk. Sapium Indicum.

HURPOOJEE, or Harpuji. Amongst the agricultural races of India the worship of the plough. This takes place on the day which closes the season of ploughing and sowing. It generally occurs in the month of Katik, but in some places it occurs both after the Khureef and Rubbee sowing; i. e. in the months of Sawun and Katik. The plough is washed and decorated with garlands, and to use it, or lend it, after this day is deemed unlucky. The practice reminds of the Fool-plough in England, a ceremony observed on the Monday after twelfth day, which is therefore called Plough-Monday; on which occasion a plough adorned with ribands is carried about, and the peasants meet together to feast themselves, as well as wish themselves a plentiful harvest from the great corn sown (as they call Wheat and Rye), as well as to wish a God-speed to the plough, as soon as they begin to break the ground to sow barley and other corn.—*British Apollo*, Vol. II. No. 92 quoted in *Elliot Supp. Gloss.*

HURPHARURI, Duk. Phyllanthus longifolius.

HURR of Kumaon, Terminalia chebula.

HURREEBAYL, Lit. a green creeper, or Shookrana, a mahomedan ceremony.

HURREE-KE-PUTTUN, See Kunawer.

HURREERA, Hind. Cookery.

HURRIA, Daudin's name for certain Indian colubers, the scales or plates on the base of whose tails are constantly simple, and those of the point double.—*Eng. Cyc.* See Reptiles.

HURRIA-KADDU, Hind. Calabash.

HURRIALI, Duk Cynodon dactylon. See Graminaceæ.

HURRIA SHUK CHINA, Beng. Smilax lanceæfolia.

HURRICANES.

Tufan,	Ar.	Typhoon,	Eng.
Mon deing,	Burm.	Gird-bad,	Pers.

At the season of their occurrence, from December to April, hurricanes form a great topic of interest and discussion in the Mauritius. The immediate cause of these atmospherical phenomena has been supposed to be a disturbance of the equilibrium in the air that takes place at the change of the monsoons. This period of strife lasts about a month and then the hurricanes rage with terrific violence. Bedfield, Read, Capper, Thorn, Piddington, and others have explained the laws by which they suppose them to be governed and their hypothesis is perfectly well known and understood by the Mauritians. The islands of Mauritius, Bourbon and Roderique, lie directly in their ordinary track and if either of them happen to fall within the vortex of one of these hurricanes the consequences to life and property are terrible indeed. Of those who have resided at Mauritius who have earnestly studied and discussed the laws which govern these storms may be mentioned Dr. Thom,

whose writings are well known, Lieutenant Fryers of the Royal Engineers, and Mr. Sedgewick, who published a little work, which he called, "The True Principle," and which has been reviewed by Dr. Thom, and lastly, Mr. Bosquett, of the observatory at Mauritius, who translated into French Piddington's Horn book with annotations of his own and who claimed to be able, by careful and constant meteorological observations, to foretell the existence of hurricanes in the Indian ocean and to describe the course they will take. The chart in Piddington's Horn book, shows that these cyclones never extend to the northward of 10° or 12° south latitude in the meridian of Mauritius. Therefore vessels leaving the island in the hurricane season, for any part of India, should steer to the northward passing well to the westward of the Cargades, a most dangerous group, thus keeping a clear sea open to the westward, that there may be nothing in the way should it be desirable to run to the northward and westward, which would be the true course to take in case of encountering the southwestern or northwestern quadrants of a cyclone (of which in the hurricane season a vessel from Mauritius is in danger) and this course she should keep until she is sufficiently far north to be beyond its influence. Steamers of course have superior means of avoiding these storms as they have the power of steering the most judicious course to escape from their greatest fury.

A hurricane means a turning storm of wind blowing with great violence, and shifting more or less suddenly, so as to blow half or entirely round the compass in a few hours. The present state of our knowledge seems to show that, for the West Indies, the Bay of Bengal, and the China Sea, the wind in a hurricane has two motions, the one a turning or veering round upon a centre, and the other a straight or curved motion forward, so that it is both turning round and rolling forward at the same time. It appears also that, when it occurs on the North side of the Equator it turns from the East, or the right hand, by the North, towards the West; or contrary to the hands of a watch; and in the Southern hemisphere, that its motion is the contrary way, or with the hands of a watch. Piddington's first memoir, with the charts and diagrams, showed that this rule held good for the storm of June 1839 off the Sand Heads; and that the wind was really blowing in great circles in a direction as described, i. e., against that of the hands of a watch. He assumed, then, that the hurricanes in the Bay of Bengal always follow this law.

The tyfoons and storms of the China Sea and eastern coast of Asia, appear to be similar in character to the hurricane of the West Indies and the storms of the United States Coast, when prevailing in the same latitudes. A tyfoon which occurred in the China sea in 1831, affords probable grounds for connecting the hurricane at Manilla, Oct. 23-24, with that of Oct. 31 at Balasore, on the shores of the Bay of Bengal.

A tremendous hurricane with an inundation caused by a storm wave, occurred at Cuttack and around Calcutta on the 30th Nov. 1831. A hurricane occurred at Coringa and Masulipatam on the 28th October 1800. One causing great loss occurred at Bombay on the 15th June 1837, a destructive one occurred at Bombay on the 2nd November, 1854. A violent hurricane occurred at Rutnagherry on the 19th April 1847. In the Bay of Bengal, the hurricanes usually occur at the changes of the monsoons, in March, April and May and in October, November and December. *Piddington's Law of Storms, p.* 524. *American Expedition to Japan.* p. 137. See Gales, Monsoons.

HURRIN-HARA. HIND. Amoora rohituka. *W & A.*

HURRIPHAL. BENG. Cicca disticha L.

HURRUK. TEL. SING. Tallow.

HURRUM PILLU. TAM. Cynodon dactylon.

HURRUND. See Khyber p. 515.

HURSHMUN. BENG. Prasium melissifolium.

HURSING. CAN. also Hursingar. HIND. Nyctanthes arbor tristis.

HURTAL. Persulphuret of Arsenic: Orpiment. There are two kinds, viz. Gobheri hurtal, in yellow flakes, used in oil painting, one seer costs one rupee four annas. Tabki hurtal, greenish, crystallized, given by fakeers, in fumigation: one ruttee of it is wrapped up in a leaf of "Muggarbel," and smoked in a hookah: it is evident that the smoker only escapes dangerous consequences, owing to the heat volatilizing most of the arsenic: as it is, the little inhaled often makes the person senseless, salt is then given to restore the senses: thus employed, tabki hurtal is considered a most powerful aphrodisiac, it is also used in ointment: costs three rupees for one seer.—*Genl. Med. Top. p.* 137.

HURUBA-HEGGADE. HIND. The headman of shepherds in Mysore &c., *Wilson.*

HURA-GOURI SANS. from Hara (Shiva,) and Gouri, the light yellow.

HURULI. CAN. Dolichos uniflorus.

HURA-NAT'HA. SANS From Hara, a

name of Shiva, and Nat'-ha Sans, a lord, —literally the lord Shiva.

HURUNSEEA. See Kush.

HURUT, or harat. A Persian wheel for drawing water from a well. The word is a corruption of Ruhut or Arhut. *Elliot, Supp. Gloss.*

HUSAIN, a son of Ali. See Hasan, Khalif.

HUSAIN-BIN-ALI-UL-VAIZ, surnamed Kashifi. He translated the fables of Bedpai from the Arabic of Ibn Makaffa and named them Anwar-i-Sohaili, or the lights of Canopus.

HUSAINI. HIND. A kind of grape, the large sweet kind that are packed in boxes, and sent from Kabul in the cold season.

HUSAIN GANGA. In A. D. 1347, four years before the death of Mahommed Taghlak, Husain Ganga, an officer of high station in the Deccan, headed a successful revolt against his master, and established what is known as the Bahmanee dynasty of the Deccan, fixing his capital at Goolburga. Husain Ganga was the first independent mahomedan king of the Deccan, and was an Affghan of the lowest rank, a native of Delhi. He farmed a small spot of land belonging to a brahmin astrologer named Ganga, who was in favour with the king; and having accidentally found a treasure in his field, he had the honesty to give notice of it to his landlord. The astrologer was so much struck with his integrity that he exerted all his influence at court to advance his fortunes. Husain thus rose to a great station in the Deccan, where his merit marked him out among his equals to be their leader in their revolt. He had before assumed the name of Ganga, in gratitude to his benefactor; and now, from a similar motive, added that of Bahmanee (brahmin,) by which his dynasty was afterwards distinguished. With the extinction of the Bahmanee family, in 1512, sprang the separate mahomedan governments in the Deccan, respectively of Beejapoor, Ahmednugger, Beder, Ellichpoor, and Golconda. Mahmood's nominal sovereignty lasted for thirty-seven years, during which the Deccanee empire was divided into five several kingdoms—that of Beejapoor, or Viziapoor, founded by Eusuf Adal Shah; that of Amednugger founded by Ahmed Nizam Bhairi, that of Berar, founded by Ahmed-ool-Mulk, that of Golconda founded by Qutub-ool-Mulk, their respective governors, and that of Ahmedabad Beder, founded by Ameer Bareed, who rendered himself master of the person and throne of his master, and retained the provinces which had not been grasped by the other usurpers. This revolution, after being several years in progress, was consummated about the year 1526. A temporary union of the kings of Beejapoor, Golconda, and Ahmednugger, in 1564, enabled them to subvert the empire of Beejanugger and reduce the power of its chief to that of a petty raja. A similar fate awaited the portion of Ahmed, which consisted of the southern part of Berar; it subsisted as a kingdom only four generations, and was annexed to his dominions by the king of Ahmednugger in the year 1574. The Deccan was therefore, at the the time when its invasion was projected by the Moguls, divided among the sovereigns of Beejapoor, Ahmednugger and Golconda. In the year 1593, when Akbar, the emperor of Delhi, found himself master from the mountains of Persia and Tartary to the confines of the Deccan, he cast his eyes on the contiguous land. —*Elphinstone's India, II. App, Briggs the Nizam.*

HUSBANDRY and silk weaving were the earliest of the arts cultivated by the Chinese people; the former was introduced by Shinnong, the immediate successor of Fo-hi and the silk weaving by an empress, and to both of these benefactors the Chinese perform annual sacrifices on their festival days. Husbandry is still highly honored and, annually, at a grand festival in honour of the spring, the emperor ploughs and sows a field. The Egyptians, Persians and Greeks held games and festivals mingled with religious ceremonies at seed sowing, and in England, formerly, the festival of Plough Monday was held, during which the plough light was set up before the image of the patron saint of the village.

HUSE, a transparent fabric of Manilla, of which the shirts of the coloured population are made. It is made from the fibre of the Musatextilis.—*Oliphant.*

HUSHANGABAD, in L. 22° 45; N, and 77° 42, E. in Malwa, on the south bank of the Nerbudda, 144 miles E. of Mhow is 1,050 ft. above the sea. Half of the principality of Bhopal was founded on usurpations from the Gonds, who appear to have migrated in force towards the middle of the 17th century, and to have made themselves supreme in the valley of the Nerbudda, about Hushangabad, in spite of the exertions of Aurungzeb, until an Afghan adventurer attacked and subdued them, converting some to mahomedanism. There are now several mahomedan Gonds in the possession of little fiefs on either side of the Nerbudda.—*Latham.*

HUSHTNUGGUR, a town to the west of the Eusufyze valley separated by a bare desert plain. The Hushtnuggur state is in a narrow but fertile tract. It was for many years the feudal domain of Dost Mahomed's brother, sultan Mahomed. It derives its

name from eight large villages, 'hasht-nagar' bordering on the Swat river.—*Rec. G. of* I. No. 11.

HUSHYARPUR, at this place and in Kangra are patches of the Sal tree, but the tree here attains its western limit, and has not been seen across the Ravi.—*Econ. Prod. Punj.*, p. 537.

HUSKS, on which the prodigal son desired to appease his hunger, were the pods of the Ceratonia siliqua.

HUSSAN YUSUF, of Lahore, is the siliceous frustule of one of the Diatomaceæ. It is of a pyramidal form with a convex base, and on each triangular face is a prominent rounded knot; these markings are not affected by acids, and remain after heating to redness. When heated in a reduction tube, it gives off a peculiar smell and combustible gas, showing that it is quite in a fresh state, otherwise it appears somewhat similar to a fossil. Hussan Yusuf is collected in lakes and ponds in the hills around Srinagar, in Kashmir. It floats on the surface and is skimmed off and dried.—*Powell's Handbook*, p. 320.

HUSSE LUBAN. Pers. Styrax benzoin. —*Dryander.*

HUSSEIN, sheikh of the Alouin tribe, was well known to all travellers who journeyed to Petra and Jerusalem by the way of Akaba, and generally to their cost. Taking advantage of their position, when they must either give up seeing Petra or accede to his exorbitant demands, he succeeded frequently in extorting a far larger sum than under ordinary circumstances would be paid for the hire of camels. He was sly, wily and cunning, possessed of great skill in arranging a bargain, but with his own tribe he bore the reputation of being a coward, though very clever with his tongue.

HUSSE-UL-JAWI. Arab. Styrax benzoin.—*Dryander.*

HUSSUN and HUSSEIN, sons of Ali and of his wife Fatimah, the daughter of Mahomed. Both were destroyed, the former by poison, and the latter slain by a party of Yezeed's soldiery. Hussun was buried at Medina. They are regarded as martyrs, and during the Mohurrum, 'Marseea' or funeral odes are recited in their names, with a pathos such as few can listen to without deep emotion.

HUSSUNZYE. Between the extreme northern frontier of the Huzara district and the Indus there lies a somewhat narrow strip of rugged and mountainous territory—this is inhabited by the Hussunzye who therefore dwell in Cis-Indus, that is, on the left bank of the river. They could number, perhaps, 2,000 fightingmen. The principal hill is known as the 'Black mountain' from its dark and gloomy aspect. In the adjoining tract, within the Huzara border, lies Western Tournoulee, the fief of a chief politically dependent on the British.

HUSTI-SOONDA. Beng. Indian turnsole, Tiaridium indicum.

HUT. The circular form of hut is the only style of architecture adopted among all the tribes of Central Africa, and also among the Arabs of Upper Egypt; and although these differ more or less in the form of the roof, no tribe has ever yet sufficiently advanced to construct a window. See Houses.

HUTE. Ger. Hats.

HUT'HEELE or Hat'hile, one of the Puchpeeree, or five noted saints of the lower orders of Hindustan. He is said to be the sister's son of Ghazee Meean and lies buried at Bahraich, near the tomb of that celebrated martyr.

HUTSEAOU, Sing. Black pepper.

HUTSOO, a tributary to the Mahanuddy river Lat. 23° 18', lon. 82° 32'. S., flows into the Mahanuddy, length, 130 miles.

HUTTIAN, Hind. Eriodendron anfractuosum. Huttian ka Gond. Hind. Gum of Eriodendron anfractuosum.

HUWA, Eve. the mother of life.

HUNGER, Beng. Cocculus villosus D. C.

HUYA-GRUVA, Sans. from haya, a horse, and griva the back of the neck.

HUYER, Beng. Cocculus villosus.

HUZARA, a district in the extreme north-west angle of the Sind Saugur doab, between the rivers Jhelum and Indus. It consists of a series of valleys encircled by hills, among the most remarkable of which are the Doond and Suttee Hills (on a spur of which range the sanatarium of Murree is built) as also the Bhangree mountain, opposite to the lofty Mahaban, which, though rising on the other side of the Indus overtops the surrounding ranges. The whole tract undulates with ridges, and out of a horizontal area of 2,500 square miles, scarcely more than a tenth is level. The only plain of any extent is that of Hazara proper, in which are situated the cantonment of Baroo Kote, and Hurreepore the capital. There is also the valley of Puklee, the smaller one of Khanpur, and the tract between the Indus and the far-famed mountain of Gundgurh. *R. and G. of S. M.* 21.

HUZARA, about Herat, are enemies in creed to Persia, and the whole country to the Indus is inhabited by rigid soonee mahomedans. Still, with a tolerant policy that interfered not with their religion, any power might overrun and maintain the re-

gion lying between India and Persia. Had Runjeet Sing, in the outset of his career, permitted the mahomedans to pray aloud and kill cows, he might have possessed himself of the entire kingdom of Ahmed Shah Dooranee. *Paper's East India Cabul and Affyhanistan*, p. 138. See Hazara.

HUZIZ-I-HINDI. ARAB. Micrantha, *Wall.*

HUZRAT IMAM a town on the S. bank of the Oxus, producing good silk.

HUZRAT SHAH, a name of Mowla Ali.

HUZRUT SHAH BABA, Fuqr-ood Deen, Gunj ool Israr, a mahomedan saint.

HUZURESH, name of the translation of the Zendavesta into Pehlavi, a mixture of Semitic and Iranian, made in the time of the Sassanidæ. Pehlavi was the language used by the Sassanian dynasty.—*Bunsen. Max Muller.* See Honover.

HVEDE. DAN. Wheat.

HWA-KEA-TSZE. The Chinese cycle of sixty years is called Hwa-kea-tsze. The Chinese year commences from the conjunction of the sun and moon, or from the nearest new moon, to the fifteenth degree of Aquarius. It has twelve lunar months, some of twenty-nine, some of thirty days. To adjust the lunations with the course of the sun, they insert, when necessary, an intercalary month. Day and night are divided into twelve periods, each of two hours.—*Gutzlaff's Chinese History.* p. 73.

HWAN-TE, the creature of the empress and Leang-ke, ascended the throne in 147. The harvest had for several years been very bad; and a drought destroying the crop of 153, more than 100,000 families of the province of Kechoo left their homes in search of a better country. *Gutzlaff's Chinese History.* Vol. I. p. 259.

HWANG HAE, or the Yellow Sea, on the east coast of China, is bounded on the west by the deep bight of the coast comprehended between the Yang-tsze-keang and the Shantung promontory, and on the east by the coast of Corea. It is mostly muddy and of a yellow colour near the land.—*Horsb.*

HWANG HO or Yellow River, on the east coast of China, is little inferior to the Yang-tsze-keang river in magnitude. Its entrance is in about lat. 34° 2' N, long 119° 51 E, but is little known to Europeans. —*Horsb.*

HWANG-PI. CHIN. Cookia punctata?

HWAN THSANG. A Chinese pilgrim into Afghanistan and India in the 6th Century who wrote a book entitled Si-in-Ki or descriptions of the countries of the west. See Hiwan Thsang.

HYA. SANS. A horse, El, sun, whence ἵππος and ηλιος ΗΛ. appears to have been a term of Scythic origin for the sun, and Heri, the Indian Apollo is addressed as the sun. Hiul or Jiul of northern nations is the Hindu Sacranta. Hiul may be the Noel of France. *Tod's Raj.* Vol. I. p. 24.

HYACINTH, a mineral consisting of silica and zirconia, transparent, and of a red colour. See Jargoon; Zircon; Garnet.

HYACINTHINA. See Ledebauria.

HYACINTHUS ORIENTALIS, the well known hyacinth plants of Europe, are much esteemed for their beautiful and ornamental appearance, they are grown both in beds and in glasses of water, the H. orientalis is one of the most beautiful and fragrant: native name is sambul; bulbs of different species are easily procurable from China.—*Riddell.*

HYÆNINA, the name of a sub-family of the Family Felidæ, of digitigrade carnivorous mammalia, distinguished by having their fore-legs longer than their hind-legs, by their rough tongue, great and conical molar, or rather cutting-and-crushing, teeth, projecting eyes, large ears, and a deep and glandular pouch beneath the anus.

$$\text{Incisors,} \frac{6}{6}; \text{caninos,} \frac{1\text{-}1}{1\text{-}1}; \text{molars,} \frac{5\text{-}5}{4\text{-}4} = 34.$$

The false molars, three above and four below, are conical, blunt, and very large. The upper flesh-tooth (carnassiere) has a small tubercle within and in front, but the lower one has none, and presents only two trenchant points. The whole of the dental and molar organisation, and indeed the whole cranial structure, appears to have been formed with a view to the bringing into the most available action the formidable natural instruments which enable the hyænas to break the hardest bones. In general form the hyænas resemble dogs more than cats and Linnæus classed them with the former to which they appear united by the Lycaon pictus of S. Africa. There is only one species in India, the striped Hyena, viz:

Hyæna striata, *Zimmerman.*
H. vulgaris, *Desmarest.*

Taras.	HIND.	Lakra-bag'h.	HIND.
Hundar.	,,	Naukra Bagh.	BENG.
Jhirak of	HURRIANA.	Har-vagh.	,,
Lakhar-baghar.		Rera of	CENTRAL INDIA.
N. India.	HIND.	Kirba.	CANARESE
Lokra bag.	,,	Kat-kirba.	,,
Lakar-bag'h.	,,	Korna-gandu.	,,

The striped hyena is of a pale yellowish gray colour, with transverse tawny stripes, neck and back maned, and ordinary length is 3 ft. 6 in. to root of tail, tail 17 inches. It prefers open country and generally digs a

hole for its den on the side of a hill or mountain, or lurks amongst ruins. It is quite a nocturnal animal, sallying forth after dark and hunting for carcases, the bones of which it gnaws occasionally catching some prowling dog or stray sheep. It generally returns to its den before sunrise. Its call is very unpleasant, almost unearthly, The young are easily tamed and show much attachment to their keepers or masters, uttering sounds not unlike human laughter. *Jerdon's Mammals of India.*

HYA HYA.— ? Cow tree.

HYALÆA TRIDENTATA, *Lam.* of the seas of the E. Archipelago, has the power of expanding its keel appendices into the form of large oval semi-transparent leaves of a light green colour.—*Collingwood.*

HYAT, Ar. life, said by mahomedans to have been created on the tenth day of Mohurrum.

HYAT QULUNDUR, or Baba-Boodun or Bawa-Boodun, a mahomedan saint.

HY-CHY. Chin. Agar-agar Malay, a species of marine alga, the Fucus tenax; occurs in many of the Malayan islands, and forms a considerable article of export to China by junks. It is esculent when boiled to a jelly, and is also used by the Chinese as a vegetable glue and in their paintings. It abounds on the coral shoals in the vicinity of Singapore but the finest known in the Archipelago is found on the coast of Billiton. The chief consumption of it by the Chinese is in the dressing and glazing of their cotton manufactures and the preparation of sacrifice paper and paintings for their temples. A small portion of the finest part is sometimes made into a firm jelly which on being cut up and preserved in syrup makes a delicious sweetmeat.—*Crawfurd Dic. page* 6.

HYDASPES or Jehlum, the modern Behut, was called Bedaspes or Hydaspes by the Greeks, Behut is the modern abbreviation for the ancient Vitasta.

HYDATINA, a genus of molluses.

HYDERABAD. The present dynasty, the Asof-Jahi, was preceded by the Qutub Shahi dynasty of Golcondah, and the following remarks on have been extracted from the Hadikat-ool-Alum, a work compiled by Meer Alam, minister to the nizam Sikunder Jah. Sultan Kuli, the founder of the dynasty, was descended from the chiefs of the Karakonilu tribe of Kurds, and appears to have been born near Diarbikr. The tribe to which he belonged having been subdued by Mir Hussain—and subjected to the Akunelu tribe of which that chief was head, —sultan Kuli, to save his life, fled from

Diarbikr in company with his uncle, and after many difficulties and dangers, found his way to Beder, at which place sultan Mahomed Luskari Bahmani of Beder and Gulburgah then held his court. Ferishta, in his history of the Bahmani dynasty states that sultan Kuli, in the first instance, obtained employment at the Bahmani court as one of the Turki ghulam in personal attendance upon the king, but this appears to be denied by the author of Towarikh-i-Qutub Shahi, who asserts that sultan Kuli was from the first employed in a situation befitting his rank and family and from his talents and courage early rose to the command of the Beder armies, and the government of the province of Telingana. On the decadency of the Bahmani dynasty, during the latter part of the reign of Mahomed II. when the government had been virtually usurped by the minister Kasim Burid, sultan Kuli seized the province of Telingana and some years afterwards, took the title of Qutub shah, this latter event occurred in A. D. 1520 or thereabouts, and the Qutub Shahi dynasty existed in Telingana under this name for a period of nearly 200 years. The following kings of this house reigned between the period of its establishment and the siege and capture of Golcondah by Aurungzeb, in A. D. 1687 :—

Sultan Kuli Qutub Shah - -	1512-1543
Jumshid Qutub Shah - -	1543
Sheik Sultan Kuli - - -	1550
Ibrahim Kutub Shah - -	1557
Abdul Muzuffer Sultan - -	1580
Mahomed Kuli Qutub Shah -	
Sultan Mahomed Qutub Shah -	1611-1626
Sultan Abdulah Qutub Shah -	1626-1673
Abdul Hossain Qutub Shah	1673-1683.

The last named is commonly known by the name of Thannah Shah. Another account describes the founder of this dynasty, Sultan Kuli as the son of Omeer Kooli, a Toorkman chief, who claimed to be a lineal descendant of the prophet Noah, throughhis son Japhet. He was born in the town of Hamodur, and when a youth accompanied his paternal uncle to India and reached the town of Beder, then the seat of Government of the Bahmani kings, about the close of the reign of sultan Mahomed Shah Lashkarri Bahmani, was afterwards dignified with the title of Qutub-ul-Mulk i. e. 'the Polar star of the state' to it was attached as a jaghir the town of Golcondah and the surrounding villages. He was afterwards promoted to the command of all the troops in that vicinity. On the decadence of the Bahmani power, Qutub-ul-Mulk threw off its control, in 1512, though according to some historians he did not as-

sume the title of an independent sovereign for some years subsequently, probably about 1520. The seat of government was established at Golcondah formerly known by the Hindu name. The limits of the territory contained within his dominions are described by the author of the Hadikut-ool-alum, as extending from Chandah in the north to the Carnatic, and from the sea shore of Orissa, Vizagapatam and Masulipatam to Beder and the Bijapoor territories on the west. The author declares that Sultan Kuli seeing that Sultan Mahomed Shah Lushkarri was much attached to his Turki slaves entered the band and was appointed to the charge of distributing the pay, &c., to the mahal. After a reign of 31 years, Sultan Kuli was murdered by a Turki slave at Golcondah at the instigation of his son Jumshid, A. D., 1543, A. H. 950. He was murdered in the mosque situated inside the town, and was in the act of directing the masons to break open a door to escape assassination, when the man employed by his son stabbed him. He died at the age of 90 years, and was succeeded by his son Yar Kuli Jumshid Khan, who had murdered his elder brother Malik Qutb-ud-din during their father's existence. Kasim Burid beseiged Golcondah with a large force, in aid of Ibrahim Qutb Shah, in which he failed. Ibrahim fled to Bijanuggur 1550-957, to Ram Raj, and Jhumshid died of cancer in 1553-957, having been guilty of great crimes—among others the assassination of his father and brother and the death of many individuals ordered for execution in moments of passion and pain: he is said to have lost the tip of his nose and a great part of his cheek by a sabre cut in battle—this is related by some of his father? He was succeeded by his son Sheikh Sultan Kuli, a boy of 10 years of age, who reigned for a period of 7 years. The weakness of the government, and the contentions existing between the reigning sovereign, and his uncle, Dowlut Kuli, whose cause had been espoused by Jagdeo Rao, rajah of Warungul, induced Ibrahim to leave the Bijanuggur court for Golcondah, which he reached and succeeded in establishing himself in 1557 and after a reign of 23 years he died in the year 1580-988, and lies buried in one of the tombs of Golcondah,—the two last figures, of the above date only are visible. He was succeeded by his son Sultan Mahomed Kuli Qutub Shah. In 1590, in consequence of the crowded state of the city, numbers died, and the seat of government was removed to the banks of the Musa river. The shah who was much attached to a woman named Bhagmuttee, to whom he had given

1,000 horse, called the city Bhagnuggur but afterwards changed it to Hyderabad. Hyderabad remained without walls till Mubariz khan, subadar of the Dekkan, commenced them—he, however, had not finished one-third, when he died, and they were afterwards finished by Asof Jah. Sultan Mahomed Kuli, built the Char Minar, the Mecca Musjid 1008, and died in 1611-1020, his tomb bears this date; succeeded by his nephew sultan Mahomed Qutb Shah, who died in 1626-1035, his tomb bears this date, between it and that of sultan Abdulla, is a tomb erected to his wife Hyat Begum, who died in 1660-1077. The musjid in its immediate vicinity was erected by the princess. Sultan Abdulla, died in 1673-1083; succeeded by his son-in-law Abdul Hoossein, commonly called Thannah Shah, and with this individual the dynasty closed—Aurungzebe attacked Golcondah, took the king prisoner in 1687-1092 and carried him to Ahmednuggur where he and Aurungzeb, died.

Nizam-ul-Mulk, was the first of the present dynasty. The territory which, as a deputy, he ruled, was 100,000 square miles in area, and he threw aside his allegiance to the emperor of Delhi. Asof Jah, Nizam-ul-Mulk, was a Turani noble, whose name was Chin Kilich Khan. He succeeded Daood Khan in the government of the Dekhan which his offspring still rule, as the Asof Jahi dynasty. Asof Jah was a distinguished ruler. After various intrigues during the weak reigns of Feroksir and the Syuds Mir Hussain Ali and Mir Abdullah, after the assassination of Feroksir in 1718, in the reign of Mahomed Shah, Asof Jah, in 1720, when governor of Guzerat, revolted, overran Candesh, and captured Asirghur. He was subsequently appointed vizir, but disgusted with the vicious courses of the emperor he returned to the Dekhan, defeated Mubaraz-ud-Dowlah and in 1724, established the Hyderabad kingdom near Golcondah, where the Kutub Shahi family had ruled.

In 1748, Nizam-ul-Mulk died, aged 104 years. His second son, Nasir Jung, assumed the government, but Muzaffar Jung, a grandson of Nizam-ul-Mulk, took the lead, declared himself subadar of the Dekhan, and joined Chunda Sahib and Dupleix, and in 1749, fought and won the battle of Amboor. Various intrigues occurred, in which Nasir Jung formed friendships with the three Pathan chiefs, of Cuddapah, Kurnool and Savanore, but he was attacked by the French before Ginjie, when one of the Pathan chiefs shot him. On this Muzaffar Jung was released from prison and declared

Nizam. He joined Chunda Sahib and the French under Dupleix but he was assassinated by the nabob of Kurnool on his way to Hyderabad, in 1751, when M. Bussy declared Sullabut Jung, the youngest uncle of the deceased to be the Nizam of Arcot. On the death of Nasir Jung, his eldest brother Ghazi-ud-Din was appointed subadar of the Dekkan, but he was poisoned by his own mother and Sullabut Jung succeeded.

Sallabut Jung, alternately combined with and opposed M. Bussy. Sullabut Jung was deposed in July 1761, and was shortly after assassinated by his brother Nizam Ali.

In 1763, Nizam Ali, met the army of Madhava Rao, Peshwa, under Raghoba, on the banks of the Godavery, and was completely routed.

Secundur Jah, reigned till 1828 ; Nazir-ud-Dowlah 1828 till Asof-ud-Dowlah died 1868 leaving an infant son.

Its chief towns are Hyderabad, Secunderabad, Aurangabad, Beder, Mominabad or Amba Joghi, Ellichpur, Warangal, Oomraotee and Nandeir.

Aurungabad, in L. 19° 53' N. and L. 75° 21' E. in the Dekkan, is a large but greatly decayed city and a military station. The mean height of the station is 1,885 feet above Bombay, at Colabah. It may now have about 15,000 people. It has, several times, for short periods, been occupied by the present dynasty. It has, in and near it, several places of interest. The daughter of Aurungzeb, son of shah Jahan, is buried there under a cupola, said to resemble the Taj Mahal at Agra. It is of white marble, in which elegant arabesques and flowers are carved with great skill, and the doors are ornamented with plates of metal, in which also are flowers and ornaments. Near the mosque is a handsome marble hall, and round it a neglected garden. Aurungzeb is buried at Roza 25 miles distant, on an elevated plateau overlooking the valley of the Godavery, and the Ellora caves are excavated on its southern face. The fortress of Dowlatabad, also, is near.

There is a water mill at the Shah Mutafar garden.

Hyderabad, for revenue and judicial purposes, is arranged into 14 districts, grouped in five divisions. The area is 95,337 square miles with a population of about 10,666,080. The Nizam's territories comprehend the seats of some of the greatest and most powerful ancient sovereignties of the Dekhan. Such as Calyan the capital of the Western Chalukya, and Bijala Raya dynasties; Devagiri or Deoghur the capital of the Yadava; Warangal that of the Kakateya; and

the great mahommedan principalities of Kalburgah, subsequently split into the subordinate powers of Bijapur (the Adil Shah), Ahmednaggar (Nizam Shah), of Golconda (Qutub Shah), Berar (Imad Shah) and of Bedeř (Birud Shah), &c. The Hyderabad territories contain four distinct nations, the Canarese, Mahratta, Teling and Gond, with numerous fragmentary tribes, and many wandering houseless races. The Hyderabad territory has an annual revenue of Rs 1,65,00,000 or £1,650,000. Berar, now assigned to the British, belongs to the Nizam. It has 17,334 square miles, with a population of 2,231,565.

In the tract lying between the Mysore, Hyderabad and the Mahratta country were several petty sovereignties, such as that of the nabob of Banganapully a Syed family in the east of the Ceded districts; the Pathan nabobs of Kurnool on the right bank of the Tumbudrah river, further west, the Reddi chief of Gadwal; the Mahratta chief of Sundoor one of the Ghorpara family ; the Kshetria rajah Narapati of Anagundah, the descendent of the great king Rama of Vijianaggur, who was overthrown by the combination of the mahomedan kings of Golcondah, Kalburgah, Bijapore and Ahmednuggur, the Pathan nabob of Shahnoor, the Ghorpara chieftains of Gunjundergurh and Akalkote, and at Ghoorgoontah and Beder Shorapore the descendents of that Beder soldier, Pid Naek, to whom Aurungzeb granted a small territory in the Raichore Doab, for the aid given at the siege of Bejapore. The Beder race have only these two small sovereignties, and some of the race there are tall well made robust men. The nizam of Hyderabad furnishes a contingent of 8,000 men, in six regiments of Infantry, four of Cavalry, and four batteries of Artillery as established by the treaty of 1798.

Nabob sir Salar Jung, in 1868, made changes in the administrative machinery and five Sudder Talookdars or Divisional Commissioners were appointed, as under :—

1. Aurungabad, Beer and Purbhanee.
2. Nandeir, Naldroog and Beder.
3. Nulgonda, Khummum.
4. Lingsoogoor and Raichoor.
5. Indoor, Meduck, Yelgundul and Surapoor.

The first three commissioners on Rs. 1,500 a month, and last two on Rs. 1,000.

The people in the first two divisions speak Marathi, the next two the Telugu and the last are the Canarese districts of the nizam's territories. Each of the above fourteen Districts is presided over by a talookdar on from 400 to 600 Rupees a month, assisted by deputy talookdars, who control and superintend the

work of naibs or tahsildars of talookas. The commissioners go on circuit within their respective jurisdictions during eight months of the year, spending the remaining four at some central locality. The Commissioners communicate with the minister through the Malguzari or Civil Secretariat. There is a separate department of Police with a Suddur Mohtamim or Inspector General. Immediately under his orders are placed five naib mohtamim or deputy Inspectors General to whom the zillah Mohtamim or the District Superintendents are directly subordinate. Each district has its zillah engineer: there is a Conservator of forests, and Chief Inspector of the medical department.

The Hyderabad Assigned districts were, at first, subdivided into east and west Berar. In December 1864, however, they were reconstructed into the four districts of Woon, Oomraoti, Akolah and Maiker and in 1868, the district of Bassim was formed. The average area of each is 4,500 square miles, but from the circumstance that two of the districts are cut up by numerous ranges of hills, and in many parts are thinly inhabited, the share of the revenue contributed by them is not in proportion to their size. The area of all cultivated land, in consequence of the very high prices of all agricultural produce, increased from 3,670,430 acres in 1863-4 to 4,036,900 in 1864-5. The demand for land revenue in 1863-4 was £354,498 and in 1864-5 £381,602.

Berar is permanently assigned by the nizam to the Government of India to meet treaty obligations, subject to the condition that the surplus revenue shall be paid to Hyderabad. The province is administered by two Commissioners under the Resident of Hyderabad. As re-arranged in 1868 it contains 6 districts in 2 divisions.

Of the towns, Ellichpoor is the largest, having a population of 27,782 souls; Oomrawatie comes next, having 23,410, then Akolah having 14,006, and Akote (in the Akolah district) having 14,006. The proportion between the sexes in all ages was 48·3 females to 51·7 males.

The principal divisions of the people of Berar as to creed and caste were:

Christians	903	Sudra	1,441,271
Jews	16	Out-castes	301,379
Parsees	75	Aborigines	163,059
Mahomedans	154,951	Hindoo Sects	55,219
Brahmins	49,843		
Kshatriya	36,831	Total	2,231,565
Vaishya	28,018		

The Out-castes or Non-Aryans are thus detailed:—

Mhar.	
Somavanshi Adhucy, Telung, Madrasi, Ladoom Baider, Awdhatan, Holiar Bhilung, Perdeshi, Bhat, Hajam, Vatie, Loadey, Malvi, Gopal, Lawyancy Mhar, Labai, Dougra	2,27,824
Dhor	2,948
Khakrob (Bungee)	543
Kateek	4,069
Dasree	243
Chamar.	
Varadey, Pardeshi, Marathey Dakhnee Pudum, Holar, Hindustani, Chumbar, Mochee	19,172
Mang.	
Mang, Marothey, Vereday, Rant, Telung, Dukhnee, Ghatoley, Saradkar, Baonsee, Teeholey, Gavadey, Saveley, Devadey, Lakhari, Samus	35,453
Kalanki	46
Pirastee	8
Bahurupi	232
Pasee	20
Kaikadi	3,201
Aravia	15
Berad	11
Holar	274
Julnee	2
Monghey	332
Madgi	1,718
Total	296,111
Wandering tribe (Paradhi)	5,268
	3,01,379

All of the Bheel race, who live along the skirts of the Sautpoora range, appear to have embraced mahomedanism, though they do not intermarry with the purer mahomedans, and the list shows that there are 127 converts who were not born in that faith.

The Kshatriya class contains mostly a set of very dubious pretenders to the honor of Rajpoot descent. Mahrattas of no particular family usually call themselves thakoor—even a Koonbee will occasionally try to elevate himself thereby, while the Purbho, Kayuth and other castes of mixed origin and good social status are constantly invading the Kshatriya military order. The distinction is also claimed by the rajas of the Sautpoora hills, who assert that they are rajpoots depressed by the necessities of mountain life, whereas they are Gond or Kurkoo elevated by generations of highland chieftainship.

Under the heading Vaisya are placed all the commercial classes of hindus, the north-country Marwaree and Agurwalla, with those who are known by the general term Bunya, and a few castes like the Komtee from the south, or the Lar, who do not seem to be well known out of Berar.

The sudra caste in Berar, as in Mysore, all eat together, although they do not intermarry. The Koonbee and Malee eat flesh, drink liquor moderately, and their widows may always remarry if they choose, excepting the widows of Desmookhs, who ape high-caste prejudices. The Koshtee, is a weaving caste. The Bunjara are comparatively numerous in Berar, their occupation as carriers is rapidly going, and during their transitional stage they give a good deal of trouble to the police. The Dhungur are

sheep farmers, and the Hutker one of their clans, still hold much land on the border of the Nizam's territory, and was not long ago notorious for pugnacity and rebellion. The Bhoee has recently been supposed to belong to a widely spread primitive tribe; the Garpugaree, live by the profession of conjuring away hailstorms. Any one who has watched the medicine man at work has witnessed a relic of pure fetichism, possibly handed down from the Pre-Aryan races and their earliest liturgies. The Vidoor and Krishnapukshee are the same; they are descendants of brahmins by women of inferior caste, and Krishnapukshee is only an astronomical *metaphor* for describing a halfbreed, the term meaning literally "dark-fortnight" and referring to the half darkened orb of the moon. All the sudras of this part of India are of Turanian origin. The Mhar have been taken to be the same with the Dher, a very useful and active tribe. The Mang appear to be the lowest in the social scale of all. The paucity of the Khakrob or Bhangee, who are so numerous in Northern India, is a serious sanitary difficulty. The Kaikaree are a tribe formerly well known for their thieving habits. Of the aborigines, the Gond, Kurkoo, and Bheel are the only completely preserved specimens of tribes. The two first retain their languages, while the Bheel tongue seems to have become extinct very recently, in Berar, its disuse being probably expedited by their general conversion to mahomedanism. The Ramosee, a predatory race, speak Telugu in their families, and are doubtless from Telinganah. The original Purdhan among the Gond answered to the Bhat among the hindus, but many seem to have settled in the plains as a separate class of Gond.

HYDERABAD in Sind, formerly the mahomedan capital of the country, is four miles on the left bank of the river Indus. It was built by the Kalora dynasty who preceded that of the Talpur race. Hyderabad is advantageously situated in the extremity of a ridge of limestone hills. It is 130 miles from the sea and in the time of the Amirs, in 1828 contained a population of 20,000. The town of Hyderabad is built on a low calcareous elevation, stretching at first north and south, the direction of the buildings, and then sweeping round towards the river.

The ancient name of Hyderabad was Neroon or Nirun, and Abulfeda says, was almost equi-distant, between Dabul (Dewul or Tatta) and Mansoora, Sehwan, or Minagara, the latitude of which, is 26° 11'.—*Sinnet's Voyage*, p. 159. *Eclaircissemens sur la Carte de l' Inde*, p. 37 *et seq.*, *Dr. Vincent's translation*, p. 386. *Postan's Personal Observation* p. 27. *Burnes Sind.* *Masson's Journeys*, Vol. I. p. 462.

HYDER ALI, was the son of Futteh Mahomed a native of the Punjab. He was born in 1702, and is said to have been a camel driver in his youth, but when 47 years of age, he took service with the rajah of Mysore, in some humble capacity as a soldier, but he rose in rank and gradually assumed power until, in 1749, he put the rajah aside and in 1761, he usurped the Government, and soon after conquered Bednore and extended his dominions to the sea. Hyder Ali was severely curbed by the Mahrattas and then entered into an alliance with Nizam-Ali and attacked the British, but the allies were defeated at Changama in August 1767, and again at Trinomalee. The war continued, however, and Hyder Ali in March 1769 arrived within ten miles of Madras, but on the 4th April a treaty was concluded. Hyder Ali conquered Coorg in 1772. In 1773 and 1774, he recovered all the territories which the Mahrattas had seized. In 1775, he captured Bellary, from Bassalut Jung. In 1776, he extinguished the power of Morari Rao and the independence of Savanore and in 1779, he annexed all the dominions of the Nabob of Cuddapah. In July 1780 he invaded the Carnatic, laid siege to Arcot, and on the 10th September 1780 totally destroyed the force of Colonel Baillie. Sir Eyre Coote arrived from Calcutta on the 5th November 1781, while Hyder was surrounding five forts, Coote, captured Carungally, overthrew Hyder's forces in a general battle at Porto-Novo, on the 1st July 1781, on which Hyder's investment of Trichinopoly and that of Wandewash by his son Tippoo, were abandoned. Coote met Hyder at Pollilore, but again on the 27th September 1781, at Sholingur, Coote completely defeated Hyder and compelled him to raise the siege of Vellore. Hyder Ali died on the 7th December 1782. His death took place in camp near Arcot, but was concealed until his son Tippoo could arrive. At his father's demise at the close of a virtual reign of thirty years, the army consisted of a hundred thousand well trained men, with about five millions sterling of money in the treasury. Tippoo, at first humble, grew arrogant. He invaded Travancore in 1791, but was attacked and defeated by the Mahratta Peshwa, the Hyderabad State and the British in 1792. By the resulting treaty of 1792, Tippoo agreed to cede one half of Mysore to England, to pay a large indemnity and to give up to Lord

Cornwallis his two eldest sons as hostages for his future conduct. They were removed to Vellore, but, in 1806, possibly incited by or through them, the native soldiers of that garrison, revolted and massacred the European garrison. After the suppression of this, they were removed to Russapuglah near Calcutta. In 1798, Tippoo again began intrigues, but this time with France, which brought on another war, and Tippoo fell at the siege and storm of Seringapatam by the British in 1799, and while a portion of the country was left to the son of Chum Raj, the remainder was portioned amongst the British, the Mahrattas and the Hyderabad State. Hyder Ali was not cruel without necessity; but, on the other hand, not merciful, if cruelty could in the least assist him. He entertained an implacable enmity and hatred towards the British. Hyder Ali formed a great tank in Mysore.—*Bjornsterna, British Empire in the East*, p. 166. *Hovell Thurlow*, p. 132. *Malleson's French in India.*

HYDNOCARPUS, a genus of plants, belonging to the Natural Order Pangiaceæ in which are two species, H. inebrians and H. odoratus. Dr. Hooker says, one of this genus, the "Took," grows in the Teesta valley in Sikkim. It is a beautiful evergreen tree, with tufts of yellow blossoms on the trunk: its fruit is as large as an orange, and is used to poison fish, while from the seeds an oil is expressed.—*Hooker Him. Journal*, Vol. II. p. 7.

HYDNOCARPUS INEBRIANS, *Vahl.*

H. venenata, *Gærtner.*

Kowtee,	MAHR.	Makooloo,	SINGH.
Moratti,	MALEAL.	Marra vattay	TAM

A large tree, growing in Ceylon on the banks of rivers, up to an elevation of 2,000 feet, also in Malabar, in Tinnevelly, and Travancore. It is a common tree on the west coast, not so in the Coimbatore jungles. The tree is hardly found in the Bombay northern jungles on the coast; more frequently in those south of the Savitree river. The wood is not used for any purpose. The seeds of the fruit afford an oil. Flowers small, white. Fruit used for poisoning fish.—The thortay oil of Canara, called also Neeradimootoo oil a very valuable vegetable solid oil, is from this tree. It is of the consistence of ordinary hard salt butter and is used as a remedy in scabies and ulcers of the feet. *Thwaites, Drs. Voigt, Gibson and Wight.*

HYDNOCARPUS ODORATUS. *Lindley.*

Gynocardia odorata ROXB.		Chaoolmoogra odorata	ROXB
Chaulmoogra BENG. HIND.		Piturkurra BENG. HIND.	

A tree of Assam, Silhet, seeds used in the cure of cutaneous disorders. Freed from their integuments, they are beaten up with clarified butter into a soft mass, and in this state applied thrice a day to the parts affected. *Roxb. Voigt.* 86.

HYDNOCARPUS VENENATA. GÆRTN. Syn. of Hydnocarpus inebrians.—*Vahl.*

HYDRA. The Tauric and Hydra foes, with which Jason had to contend before he obtained the fleece of Aries, are the symbols of the sun-god, both of the Ganges and the Nile; this fable has occupied almost every pen of antiquity, but is clearly astronomical, as the names alone of the 'Argha-Nat'h,' sons of Apollo, Mars, Mercury, Sol, Arcus or Argus, Jupiter, Bacchus, &c., sufficiently testify, whose voyage is entirely celestial.—*Tod's Rajasthan*, Vol. I, p. 601. See Krishna.

HYDRANGEA, is a well-known genus of hardy shrubs, of which one species is commonly cultivated for the sake of its beautiful flowers. This plant is a native of China and Japan: it was originally observed in the gardens of Canton by Loureiro, who took it for a primrose, and called it Primula mutabilis. It was next met with by Commerson, a French traveller, who named it Hortensia, in compliment to Madame Hortense Lepleaute. H. hortensis, called Guelder Rose, from hydor, water, and aggion, a vessel, in allusion to some of the species growing in water, and the resemblance the capsule bears to a cup. The flowers are of various shades of rose colour. Propagation may be effected by cutting or layers. The soil most desired by the hydrangea is a black earth, mixed with well rotted leaf mould, and a small portion of sand. It requires moisture, and a supply of water should be freely given to it.

HYDRANGEA THUNBERGII.

Amatsja,	JAVAN.	Tea of Heaven,	ENG.

In use, in Java, as a tea.

HYDRARGYRÆ, of Carolina, these leave the drying pools and seek the nearest water, in a straight line, though at a considerable distance.

HYDRAOTES. See Khetri, Punjab.

HYDRARGYRI BICHOLORIDUM. LAT. Corrosive sublimate.

HYDRARGYRI BISULPHURETUM. LAT. Cinnabar.

HYDRARGYRUM. LAT. Mercury.

HYDRASTIS CANADENSIS, or Canadian yellow root, a valuable bitter tonic, and useful yellow dye-stuff.

HYDRATE DE SOUDE. FR. Soda.

HYDRAULIC CEMENT. The finer kinds of lime and cement on the coast of the Peninsula of India are made from shells. A piece of ground about ten

feet square is laid down even and floored over with clay: an upright pole is placed at each end of this, and a sheet stretched out with back stays spread between the poles which are steadied with strings. On the floor a bed of shells and rice-chaff alternately, about ten inches thick and eight feet by six, is spread neatly out. Some firewood is placed along the windward side of this, and when the sea breeze sets in the wood is kindled. As the heat extends to leeward, and the shells become calcined, the lime-burners draw off the fore parts of them with a stick, and so soon as they have cooled on the floor sufficiently to allow them to be handled, they are placed in a sooop basket and the dirt and epidermis winnowed from them. The shells, now white and pearly, are next thrown into a small sized vat partially filled with water: here they for some time boil from the effects of the heat and slaking. The whole in a short time settles down into a fine semi-fluid mass, which is taken out and slightly dried, and is now ready for use. A good hydraulic cement is formed of the blue clay of Madras, and shell lime. Bitumen or asphalte seems to have been employed in Babylon, as a cement.

HYDRIDÆ, the Sea Snakes, venemous reptiles which appear to live on sea-weed. They lay their eggs on the shore and coil themselves up on the sand. They are found at sea all along the coast, within soundings, and their appearance always marks the approach to land. They are often thrown ashore by the surf and they are occasionally carried up rivers by the tide, but they cannot live in fresh-water. Fishermen greatly dread these snakes. The following genera and species occur in the south and east of Asia.

Pelamis bicolor,	Pacific ocean.
,, ornata,	Borneo.
Lapemis curtus,	Madras.
,, hardwickii,	Borneo.
Aturia belcheri N.	Guinea.
,, ornata,	Indian, Seas.
Microcephalophis gracilis, kadelna-gam,	of Madras.
Enhydrina Bengalensis,	Madras.
,, valakadyen,	,,
Hydrophis obscura, the shooter sun,	,,
,, lindsayii,	China,
,, fasciata,	Indian ocean,
,, nigrocincta, the kerril,	Bengal.
,, doliata, the black headed kerril,	Australia.
,, subcincta, Shaw's chittul,	Indian ocean.
,, sublævis, the chittul,	China and Indian ocean.
,, mentalis the pale chittul,	Ind. ocean.
,, ocellata, the eyed chittul,	Australian seas
,, spiralis, the shiddil,	Indian ocean.
,, subannulata, the ringed sea snake,	India.
,, aspera, the rough sea snake,	Singapore.

Hydrophis cærulescens, the bluish sea snake,	Bengal.
Chitulia inornata,	Indian ocean.
,, fasciata,	,,
Kerilia Jerdonii, the kerilia,	Madras.
Hydrus major, the sea snake,	India, Australia.
,, annulatus, the ringed sea snake,	Singapore.
Tomogaster eydouxii.	Indian ocean.
Stephanohydra fusca, Juke's hypotrophis,	Darnley islands.
Chersydrus annulatus,	Madras.
,, granulata, the chersydrus,	,,
Acrochordus javanicus,	Java.
Erpetonina.	
Erpeton tentaculus, the erpeton.	
Cerberus cinereus, the karoo bokadam,	India.
,, acutus,	Borneo.
,, unicolor,	Philippines.
,, australis,	Australia.
Homalopsis buccata,	Java.
,, Hardwickii,	India.
Phytolopsis punctata,	,,
Tropidophis schistosus, the chittee,	Ceylon.
Myron Richardsonii,	Australia.
,, trivittatus,	India.
Hypsirhina plumbea,	Borneo.
,, Hardwickii,	Penang.
,, Aer the Ular Aer,	Borneo.
,, bilineata,	China.
,, Chinensis,	China.
,, Benettii,	China.
Fordonia leucobalia,	Timor.
,, unicolor,	Borneo.
Raclitia Indica.	India.
Miralia alternans,	Java.
Xenodermus Javanicus, the Gonionote,	,,

—*Eng. Cyc.*

HYDRILLA VERTICILLATA. *Roxb.*

Kurelee,	Hind.	Jhangh,	Panj.
Jala,	Panj.	Punachu,	Tel.

This, with other aquatic plants, is used by the sugar refiners of Saharunpore for covering the surface of sugar, in order to allow the slow percolation of water when refining it. It is common in water in parts of the Punjab plains up to Peshawar. It is used east of Sutlej, for refining sugar, but at Multan, west of that river, it is not obtainable.—*Dr. J. Stewart Punj. Plants*, p. 241.

HYDROCHARACEÆ. A natural order of floating or water plants of which six genera with eleven species occur in the East Indies, viz., 4 species of Ottalia, 3 of Vallisneria, 1 of Hydrilla, 1 of Blyxa, 1 of Enhalus and 1 of Hydrocharis. Hydrilla verticillata, along with similar plants is employed by the sugar refiners of Saharunpoor and Berhampoor for covering the surface of their sugars, as clay is used in the W. Indies, to permit the slow percolation of water. Enhalus acoroides has a sulphureous smell. Its fruit is eatable, raw, boiled or roasted, if boiled the nuts acquire the taste of boiled chesnuts. The natives of the Moluccas make nets of the tough threads, which remain after the putrified leaves, these nets are

said to be very durable in sea water. The following are the genera and species :

Hydrilla verticillata. LINN.

Serpicula verticillata, LINN. fil. ROXB.
Vallisneria verticillata, „
Udora verticillata, SPRENG.
Hottonia serrata, WILLD.

Grows in most parts of India.

Vallisneria spiralis, L.

V. spiraloides, ROXB. | V. Jacquiniana, SPRENG.

A plant of Europe and America.

Vallisneria physicum, JUSS.

A plant of Cochin China.

Bootia cordata, WALL.

A plant of Prome and Taong-Dong.

Blyxa octandra, RICH, grows all over India.

Enhalus acoroides, LINN.

Acorus marinus, RUMPH. | Stratiotes acoroides, LINN.

Grows in the Concans and Moluccas.

Ottelia alismoides, PERS.

Stratiotes alismoides, LINN.
Hymenotheca laxifolia, SALIS.
Damasonium Indicum, WILLDE.
„ alismoides, R. BR.

The Panee-kula of Bengal, grows in most parts of India.

HYDROCHELIDON INDICA or 'Sterna leucoparica, the 'Whiskred Tern, occurs in Europe, Asia, Africa, Malay countries; and very common in India.

HYDROCHLORATE D'AMMONIAC. FR. Hydrochlorate of Ammonia.

HYDROCOTYLE ROTUNDIFOLIA. WALL. Syn. of Hydrocotile Asiatica.—*Linn.*

HYDROCOTYLE ASIATICA. *Linn.*

Hydrocotyle rotundifolia, *Wall.*

Thulkuri,	BENG.	Heen-gotu kola,	SINGH.
Asiatic Pennywort,	ENG.	Vullari kire,	TAM.
Indian „	„	Munduka brummi,	TEL.
Thickleaved „	„	Bokkudu; Pinna ye-	
Kodagam,	MALEAL.	laki chettu,	„
Munduka purni,	SANS.	Babbasai Elaka or	
		Elika chavi kura,	„

A small herbaceous creeping plant with little purplish red flowers, a native of Africa and America, and grows all over southern Asia, in moist shady places. It has long been employed in medicine, and its virtue in leprosy has been latterly again much lauded. An infusion of the toasted leaves in conjunction with vendeum is given to children in fever.—*R. Brown. Ainslie's Mat. Med.* p. 126.

HYDROCOTYLE ROTUNDIFOLIA, *Wall*, Syn. of H. Asiatica.

HYDROCHLORIC-ACID. Nimak ka tezab. Is made similarly to nitric acid, substituting common salt for the nitre.

HYDROCYANIC ACID. Prussic acid.

HYDROLEA ZEYLANICA. *Vahl.*

Nam zeylanica, LINN. | Steris aquatica BURM.

A herbaceous plant, grows in water and marshy ground in the East Indies. The leaves beaten into a pulp and applied as a poultice are deemed useful in cleaning and healing ill conditioned ulcers in which maggots have formed.—*Lind. Fl. Med.*, *p.* 401, in *O'Shaughnessy*, *p.* 507.

HYDROPHASIANUS, a genus of the Sub-family Parrinæ, viz.,

Sub-fam. Parrinæ, 2 gen. 2 sp. viz., Metopodius; 1 Hydrophasianus.

Fam. Gruidæ, 1 gen. 1 sub-gen. 3 sp. viz., 2 Grus. 1 Anthropoides.

HYDROPHIDÆ, a family of serpents, viz. :

Enhydrina Bengalensis, *Gray.* Sandheads.
Hydrophis gracilis, *Shaw.* Sandheads.
„ jerdonii, *Gray.* (Hydrus, Cant). Mergui.
„ nigrocincta, *Daud.*
„ curta, *Shaw.*
„ cydnocincta, *Daud.* (Hydrus, Cant). China Hidgilli.
„ robusta, *Fischer.* Hidgilli.
„ coronata, *Gunth.* Hidgilli.
„ stricticolles, *Gunth.* Hidgilli.
„ chloris, *Daud.* Sandheads.
„ guntheri, *Theob.*
„ trachyceps, *Theob.* Mergui.
„ viperina, *Schmidt.* Rangoon.
Pelamis bicolor, *Schneid.* Nicobar.
Platurus scutatus, *Lour.* Ramree, Penang.
„ Fischeri, *Jan.* Bay of Bengal.

HYDROPHYLAX MARITIMA, *Linn.* A creeping plant with lilac coloured flowers, grows on sand hills on the Coromandel and Malabar Coast.

HYDROSAURUS SALTATOR.—*Lour.* A genus of reptiles, of the

Sec. B. Squamata, Scaled reptiles.
Order Sauria.
Fam. VARANIDÆ.
Psammosaurus scincus, *Merr.* Nubia, Salt Range.
Varanus flavescens, *Gray.* Bengal.
„ dracæna, *Linn.* Bengal, Agra.
„ nebulosus, *Dum and Bib.* Bengal, Agra.
Hydrosaurus salvator, *Laur.* Bengal, Assam, Armus Malacca, Rungpur.

HYDROPHIS, a genus of the Hydridæ or Sea Snakes found on all the coasts of India. Sir J. E. Tennent has sailed through large shoals of them in the Gulf of Manaar, close to the pearl banks of Aripo. The fishermen of Calpentyn on the west of Ceylon live in perpetual dread of them, and believe their bite to be fatal. In the course of an attempt which was recently made to place a light-house on the great rocks of the south-east coast, known by seamen as the Basses, or Baxos, the workmen who first landed found that portion of their surface liable to be covered by the tides, honey-combed and hollowed into deep holes filled with water, in which

were abundance of fishes and some molluscs. Some of these cavities also contained sea-snakes from four to five feet long, which were described as having the head "hooded like the cobra de capello, and of a light grey colour, slightly speckled. They coiled themselves like serpents on land, and darted at poles thrust in among them. The Singalese who accompanied the party, said that they not only bit venomously, but crushed in their coils the limb of any intruder." The principal habitat of sea-snakes is the ocean between the southern shores of China and the northern coast of New Holland, and their western limit appears to be about the longitude of Cape Comorin. It has long since been ascertained that they frequent the seas that separate the island of the Pacific; but they have never yet been found in the Atlantic. *Tennent's Sketches of the Natural History of Ceylon*, p. 309.

HYDROPHOBIA. Dr. A. Gibson says the Notonia corymbosa, native name "Wandur Rotee," is useful as a prophylactic in Hydrophobia. It grows rather plentifully on the stony parts of the high hills near Jooner, and also in some parts of the Northern Deccan, Khandeish, &c. About four ounces of the stem and bark of the plant are steeped in cold water for a night, when it has become softened, the material is then kneaded with the hand, so as to extract the thick greenish juice which mixes with the water, and in this state it is drunk in the morning, the quantity of water being about a pint. On the same evening two pills, or boluses, composed of the flour of black gram, made up with the thick juice of the plant, are given, and the dose of the watery infusion next morning, to be repeated as before, and the same pills again in the evening. The like process to be gone through on the third day, after that nothing. The giving of the medicine should not commence until nine days after the bite of the animal. The plant is one readily propagated by cuttings, but it will only grow in rocky places and corners of old fort walls, &c. In appearance the plant resembles the euphorbium, or milk bush, except that it is destitute of the thorns. The leaves have a thick cabbage-like appearance, only they are much smaller.—*Times of India, Jan.* 2.

HYDROPHYLAX MARITIMA.—*Linn.* The Seaside Hydrophylax is a straggling herbaceous plant, native of the shores of Coromandel, where it shows its pale lilac blossoms great part of the year. The branches run over the sand, sometimes under the surface, and strike root at the joints. It answers well as a sand binding plant where the sand is moist.

HYDROSAURI, or water lizards, live on the margins of springs and on low river banks.

HYDROSAURUS SALVATOR.—*Lour.* Tail compressed, fingers long, nostrils near the extremity of the snout. A black band on each temple, round yellow spots disposed in transverse series on the back. Teeth with the crown compressed and notched.—*Tennent's Sketches of the Natural History of Ceylon*, p. 272.

HYDRUS. See Hydridæ.

HYDUR WULLEE, a mahomedan saint.

HYEE-BIN. Burm. Rhamnus jujuba.

HYENA. See Hyæna.

HYETE. Sw. Wheat.

HYI-BIN. Burm. Zizyphus jujuba.

HYLOBATES, the 'wa-wa' or long-armed ape, is the most beautiful of all the monkey tribe. The fur of this gentle little animal is grey, its face, hands, and feet, are jet black, in features it more resembles those of the human race than the oran utang.—*Low's Sarawak*, p. 80.

HYLOBATES HOOLOOK, the Holock. It is the Simia Hoolock, *Harlan;* H. seyrites and H. coromandus, *Ogilby;* H. Houloch, *Lesson*, a nature of Assam ?

HYLOBATES LAR, the Gibbon; Homo lar, *Linnæus;* Simia longimana, *Schreber;* S. albimana *Vigors* and *Horsfield*; Le Grand Gibbon of *Buffon;* a native of Malacca where it is known as the white handed Gibbon. The contrast which this animal offers with H. hoolock, is very remarkable. The body is proportionally much shorter; and it is quite incapable of walking in the erect attitude commonly assumed by H. hoolock, always creeping forward when on the ground in a crouching position.

HYLOBATES LEUCISCUS, the silvery Gibbon, or Wow-Wow, Simia leucisca, *Schreber*, Moloch, *Audeb.* native of Malacca. See Simiadæ.

HYLÆDACTYLIDÆ, a family embracing Hylædactylus vittatus, *Cantor*, Pegu.

H. bivittatus, *Cantor.* See Engystoma interlineatum.

HYLINA this section of the Reptilia, comprehends

Fam. Polypedatidæ.

„ Hylorana macrodactyla, *Gunth.* Pegu.
„ „ erythœa, *Schl.* Syn Limnodytes, nigro-vitratus, L. macularius. *Blyth*, Mergui.
„ „ Tytleri, *Theob.* Dacca.
„ „ Malabarica, *D. & B.* Malabar.
„ „ temporalis *Gunth*, Ceylon.
„ Polypedates lucomystax, *Graven*, Ceylon, Bengal, Mergui, Silhet.
„ „ cruciger, *Blyth*, Tenasserim.

Fam. Polypedates marmoratus, Pegu.
„ „ microtympanum, *Gunth*, Ceylon.
„ „ pleurostictus, *Gunth*, Peninsula.
„ „ variabilis, *Jerdon*, Neilgherries.
„ „ reticulatus, *Gunth*, Ceylon.
„ „ equed, *Gunth*, Ceylon.
„ „ afghana, *Gunth* Ceylon.
„ „ smaragdinus, *Gunth*, Ceylon.
Ixalus temporalis, *Gunth*, Ceylon.
„ „ fomoralis, *Gunth*, Ceylon.
„ „ leucorhinus, *Martens*, Ceylon.
„ „ glandulosa, *Jerd.* S. India.
„ „ rhacophorus maximus, *Gunth.*, Nagar.

HYMENÆA COURBARIL, *Linn.*

Locust tree, ENG. | Courbaril locust tree, ENG.
Gum Anime tree, „ |

This fine, lofty, spreading, tree, grows in the tropical parts of America, in Jamaica, and in Tenasserim where it was introduced by Major Macfarquhar. The tree is easily propagated, and the trunk acquires an immense height. The timber of the old trees is very hard and tough, and is in great request for wheelwork, particularly for cogs. The wood is so heavy that a cubic foot is said to weigh a hundred pounds: it takes a fine polish and is used by cabinet makers. When in a sickly state, the resin called Western Anime exudes from between the principal roots. It is fine and transparent, of a red or yellowish-red colour, and in large lumps. It resembles amber, is very hard and sometimes contains leaves, insects, or other objects imbedded in it. It burns readily, emitting a very fragrant smell. Dissolved in rectified spirits of wine it makes one of the finest kinds of varnish.—*Eng. Cyc., Drs. O'Shaughnessy*, p. 314, *Mason's Tenasserim*, p. 156, *and Voigt*, p. 252.

HYMENODYCTION. Of this genus of plants, belonging to one section of the Cinchonaceæ, H. obovatum, *W. Ic.*, "Yella mala kai maram" Tam., "Kurwye" Mahr., H. utile, *W. Ic.*, "Peronjoli maram" Tam., and "Kurwye" Mahr., grow in Coimbatore and in Canara, but woods only fit for fuel. H. thyrsiflorum, *Wall.*, grows at Rajmahal, Chittagong, and at Rangoon.—*Drs. Wight, Gibson and Voigt.*

HYMENODYCTION, *Species.*

Dudippa of Godavery Forests. | Chetippa of Circars.

A large tree of the Godavery. Wood not used.—*Captain Beddome.*

HYMENODYCTION EXCELSUM, *Wall.*

Cinchona excelsa, *Roxb.*

Kala bachnak DUK. HIND. | Sagapu maram, TAM.
Cedar wood, ENG. | Burja Burija, TEL.
Kundaru. ? HIND. | Chetippa, „
Bundaru, „ | Bandaroo, Pundaroo ? „
Barthoa; Thab, HUSHYARPUR. |

A very large tree, common all round the foot of the Neilgherries, and in the mountainous parts of the Circars, but chiefly in the valleys. The wood is firm, close-grained, of a pale mahogany colour, and very useful for many purposes. The bitter astringent bark is used by tanners, also medicinally for yokes of ploughs, for scabbards and gun stocks? Possesses febrifugal properties, but it contains no alkaloid.—*Drs. Roxburgh, Fl. Ind. Cor. pl.* 113 and 106. *O'Shaughnessy*, p. 394, *Mr. Rohde, McIvor, Ain. Mat. Med.*, p. 104.

HYMENODYCTION OBOVATUM. *W. Ic.* 1159.

Kurwye, MAHR. | Yella malakai maram, TAM.

Dr. Gibson says, this and H. utile grow on the Bombay side of India but the wood of neither is fit for anything but fuel.—*Drs. Wight, and Gibson.*

HYMENÆA RECURVALIS.—*Fabricius.* A pretty little moth found in Jamaica, Ascension, Sierra Leone, Bagdad, India, Ceylon, China, Australia and New Zealand.

HYMENÆA VERRUCOSA, a tree growing in Colombo; it produces a gum said to be the source of Copal. Wood very soft and brittle.—*Mr. Fergusson.*

HYMENODYCTION UTILE.—*W. Ic.* 1159.

Peeroonjolay maram, TAM. | Kurwye, MAHR.

This tree attains a large size and the heart wood is red. When Dr. Wight first gathered specimens of this tree, he was informed that it furnished the wood called bastard cedar. He afterwards found two other trees similarly reported.

Dr. Gibson says the wood of this tree is never used, except for firewood. The tree is common enough, in rocky slopes mostly, in or near thick forest. It does not stretch inland beyond the limits of the Ghaut ravines.—*Wight. Gibson.*

HYMENOPTERA, an order of insects characterized by the majority of species possessing stings. Large numbers of them are also distinguished for their social habits, of which the bees, the wasps, the hornets and the ants are familiar examples. They frequently build for themselves houses in which they dwell or deposit their ova. They use different materials for this purpose. The wasp and the hornet with several other allied species, make a kind of papier-machie tenement in which they deposit their eggs and hatch their young. The bee uses for this purpose the material known as wax. From the ants, when bruised, are obtained juices which yield an acid secretion, the formic

acid, a chemical base from which Dumas obtained the ter-chloride of formyle. Dr. Simpson of Edinburgh tried this, as an anæsthetic agent and found it succeed, and it is is now known as the chloroform, which has been the means of alleviating a vast amount of human misery. The species of the genus Cynips belong to a group of this order, and make their nests in the oak-tree bud and produce the oak-apple, by inserting their eggs, into the bud as it expands, by means of their ovipositor. The 'robins-pin-cushions' on the dog rose are produced similarly, thistles are similarly attacked, and the Dead Sea Apples, which are excrescences produced on a species of Solanaceous plant, are amongst the most remarkable of these productions. These are remarkably like the fruit of a plant, but, when opened, they are found to contain nothing but the excreta of the young larvæ that were hatched in their interior. It was these apples of Sodom to which Milton alludes, in the lines—

* * * * greedily they plucked
The fruitage fair to sight, like that which grew
Near that bituminous lake when Sodom flamed;
This, more delusive, not the touch but taste,
Deceived; they, fondly thinking to allay
Their appetite with gust, instead of fruit,
Chewed bitter ashes:

The excrescences called galls are also produced by a species of Cynips, and are largely used for tanning purposes, also, medicinally, in the form of gallic acid. The Hymenoptera are very numerous in the South East of Asia. A fossorial wasp of the family Sphegidæ, the Pelopæus spinola of St. Fargeau is distinguished by its metallic lustre. It frequently makes its nest in key-holes and similar apertures, which it stops up by little pellets of clay brought by it to form its cells. Into these it thrusts the pupæ of some other insect, into whose bodies, it has previously introduced its own eggs. The young parasite, after undergoing its transformation, gnaws its way into light, to emerge as a four winged fly. The Ampulex compressa which drags about the larvæ of cockroaches into which it has inserted its eggs, belongs to the same family. The Ichneumon, is a genus of insects, which deposit their ova in the bodies of larvæ. They, also, belong to the order "Hymenoptera," section "Terebrantia" and family "Pupivora" in the classification of Latreille. The Ichneumon with its ovipositor pierces the bodies of other insects and deposits its ova within their bodies, where the larvæ are parisitic. The Ichneumon forms small nests of clay into which they deposit the infected insect. *Eng. Cyc. Sir J. E. Tennent's Sketches of Ceylon. Dr. Lankester on the Uses of Animals.* See Insects.

HYOBUNS, or Haiobans, the raja of Huldee in Ghazeepoor is of this conspicuous clan, which once held large dominions on the banks of the Nerbudda.—*Elliot Supp. Gloss.* "*Journal A. S. Bengal,*" *August* 1837. See Benoudha; Hureehobuns.

HYOSCIAMUS NIGER.—*Linn.*

Bunj.	Arab. Pers.	Adas-podas.	Malay.
Siekran.	,,	Dentura of	Ravi.
Dandura	of Chenab.	Datura of	Sutlej.
Bazr-barg	,,	Sura of	Sutlej.
Henbane.	Eng.	Khorasani omum.	Tam.
Saphi.	Egypt.	Damtura of	Trans Indus.
Uoskuamos.	Gr.		

The Seed.

Bazr-ul-Bunj.	Pers.	Khurasani ajwain,	Hind.
Tukhm-i-bunj-i-Rumi.	,,		

The henbane plant is a native of Europe and of Asia Minor and is frequent in waste ground near houses, from 5,000 to 10,000 feet, in the Punjab Himalaya, where it is stated on high authority to be eaten by cattle. The seeds are, on the Sutlej, said to be poisonous but are officinal in the plains of India for their narcotic effects. It is cultivated in several parts of India. In physiological action this plant and its preparations seem intermediate between belladonna and opium, combining great soothing and anodyne power with the property of dilating the pupil. Over opium, hysocyamus possesses the advantage of relaxing rather than constipating the bowels, and being less apt to occasion headache; in excessive doses however delirium, coma, and convulsions (the latter but rarely) supervene, and not uncommonly terminate in death. The chemical properties of the leaves and seeds have been carefully investigated, and an alkali has been obtained termed Hyosciamia, but it differs little, if at all, from Atropia. A dry inspissated juice of the leaf was prepared by exposing the juice in thin layers on a shallow earthen vessel to the intense heat of the sun in April and May; Dr. O'Shaughnessy deems this extract far superior to any imported from Europe or prepared in India by other processes. In three grain doses its soporific and anodyne effects were most decisive, and its use rarely, if ever, followed by any headache or other unpleasant symptoms.—*Drs. O'Shaughnessy, page* 47. *J. L. Stewart, M. D., Spry's Suggestions, p.* 36. *M. E. J. R. of* 1855.

HYOSCIAMUS MARITIMUS.—*Burm,* Syn. of Pedalium murex.—*Roxb.*

Moringa pterygosperma.—*Gærtn.*

The tree.

Moringa oleifera.	LAM.	Guilandina moringa	LINN. ROXB.
Moringa zeylanica,	PERS.	Amoma moringa,	LOUR.

The tree.

Sahajna, Sajna, Shajna, Sujuna,	BENG. HIND.	Kilor	MALAY.
Dand alam,	BURM.	Muringai,	MALEAL.
Muring,	DEKHAN.	Moria ben,	PERS.
Horse radish tree,	ENG.	Sohanjana, Sohajana,	SANS.
Country „ „ „		Sigrumala,	„
Ben tree „		Morunga maram,	TAM.
Maranggai,	MALAY.	Munaga-chettu,	TEL.

The root.

Moongay ke jhar ki jar,	DUK.	Moonaga veru,	TEL.
Moorungy vayr,	TAM.		

The greens.

Moongay ke bajee,	DUK.	Moorungy koeray,	TAM.
Shegguru,	SANS.	Moonaga koora,	TEL.

The flowers.

Moongay ka pool,	DUK.	Moorungy poo,	TAM.
Shegguru,	SANS.	Moonaga poo,	TEL.

The fruit.

Hub-ul-ban,	ARAB.	Marung kai,	MALEAL.
Moongay ke pulli,	DUK.	Moorungy kai,	TAM.
Sheggooroo,	SANS.	Moonaga-kaia,	TEL.

This small tree is grown all over the East Indies, its gum is used medicinally: its leaves and flowers and long fruit pods, about half a yard long, are used as greens and in curries and its root as a substitute for the horse radish.—*Ainslie's Mat. Med., p.* 241-260-265. *Irvine's. Gen. Med. Top.*,p. 192.

HYPERBOREANS. See Kelat, p. 489.

HYPERICACEÆ. See Hypericum.

HYPERICINEÆ. See Guttiferæ

HYPERICUM BACCIFERUM. See Dyes, Gamboge.

HYPERICUM CARNEUM, *Wall. Cat.*, syn. of Ancistrolobus carneus.—*Wall.*

HYPERICUM PERFORATUM. L.

St. John's wort.	ENG.	B. dendlu ·	of BEAS.
Bassant	of RAVI.		

This plant belonging to the N. O. Malpighiaceæ is common in the Cashmerean mountains, but is not officinal. In Arabian medicine however, it is recommended to expel intestinal worms, to cure piles, prolapsus uteri et ani. In European practice St. John's wort was regarded as a mild stimulant tonic, diuretic, emenagogue, &c. The dried herb boiled in alum water, communicates a yellow, or yellowish red color, to wool, silk, &c. The species of Hypericum known as St. John's Wort, are shrubs and herbaceous plants, all bear yellow flowers with one exception from Cochin-China; they are inhabitants of all parts of the world, and are grown by seed in any good garden soil. *Drs. Riddell, J. L. Stewart, M. D. Honigberger*, p. 289.

HYPERINES. A family of Crustacea, viz.

Vibilia peronii, *Edw.* Asiatic Seas.
Phoreus raynaudii, *Edw.* Indian Ocean.
Daira gabertii, *Edw.* Indian Seas.
Anchylomera blossevilleii, *Edw.* Indian Seas.
„ hunterii, *Edw.* Bourbon.
Oxycephalus piscator, *Edw.* Indian Ocean.
„ armatus, *Edw.* Amboyna and Vandeeman's land.

HYPHÆNE CORIACEA, the Doom palm of Upper Egypt, is common at Mooltan.

HYPHÆNE THEBAICA. MART. The Doum palm, or ginger-bread-tree, grows at Okamundel and on Diu Island.

HYPHASIS RIVER. The modern Gharra river.

HYPOCARPOGÆA. See Ground-nuts.

HYPOCISTUS. See Balanophoreæ.

HYPOGÆA. See Arachis.

HYPOLITE DESIDERI, an Indian traveller. He set out from Goa, on the 27th November 1713, and reached Lahore in October the following year.

HYPOTRIORCHIS SUBBUTEO, the Falco subbuteo or the 'Hobby,' inhabits all Europe, Asia and America; migratory; common in the Himalaya; rarer in S. India; a cold weather visitant in Lower Bengal, together with an affined species, H. severus. Both are somewhat crepuscular in habit.

HYPSIPETES NILGIRIENSIS and H. psaroides, species of Indian Birds. See Birds.

HYPSIRHINA. One of the Hydridæ.

HYRAH of Kumaon, Terminalia chebula. *Retz.*

HYRAX. See Coney.

HYRCANIA, the hilly region south of the Caspian Sea, the country about Mazenderan, which has much forest.—*Ouseley's Travels*, i. 188, ii. 59. *Indian Field.* See Kabul, Kah.

HYRKODES. See Kabul.

HYSSOP, that cometh out of the wall, alluded to in 1 Kings, iv. and 33, was probably a lichen or moss, probably the Gymnostomum fasciculare, a moss common in the Holy Land. The Hyssop (Esob) so often mentioned in the Scriptures is doubtless Hyssopus officinalis.

HYSSOPE, FR. Hyssopus officinalis.

HYSSOPUS OFFICINALIS.—*W.*

Zufaiy yeabus,	AR.	Common hyssop,	ENG.
Zufæ gabis,	„	Hyssope,	FR.
Ushnaz daoud,	„	Isop,	GER.

HYSTASPES. See Persian Kings.

HYSTRICIDÆ a family of mammals of the order Rodentia, as under:

Order RODENTIA, Gnawing-tribe, 4 Fam. 4 Sub-fam.

Fam. SCIURIDÆ, squirrels.
Gen. Sciurus, 28 sp.
„ Mustela, 1 sp.
„ Rhinosciurus, 1 sp.
„ Pteromys, 7. sp.
„ Sciuropterus, 12 sp.
Sub-Fam. ARCTOMYDINÆ. Marmots, 1 g. 2 sp.
Gen. Arctomys, 2 sp.
Fam. MURIDÆ. Rat-tribe. 2 Sub-Fam. 9. Gen. 45 sp.
Sub-Fam. MURINÆ. Rats, Mice, 7 genera.
Gen. Gerbillus, 2 sp.
„ Nesokia, 6 sp.
„ Mus, 23 sp.
„ Leggada, 4 sp.
„ Platacanthomys, 1 sp.
„ Golunda, 2 sp.
„ Rhyzomys, 5 sp.
Sub-Fam. ARVICOLINÆ. Voles, &c. 2 Gen. 2 sp.
Gen. Arvicola, 1 sp.
„ Neodon, 1 sp.
Fam. HYSTRICIDÆ. 1 Sub-Fam. 2 Gen. 4 sp.
Sub-Fam. HYSTRICINÆ. Porcupines. 2 Gen. 4 sp. viz.
Gen. Hystrix, 3 sp.
„ Atherura, 1 sp.
Fam. LEPORIDÆ. Hares. 2 Gen. 10 sp. viz.
Gen. Lepus, 7 sp.
„ Lagomys, 3 sp.

The Sub-family Hystricinæ, embraces the animals familiarly known as Porcupines, of the genus Hystrix of *Linnæus*. They are Rodents whose covering consists, for the most part, of offensive and defensive armour, in the shape of spines or quills, instead of hairs. Colonel Sykes described the Hystrix leucurus (Sayal of the Mahrattas), as Hystrix canda-alba It is nearly a third larger than the European species. All the spines and open tubes of the tail are entirely white, which is not the case in Hystrix cristata. The spines of the crest also are so long as to reach the insertion of the tail. The ears are much less rounded, and the nails are shorter, infinitely deeper, and more compressed, and with deep channels below. The white gular band is more marked; and the Asiatic species is totally destitute of hair —spines, where wanting, being replaced by strong bristles even down to the nails. Mr. Hodgson notes this species among the Mammalia of Nepaul, as inhabiting the Central and Lower regions. The small porcupine of the Tenasserim Provinces, does not appear to have been discovered in Arracan. According to native description, it best accords with the small species described by Hodgson, as H. alophas.

Hystrix bengalensis.—Blyth.

H. Malabarica, SCLATER. | Bengal porcupine, ENG.

This is smaller than H. leucurus, the head and body being about 28 inches, and tail 8 inches. It is found in South Malabar, lower Bengal, Assam and Arakan, doubts however exist as to the identity of H. bengalensis and H. Malabarica. Dr. Day states that he procured specimens of the orange porcupine from various parts of the ghats of Cochin and Travancore, and that the flesh of this kind is more highly esteemed for food than the common variety. The Native sportsmen declare that the aroma from these burrows is quite sufficient to distinguish the two species.—*Jerdon, Mammals*, p. 220.

Hystrix leucura.—Sykes.

H. hirsuti-rostris, BRANDT. | H. zeylanensis, BLYTH.
H. cristata Indica, GRAY. |

Sajru,	BENG.	Sahi, Sayal, Sarsel,	HIND.
Yed,	CAN.	Salendra,	MAHR.
Indian porcupine.	ENG.	Dumsi,	NEPAL.
Saori,	GUZ.	Yeddu Pandi,	TEL.
Hoigu,	GONDI.		

The white tailed or Indian porcupine is found over a great part of India, it forms extensive burrows, often in societies, in the sides of hills, banks of rivers, nullahs and tanks, or old mud walls. Its length is about 32 inches, tail 7 inches. In some parts of the country, they never issue forth till dark, dogs take up the scent readily. The porcupine charges forwards on its assailants, with erected spine, and dogs frequently get severe wounds, the strong spines being driven deeply into them. The meat of the porcupine is white, tasting something between pork and veal, and is not bad eating.

Hystrix longicauda.—Marsden.

H. alophus, HODGSON. | Acanthion Javanicum, F. CUV.
H. Hodgsonii, GRAY. |

Crestless porcupine,	ENG.	Sathung of the	LEPCHA.
O'e	of the LIMBU.	Achotia dumsi,	NEPAL.

The crestless porcupine is found in Sikkim, in Nepal, at Darjeling, up to 4,000 and 5,000 feet in the Eastern Himalaya, it is about 24 inches long, tail 4 inches and quills $5\frac{1}{2}$ inches. They are very numerous and very mischievous, committing great depredations in the edible root crops.

Atherura, a genus of mammals of the family Hystricidæ, and sub-family hystricinæ. Only one species of Atherura is known in India, viz., A. fasciculata, of the Tipperah hills and thence southwards to the Malay peninsula. The tail is much longer than in the true porcupines and ends in a tuft of long bristles and the spines of the

back are less elevated.—*Jerdon, Mammals. Mason's Tenasserim : Zool. Proc.* 1830-1831, 1834 quoted in *Eng. Cyc.* p. 218-222.

HYTA-BASHI, a leader of the Hyta troops. The Hyta or Bashi-Bazouk are Turkish irregular cavalry, called Hyta along the valley of the Tigris and at Mosul, and Bashi-bazouk in Roumelia and Anatolia. They are collected from all classes and provinces. A man, known for his courage and daring, is named Hyta-Bashi, or chief of the Hyta, and is furnished with tazkara or orders for pay and provisions for so many horsemen, from four or five hundred to a thousand or more. He collects all the vagrants and freebooters he can find to make up his number. They find their own arms and horses, although sometimes they are furnished by the Hyta-Bashi, who deducts a part of their pay until he reimburses himself. The best Hyta are Albanians and Lazes, and they form a very effective body of irregular cavalry. Their pay at Mosul is small, amounting to about eight shillings a month; they are quartered on the villages, and are the terror of the inhabitants, whom they plunder and ill-treat as they think fit. When a Hyta-Bashi has established a reputation for himself, his followers are numerous and devoted. He wanders about the provinces, and like a condottiere of the middle ages, sells his services, and those of his troops.

HYUN-DES. Amongst the hindus of the Cis Himalayas, Hima-des, Sansc. means Snow country. See Hundes.

I.

This letter of the English alphabet has, in England, four sounds. As an initial and medial letter, it has a long sound as in iron, fine, isinglass: a second is short and acute as in "sit" "infant" indigent; a third sound is that of the letter "u," as in "stir;" and the fourth sound is close and slender, though long, like "ee," as in "fatigue," "intrigue." The three first sounds are peculiar to the English language, but the last long sound, as of "ee," is represented in all the tongues of the South East of Asia.

IANTHINA, the violet snail, a genus of molluscs, of the family Haliotidæ. There are six recent species, widely distributed in the four quarters of the globe. They are seen floating on the ocean but are often driven on the shores by tempests. The beach at Madras is strewn with them after a gale. The Ianthina has occurred on the coasts of Britain, but there is reason for thinking that it is not to be found in very cold latitudes. In warm climates it is very plentiful.—*Eng. Cyc. Vol. III, p.* 299.

IARVINI, TAM. ?

Yarvaney... ... .TAM. | Crawn.. .DUT. & PORT.

A Ceylon tree which grows tall and straight, from twenty to forty-five feet high, and from twelve to thirty inches in diameter. It may be obtained in great quantities, and answers many purposes in ship and house work.—*Edye, on the Timber of Ceylon.*

IAYAPALA, CAN. Croton seed.

IBERIA, this ancient kingdom is the modern province of Kartelania in Georgia. Ptolemy describes it as bordered on the north by the Sarmatian mountains; to the south by a part of Armenia; to the east, by Albania, and to the west by Colchis the present Immeretia. He mentions many of its towns and villages. Strabo who travelled in these countries, speaks of this being a flourishing and even luxurious state. In the western emigration, the Iberians and Cantabrians preceded the Celts, and their language is preserved in the Basque (Biscayan).—*Porter's Travels, Vol. I. p.* 110. *Latham in Brit. Assoc. Journ.* 1845, *p.* 77 and 78.

IBERIS, Candy tuft. One of the Cruciferæ. Grows wild in England: named Iberis from Iberia, or Spain; easily grown from seed. Its colours are pink and white, and it blossoms towards the close of the rains.—*Riddell.*

IBEX. This name is given, in India, to several animals of the genus Capra or goat. Capra ibex Himalayana *Blyth*, is the Himalayan Ibex the Skeen, Skyn, Sakeen or Sikeen of the Himalaya, the Kyl of Kashmir. These are the names of the male, that of the female, in Thibet, is L'damuo. It inhabits Ladakh and Kashmir. A wild species called "passeng" by the Persians, and which belongs to the genus Ægagrus, occurs in middle and North Asia.

IBHARAN-KUSHA, BENG. Andropogon iwarancusa.

IBI-GAMIN, a glacier in Eastern Thibet, in height 22,260 feet English=20,886 French feet.

IBIS, a familiar name, applied to species of the Falcinellus genus of birds belonging to the Family Ardeadæ, sub-family Tantalinæ. One species occurs in India, the Falcinellus igneus ('Ibis falcinellus; or Glossy Ibis' of Europe, Asia, Africa, N. and S. America, Australia and very common in India. See Birds.

IBLIS AR, the devil.

IBN BATUTA was born at Tangier, on the 24th February 1304. He started in the year of the Hijira 725, A. D. 1324, from his native city, Tangier, at the age of twenty, twenty-two or twenty-three, but some say 28, and for thirty years continued with unwearied diligence travelling about in different countries. His name and title are at length, Sheikh Abu Abdallah Mahomed Ibn Abdallah al Lawati al Taudii. He travelled in India from 1324-1353. On his way to India, he visited Shiraz. After passing Kunduz and Baghlan he arrived at Andar (Andarab), where he says a city formerly existed which had altogether disappeared. Starting for the Hindu Kush (the name which he uses) they met with hot springs in which he washed, and lost the skin of his face in consequence. These were no doubt the hot springs of Sirab, near where the Passes of Tul and Khawak diverge in the upper valley of Anderab, and which are mentioned by Wood as having temperatures of 108° and 124° *Fahr.* (*Journey, p.* 413.) He then arrived at the mountain of Pashai. The Pashai race are mentioned repeatedly by Leech as one of the most numerous tribes in the Panjshir valley and adjoining passes. These are supposed to be mahomedans, but as the name is mentioned also by Elphinstone as that of one of the Kafir tribes, part of them in the mountains may have retained their heathenism and independence. He then reaches Parwan and Charkh (Chirekar) which Leech also calls Chark.) In Delhi he acted for a time as one of the magistrates. He wrote a history of his travels, and gives a historical retrospect extending from the first conquest of Delhi by the mahomedans under

Kutb-ud-deen Aibek in 1188 to the accession of the then reigning sovereign Sultan Mahomed, son of Toghlaq, 1325. He quitted Delhi, in the year of the Higira 743 (A. D. 1342) as one of the ambassadors to China, passing through Dowlutabad, Goa, and Honore to Calicut, where the Chinese Junks awaited the embassy. But after his embarkation, he was shipwrecked and then, determining to resume his wanderings, set sail for Honore (Honavar) visiting the Maldives (Zabiyah ul Mohli) in his route, also Ceylon where he landed in 1347, thence he visited Sumatra.—*Ind. in 15th Cent. Tr. of Hind. VII. p.* 215. *Yule Cathay, II. p.* 595, 597.

IBN HAUKAL. An Arab traveller who visited India, a short time after Masudi. He wrote the Ashkal-ul-Balad to which he also gave the name of Kitab-ul-Masalik-o-ul-Mamalik, or descriptions of countries, in which occur notices of most of the mahomedan kingdoms of his day. His real name was Mahomed Abu-l-Kasim, and he was a native of Baghdad. He left Baghdad A. D. 943 (A. H. 331) and he continued travelling till A. D. 976. He notices his obligations to Ibn Khurdadbha, and he copied likewise from Istakhri.—*Ind. in 15th Cent. Elliot Hist. of India.* See Kelat p. 496.

IBN KHURDAD-BHA, died A. D. 912 (A. H. 300) wrote a work on roads and kingdoms. He attained high office under the Khalifs.—*Elliot.*

IBRAHIM, founder of the Roushenai sect of Mahomedans, died at Cairo 1529.

IBRAHIMI, a town near the river Kashfud, which rises in the mountains of Siah-bund and flows towards Koh-i-duzdan, a village between Washeer and Ibrahimi.

IBRAHIM KHAN of Gour had 7,000 families of Taymuni under his rule; but, about the year 1838, Yar Mahomed of Herat completely devastated the country which they occupied and removed them to Herat, where he established some of them in the city and some in the suburbs. In 1846, however, they took advantage of Yar Mahomed's absence on the Murghab to decamp into the Persian territory.

IBRAHIM LODI, king of Delhi was defeated at Paniput by Baber.

IBRAHIM PASHA, son or adopted son of Mahomed Ali.

IBRAHIM QUTUB SHAH, one of the Qutub shahi dynasty of kings, who ruled at Golcondah near Hyderabad A. D. 1557. He is buried there and a large cupola covers the tomb.

ICE.

Yakh, Gus. Hind. often termed Burf (snow) Pers.

In many countries, the command of a proper supply of ice or snow for cooling water or other liquids in summer has long been regarded as one of the necessaries of life. And so ancient is the practice, that we even find allusions to it in the Proverbs of Solomon.—"As the cold of snow in the time of harvest, so is a faithful messenger to them that send him; for he refresheth the soul of his masters." xxv. 13. Of late years, ice has become an article of commerce between countries where it is found in abundance, and those where it is found scantily or not at all. The place where this remarkable traffic commenced, is Wenham Lake, about 18 miles from Boston, in the United States of America; and subsequently, some of the Norwegian lakes have furnished abundant supplies. After the Wenham Lake Company was formed, in September, 1833, a cargo of ice shipped at Boston, was discharged at Calcutta, and sold at 3*d.* per lb. It was packed in large cubes, fitting closely together so as to form one solid mass, within chambers of double planking with a layer of well-dried refuse tan, or bark, between them. The quantity shipped, was 180 tons, of which about 60 wasted on the voyage, and 20 on the passage up the river to Calcutta. Thousands of tons are now annually shipped from Boston to the East and West Indies, and to South America. Wenham lake occupies an elevated position and lies embosomed in ragged hills. The lake has no outlet, but is fed by the springs which issue from the rocks at its bottom, at a depth of 200 feet, the cutting, storing, and transportation of the ice is regularly carried on throughout the winter. The ice-house, which is capable of storing 20,000 tons of ice, is built of wood, with double walls 2 feet apart all round, the intervening space being filled with sawdust. The machinery used for cutting the ice is worked by men and horses. From the time when the ice first forms, it is kept free from snow until it is thick enough to be cut; the cutting being commenced when the ice is a foot thick. A surface of some 2 acres is then selected, which, at that thickness, will furnish about 2,000 tons and a straight line is then drawn through its centre from side to side each way. A small hand-plough is pushed along one of these lines, until the groove is about 3 inches deep and ½ inch wide, when the marker is introduced. This implement is drawn by 2 horses, and makes 2 new grooves parallel with the first, 21 inches apart, the gauge remaining in the original groove. The marker is then shifted to the outside groove, and makes 2 more. Having drawn these lines over the whole surface in one direction the same process is repeated in a transverse direction, marking all the ice out into squares of 21 inches. Meanwhile the plough drawn by a single horse follows in

these grooves, and cuts the ice to a depth of 6 inches. One entire range of blocks is then sawn out, and the remainder are split off toward the opening thus made with an iron wedge, called an ice spade; when it is dropped into the groove the block splits off with a very slight blow, especially in very cold weather; the labour of spliting being slight or otherwise according to the temperature of the air. Low platforms are placed near the opening made in the ice with iron slides extending into the water, and a man stands on each side of a slide armed with an ice hook, with which he catches the ice, and by a sudden jerk throws it up the slide upon the platform. In a cold day everything is quickly covered with ice by the freezing of the water on the platforms, slides, &c. and the huge blocks of ice, some of which weigh more than 2 cwt. each, are hurled along these slippery surfaces with great ease. By the side of the platform is a sledge of the same height, capable of containing about 3 tons, which when filled, is drawn over the ice to the front of the store-house, where a large stationary platform of the same height is ready to receive its load, which as soon as discharged, is hoisted a block a time into the house. Forty men, assisted by 12 horses, will cut and stow away 400 tons a day. Sometimes in favourable weather 100 men are employed at once. When a thaw or fall of rain occurs, the ice is made porous and opaque and unfitted for the market: when snow is followed by rain, and that by frost, the snow ice thus formed is removed by the plane. The operation of planing is somewhat similar to that of cutting. A plane guage to run in the groves made by the marker, and which shaves the ice to the depth of 3 inches, is drawn by a horse, until the whole surface of the ice is planed. The chips thus produced are then scraped off, and if the clear ice is not reached the process is repeated. If this make the ice too thin for cutting, it is left until a few nights of hard frost shall have added below as much as was removed from above. In addition to filling their ice-houses at the lake and in the large towns, the ice-company fill a large number of private ice-houses during the winter; all the ice for these purposes being transported by railway. The production of ice artificially was carried on in India, prior to the receipt of this substance from America. In the upper country, near the town of Hoogly, about 40 miles from Calcutta, by a skilful application of the process of evaporation the natives are able to procure a supply of ice during their short winter, viz. from the end of November to the middle of February. The ground where the ice was made was a large open plane: 3 or 4 troughs are formed, each about 120 feet in length by 20 feet in width and 2 feet in depth: the bottom is made smooth and allowed to dry by exposure to the sun. It is covered with bundles of rice straw to the depth of about a foot, and then loose straw is strewed in, to within 6 inches of the adjoining land. The water to be frozen was contained in pans of unglazed porous earthenware, very much like those put under garden flower-pots, and these were arranged in regular order close to each other upon the loose straw in rows to the number of 5 or 6,000. The natives filled the pans with soft water by means of small earthen pots, attached to the end of bamboo-rods, long enough to reach half way across the trough. The water was taken from large water jars sunk deep in the ground near the pits where the ice was stored, and filled from the neighbouring pools or with drainings from the ice. The quantity of water poured into each pan varied from $\frac{1}{2}$ to $\frac{1}{4}$ of a pint, depending upon the clearness of the sky and the steadiness of the wind. The most favorable wind is from the N.N.W. but any point between N. and W. will do, although less ice is produced. If the wind blew between E. and S. no ice will be formed. The ice which begins to appear a little before midnight, was carefully watched by persons stationed near each trough. As soon as a slight film of ice appears, the contents of several pans were mixed together, and the freezing liquid sprinkled over the others. The freezing continues till sunrise, when perhaps as much as half an inch of ice was found in each pan. In very favourable nights the water is entirely frozen. The ice was generally removed by women, 7 or 8 of whom were appointed to each ice-bed: they used a blunt semi-circular knife to scoop out the ice, which they threw together with any unfrozen water into earthen vessels placed near them. When these were full their contents were poured into conical baskets, placed over the large waterjars from which the pans were filled; by which means a supply of cool water is collected for the next night's operations. When the ice has been sufficiently drained, it was deposited in wells near the ice-beds; and at night removed to large circular pits lined with mats, and covered over with a straw shed. The heat of the day, even in the ice-making season, is frequently greater than that of the hottest summer days of England, so that after all precautions, a partial thawing went on in the pits. The water thus produced was carried off through holes in the bottom of the pits to a deep well which also served to supply the pans in the ice-bed; thus, throughout the process the cold was economised as much as possible. The ice was conveyed in boats to Calcutta by night. When the weather was coldest it was simply packed in bags; at other times in baskets lined with straw mats, and conveyed to the city

before sunrise. During the hot season, when ice was most needed, it was scarcely possible to preserve it in any quantity, and the first heavy fall of rain usually melted all that was left of the last ice-making season. In Oudh 80 maunds of ice were recently made. Ice is to be had in the mornings of December in the hollows and valleys of Ootacamund. The crust is scarcely half an inch thick, but sufficiently consistent for all freezing purposes. Of the ice used in America and exported only a small part comes from the Wenham Lake but Boston is the great place of export, and the trade is steadily increasing. In 1863 there were exported 71,245 tons, and in 1864 104,856 tons were shipped to the following countries, viz:

Calcutta	7,472	Kingston Jamaica	2,332
Hong Kong	2,381	Barbadoes	1,309
Bombay	3,255	Havannah	8,131
Madras	1,508	St. Thomas	1,282
Cape, Good Hope	300	Other Ports	75,137
Mauritius	1,350		

In 1866, the exports were 1,24,751 tons, most of the block-ice used in Britain is imported from Norway. Mr. Fortune tells us that on the right bank of the Ning-po river, above the town and fort of Chinhae, and in various other parts of the north of China he met with ice-houses. The town of Ning-po stands in the midst of a level plain from twenty to thirty miles across. The ice-houses are built on the sides of the river in the centre of the plain, completely exposed to the sun—clear, fierce and burning, which would try the efficiency of the best English ice-houses. The bottom of the ice-houses is nearly on a level with the surrounding fields, and is generally about twenty yards long, by fourteen broad. The walls which are built of mud and stone, are very thick, twelve feet in height, and are, in fact, a kind of embankment rather than walls, having a door on one side level with the floor, for the removal of ice and a kind of sloping terrace on the other, by which the ice can be thrown into the house: on the top of the walls or embankment a tall span roof is raised, constructed of bamboo, thickly thatched with straw and in appearance exactly like an English hay-stack. This simple structure keeps ice well during the summer months, and under the burning sun of China. Around the house is a small flat level field connected with the river. This field he takes care to flood in winter before the cold weather comes on. The water then freezes and furnishes the necessary supply of ice at the very door. Again, in spring, these same fields are ploughed up and planted with rice, and the water which drains from the bottom of the ice house helps to nourish the young crops here, as in England, when the house is filled the ice is carefully covered up with a thick coating of straw. Thus the Chinaman, with little expense in building his ice-house, and an economical mode of filling it, manages to secure an abundant supply for preserving his fish during the hot summer months. Ice is of great importance to the Chinese, who depend much for their food upon the fish which is caught in their waters. They are enabled by its means to keep their fish during the hottest weather for a considerable time and transmit them in this way to different parts of the country. Ice is now largely made in India by machines. The Peninsular and Oriental Ice Company at Bombay can make five tons daily at a cost of five pie the lb. Private manufacturers sell it at two annas a lb. at a profit. The smaller machines turn it out in cylinders, the larger machines in slabs. But only the very well to do Europeans purchase it. On the recommendation of Colonel Balfour, C. B., the Indian Government sanctioned an ice-machine value Rs. 7,000 for each European regiment, but regiments have not used them. The price of a full sized machine capable of turning out one hundred seers in the hour, is 20,000 Rupees and the total cost per seer does not exceed one anna. There are also smaller machines equal to the production of twenty-five seers in the hour, and which cost no more than 7,000 rupees, but the expense of working them—though trifling in either case—is very nearly the same as with those of greater power.—*Tomlinson*; *Neilgherry Star*, *December* 25; *Illustrated London News*; *Fortune's Residence*.

ICELAND MOSS. This is a lichen (*Cetraria Islandica*), common in the north of Europe and North America. It yields a nutritive starchy substance, sometimes employed to make bread and gruel.—*Waterston*; *Faulkner*.

ICELAND SPAR. Surmah Safed of Kabul. This mineral, a variety of calcareous spar, is found in rocks near Kabul, and is extracted and broken into crystalline rhombohedral fragments, more or less opaque. It is employed by the natives as an astringent in ophthalmia, gonorrhœa, and other fluxes, in doses, internally, of 7 grains, and also externally as a local application. It is called Surma Safed, or white antimony, from being thought to be similar to black antimony, the common tersulphide of that metal. Price 3*d*. per lb.—*Cat. Ex.* 1862.

ICHNEUMON, a genus of insects, which deposit their ova in the bodies of larvæ. They belong to the order "Hymenoptera," section "Terebrantia" and family "Pupivora" in the classification of Latreille. The ichneumon with its ovipositor pierces the bodies of other insects and deposits its ova within their bodies,

where the larvæ are parisitic. The Ichneumon forms small nests of clay into which they deposit the infected insect, *Eng. Cyc.*

ICHNEUMON of the Egyptians, is the Herpestes ichneumon, a quadruped celebrated for destroying serpents and crocodiles. It was also called Ichneumon Pharaonis. There are several species of Herpestes in India called Mongoose, H. javanicus of Java and Sumatra, H. griseus, Geoff. of continental India and neighbouring countries; H. Nipalensis, Gray, of Nepal, and H. neyula, Hodgs. of the Terai.

ICHNOCARPUS, a genus of plants, belonging to the order Apocynaceæ, I. fragrans, Wall, is grown in Nepaul and Kumaon. It has large handsome flowers, I. Loureirii is a native of Zanzibar. All the species of *Ichnocarpus* grow well in a mixture of loam, peat and sand, and cuttings strike readily in sand under a hand-glass. *Don, Dichlamydeous Plants*; *Lindley, Flora Medica.*

ICHNOCARPUS FRUTESCENS, *R. Br. W. Ic.*

Echites frutescens.—*Roxb.*
Apocynum frutescens.—*Linn.*

Shyama luta ... ...Beng.	Nalla Tige..... Tel.
Pal-Vulli.....Maleal.	Illukatte..... „
Nalla tiga... .....Tel.	Munta gajjanamu .. „

Grows all over India. According to Royle, sometimes used in India as a substitute for sarsaparilla.—Price 12 annas per lb.—*O'Shaugnessy, page* 442. *Cal. Cat. Ex.* 1862.

I-CHOW or AI-CHOW. Two islands in the Canton River in lat. 22° 2½, N. and long. 113° 54′ E.—*Horsf.*

ICHTHUS, Gr. a fish.

ICHTHYAETUS, a genus of birds, the species of which are now transferred to the genera Haliætus and Polioætus.

ICHTHYOCOLLA, a name derived from ιχθυς a fish, and κογγα glue, is translated Isinglass, a word derived from the German *Hausenblase*, from *hausen*, the great sturgeon, and *blase*, a bladder, being one of the coats of the swimming-bladder of fishes, chiefly of the genus Acipenser, or Sturgeon, and of which the best qualities are exported from the rivers of Russia, flowing into the Black and Caspian Seas, but also from the Sea of Aral, and the Lake Baikal. Isinglass is also exported from Brazil, and likewise from India. Of late the quality of this has been much improved. 92·8 per cent. of Gelatine.—*Royle.* See Air-bladder; Fish-maws; Isinglass. Sounds.

ICHTHYOLOGY. A branch of science so called which comprehends a knowledge of the structure, nature, and forms of Fishes. See Fishes.

ICHTHYOPHIS GLUTINOSUS, an immense earth worm, common in Sikkim. It is a native of the Khasia Mountains, Singapore, Ceylon and Java.—*Hooker Him. Jour. Vol. II. p.* 25.

ICICA INDICA, *W. & A.*

Bursera serrata, *Wall.*	Schinus Saheria, *H. B.*
Schinus Bengalensis, *Herb. H. B.*	„ Niara „

Nayor Beng.

A tree of Assam and Chittagong, growing 70 feet high; its timber is close grained and hard, as tough as oak, but heavier, and used for furniture by the natives.—*Voigt.*

ICTIDES. See Mamalia; Paradoxurus.

IDAAN, called also Meroot, a race in Borneo, who inhabit the more hilly districts towards the north, in the vicinity of Kina Balou. They resemble the Kadyan; and some of their tribes who are near the capital are compelled to plant pepper and collect the produce. They appear anxious for an intercourse with Europeans: they are said to sacrifice human victims, like the Kyans. The Idaan, of different places, go under different denominations and have different languages, but in their manners and customs they seem to be nearly alike.

The name "Idaan" is, in some measure, peculiar to those of the north part of Borneo; the inland people of Passir are called Darat; those of Benjar, Biajoos, the Subano of Magindanao appear to be the same people; perhaps, where the aborigines, in the several islands of the Oriental Polynesia are not negroes, they are little different from the Idaan of Borneo. The Idaan are reckoned fairer than the inhabitants of the coast, this has given rise to an opinion, seemingly wholly unfounded, that they are the descendants of the Chinese; the custom obtains of arranging human skulls about the houses of the Idaan, as a mark of affluence.—*Journal of the Indian Archipelago, No. IV. Sepr.* 1849, *p.* 557.

IDA CHETTU, Tel. Citrus aurantium, L. a very small var. of orange, growing in all the hilly country of the Circars both cultivated and wild. Perhaps the original of the Citrus aurantium? C. variatro, *Heyne* 57; musk orange. Ch'hota Kichli Hind. Kiri kittali, Can.—*Fl. Andh.*

IDAIYAN, Tam. Cow-keeper.

IDANKAI, Tam. Left hand caste. See Edakai.

IDIGA, Karn. A caste who sells toddy, the fermented palm wine, &c. also employed as Palankin bearers.—*Wils.*

IDOL, Eng.

Vigraham.. .....Tam.	Vigram... ... .Tel.
Salai..... „	Prattima... ..... „
Vikramu... ... ...Tel.	But.....Hind. Pers.

Idols are treated of in scripture in Isaiah xli. 24; Isaiah xlv. 1; Jeremiah x; Cor. viii. 4.

The idols of the hindus are made of metal; gold, silver, and copper and their alloys; one of frequent use being that called "panchalaka" of gold, silver, copper, tin and lead: but stone, earth, cowdung and wood are often also employed, the red saunders wood and the woods of the Cupressus torulosa, Macrotomia euchroma and Melia azedarach. Many of the idols in India are monsters, many are mere shapeless masses of stone with a smearing of red lead or a log of wood without shape or form, or a stone from the river bed, others, like the bull "Nandi" or Basava, the vahan of Siva are beautifully formed models of that quadruped. The forms of the cobra serpent are usually well pourtrayed, also of the peacock in the Saiva temples. The horse is formed of wood, plated with silver and gilded; occasionally well made figures of the elephant are to be seen. Every hindoo house has, at least, a picture; many have idols and every man of the Vira Saiva or Jungum sect, of whom there are many millions in India, always wears the lingum in a silver or gold casket, suspended from his neck or tied round his arm. The lingum inside is a small stone cylinder imbedded in the Yoni. The ordinary lingum, of which there are millions in India, is a stone cylinder rising from the yoni, a stone platform marked with circular markings; usually in front of it is a figure of the bull Nandi in stone. Ganapati or Ganesa with the head of an elephant and the body of a fat man is an idol frequently to be seen. As the god of wisdom he is worshipped at the beginning of every undertaking, by almost every hindu; when a hindu boy or girl begins to read, they make a Ganesa in the form of a small cone of cowdung which they place on a purified spot, and ornament with flowers and naragam and red kunganoo, and offer a sacrifice by burning camphor and frankincense, also offering betelnuts and plantains, cocoanuts and jaggery, then bow reverentially and pray for the god's aid. The pyramidal figure is then kept for a time or thrown into the water.

In a temple the hindu idols are kept in the centre of the temple, called "sanadi." Daily the brahman servants anoint it with oil, cleanse it with sekaia, wash it with water, then with curds, milk, lime juice and honey, and cocoanut water. The dancing girls of the temple, the deva dasi, dance and sing to music morning and evening. Occasionally, on certain festivals, the idol is taken from the temple in a palanquin or on a car and made to perambulate the square of the streets.

A case was heard at the Calcutta Small Cause Court. An old lady sued for Rs. 500 as compensation for an idol which a man, whom she had adopted as her godson, had taken from her. The defendant was making Rs. 1,000 a year profit from the idol. The woman declared that she was out of her senses with grief. "I have no children. I want my bones back. I have been crying like this for five years. I am starving, and by crying I have become so thin." She was non-suited and referred to the High Court. On being removed from the Court, she tossed her arms in the air and cried out—"Let the world go on; Let the world go on, as it is going on. Have reliance in God."

The Jain idols are usually naked figures of men and women, of gigantic proportions, often erect but in every attitude. The buddhist idol is usually Buddha or Gaudama, reclining, or sitting in the attitude of preaching. Some of the figures of Gaudama at the great Shooay dagon temple at Rangoon are of vast dimensions. See Avatar; Bull; Ganesa; Hindu Images; Lingam; Siva; Vishnu; Yoni.

ID US ZOHA, Arab. Also called Bakrid, a mahomedan festival. See Bakrid: Eed.

IGHIR, Ar. Acorus calamus.—*Linn.*

IGNATIA AMARA.—*Linn.* Papeta, Hind.

IGNIS, Lat. Fire, see Agni.

IGRUSHKI, Rus. Toys.

IGUANA, the popular name for species of reptiles of the genus Varanus, family Varanidæ, order Sauria, of the section of scaled reptiles. Baron Cuvier classed them under his "Iguaniens," others have arranged them under the Agamidæ. Varanus flavescens. (*Gray,*) inhabits Bengal: V. dracæna, (*Linn.*) Bengal and Agra, and also V. nebulosus.—*Dum et Bib.*

The Basilisk of the Eastern Archipelago is the Basaliscus amboiensis, (*Daudin,*) one of the Iguanidæ. Messrs. Dumeril and Bibron, in their 'Erpetologie' (1837), treat of these reptiles under the name of Lizards Iguaniens, or Sauriens Eunotes. In 'the catalogue of the specimens of Lizards in the British Museum, the Iguanidæ with the Agamidæ constitute the tribe Strobilosaura.

IGUANA, (Varanus Dumerilii,) attains a length of 7 feet, it frequents the neighbourhood of houses, to rob hen roosts. Species of the family Agamidæ, having pores on the inner surface of the thighs, are the Leiolepis reevesii (A. guttata of M. Cuvier) of Cochin-China, with white rays and spots on a bright blue ground. The Physignathos (A cocincinus) from the Malayan Peninsula is remarkable for its large size, uniform blue colour and is one of the very few species of saurian reptiles, which feed upon vegetable substances. Baron Cuvier assures us that it lives entirely upon fruits and nuts. A. calotes, of a bright blue colour with transverse white marks on the sides is found in the Moluccs Islands. The Lophyrus (A. gigantea,

Kuhli, with a crest of long elevated spines on the neck; and the Lyriocephalus (*A. scutata*) which has a similar elevated crest along the back, and the tail keelshaped. This latter species, in many respects a most singular reptile, inhabits Bengal, and lives upon fruits.—*Eng. Cyc. p.* 87.

IHRAM, Ar. The dress worn by mahomedan pilgrims at Mecca.

IJADI GADDA, or Ijedi-Gadda. Tel. The Stemonia of *Lour*, also Roxburghia gloriosoides.—*Dryander. Roxb. ii.* 234.

IJAU, a feeder of the river Krian, in Malacca. See Semang.

IJJUL, Hind. Barringtonia acutangula. *Gaertn.*

IJU, Av. Also written Eju, the horse hair-like substance, which grows on the Gomuto tree, the Arenga saccharifera.—*Labill.* This substance is also called Gomuto; part of it is a stiff bristle but the bulk more resembles horse hair and it is largely made into cordage. See Gomuto, Arenga sacharifera.

IKAN, Malay. A fish, any fish; also a crab. The word is always prefixed to the specific name of the fish, as ikan bawal, the pomfret, tulor-ikan, fish-roe; sirip-ikan, fish-fins; sisek-ikan, fish scales.—*Cantor. Simmonds.*

IKAN DORI. A small dark-coloured fish, of about a pound weight. Great caution is necessary in handling it, because it is armed with poisonous spikes under the pectoral and dorsal fins, the wounds from which are extremely painful. It is not much esteemed.—*Mr. Earl, p.* 195.

IKAN MIMI, Jav. The King-Crab.

IKAN SALADU, and Ikan Surdudu; Malay. Arius Arius.—*Buch. Ham.*

IKAROON, Ar. Acorus calamus.—*Linn.*

IKH, Sans. Sugarcane.

IKKHOO, Beng. Sugar-cane, Saccharum cucullata.

IKL-BIR. Datisca cannabina.

IKRA, Rus. Caviare.

IKSHUGANDHA, Sans. Asteracantha longifolia. Nees.

IKSHURA, Hind. Asteracantha longifolia, Nees.

IKSHWA'CU. The first king in the Solar line, who, according to hindoo legends, reigned at the commencement of the Treatu yug. He was the son of the 7th Menu, or patriarch, the offspring of the sun. His posterity was called, in consequence, the dynasty of the solar princes, in the same manner as Buddha was reputed the head of the Lunar line. Modern commentators bring the time of his accession down to the year 1320 before Christ. A passage in the *Agni Poorana* indicates that the line of Soorya, of which Ikshwacu was the head, was the first colony which entered India from Central Asia. But the patriarch budd'ha was his contemporary, he being stated to have come from a distant region, and to have been married to Ella, the sister of Ikshwacu. Amongst the Arian hindus, the chaitrya was a warrior branch taking social rank after the hindu brahmins. Manu writing of their duties says "to defend the people, to give alms, to sacrifice, to read the Vedas, to shun the allurements of sexual gratification are in a few words the duties of a Chatriya. How this soldier branch broke up is extremely obscure, but it is generally supposed that none of the races now in India can trace their lineage to that tribe of Aryans though most of the Rajput families doubtless belong to them. Their quarrels amongst themselves seem to have led to their own destruction. There seem to have been two branches of the Chaitrya tribe, the Solar who traced up to Ikshwaku and the Lunar who traced up to Budha, who married Ila or Ella, daughter of Ikshwaku. These Chaitrya soldiers do not appear to have adopted brahminism readily, and the brahmins to overcome them consecrated by fire, on Mount Aboo, a warrior body who still remain, and are known as the four Agnicula rajput tribes. A common spelling of the word is Kshatriya.—*Warren's Kala Sankalita. Tod's Rajasthan, Vol. I. p.* 84. See Hindoo; Suryavansa.

IL, pronounced also Ilhat, or Iliat, a term applied to the migratory tribes of Persia. See Iliyat.

ILA, sister of Ikshwacu, of the solar race, she was married to Bud'ha of the lunar race, and these were the ancestors of the lunar line of kings. In hindu mythology, budd'ha son of Atri, son of Brahma, was husband of Ila, the earth, daughter of Spatembas. Buddha was Mercury, son of the moon. See Ella; Ikshwa'cu.

ILA or Ilita, mentioned in the Vedas as a goddess, may possibly be the same as the Babylonian goddess Ili or Bilat Ili, queen of gods.

ILACHI, Hind. A generic term for several plants producing cardamom, viz.

Elletaria cardamomum, *Maton.* syn. of Amomum cardamomum.

Alpinia nutans.—*Roscoe.*

Ilachi-bari. Hind. or Ilachi-kalan, Amomum dealbatum or A. cardamomum.

Choti or Khurd ilachi, Elettaria cardamomum, the small cardamom.

Bari Ilachi is the large rough shelled variety.

ILAH, the name of an old Arabian deity and is more properly and more usually, applied to a pagan god, than to God supreme over all. Hence the mahomedan profession of faith says *La Ilah illa Allah, &c.* which in the ordinary translation of "there is no god but god,"

veys no precise meaning and involves an obvious truism, which Mahomed would never have enunciated. From some passages in the early Indian historians it would appear that they supposed the famous *Somnat* to be the Arabian *Ilah* or *Ilat;* Notices of it occur in the Rouzut-oos-Sufa; Hubeeb-oos-Sair and Ferishta, the passage quoted from Fureed-ood-deen Attar. Sale's Koran, I. 23. 11. 390. Hyde de Rel: Vet: Pers: p. 130. Pococke. Spec: Hist: Arab: 4. 92. 110. Bird's Guzerat, p. 39. D'Herbelot, voce Lat. Al-Makkari Mahomedan Dynasties in Spain, I. 346, and Herod. III.—*Elliot.*

ILAHEE GUZ. Properly Ilahi gaz, HIND, is the standard Guz, or yard, of forty-one fingers, instituted by Akber. After much controversy respecting its length, it was authoritatively declared by Government to be 33 inches long; and the declaration has been attended with considerable convenience to revenue officers, as a Bugha measured by this yard constitutes exactly five-eighths of an acre.— *Elliot.*

ILA KURA, TEL. Salsola Indica, *Willd.* This is occasionally used as a vegetable and being naturally salt, has given rice to the Teling saying, "the carping husband (finding fault without cause) says to his wife, there is no salt in the Ila kura."

ILAM. Said to be the Tamil name of Ceylon and to signify gold, but gold in Tamil is Ponnu.

ILAM, (Elam, corrupt) auction sale.

ILAMBADI, TAM. Corruption of Lambady, the Banjara race so called in the south of India.

"ILA-PANANKI JANGU MAVU," TEL. A farina, obtained from this root by treating it the same as in manufacturing manioc. It is very nourishing.

ILETADI MARAVARA, MALEAL. Scindapsus pertusus.—*Schott.*

ILEX. A genus of plants of which Dr. Wight mentions I. Gardneriana and I. Wightiana. Mr Thwaites mentions, as growing in Ceylon, I. denticulata, a large, and I. Walkeri, a small tree. Mr. Hodgson, in his "Nagasaki" mentions eight species in Japan, viz. crenata, *Thbg.* microphylla, *Bl.* integra, *Thbg.* latifolia, *Thbg.* rotunda, *Thbg.* serrata, *Thbg.* aquifolium, L. var. heterophylla. See Evergreens.

ILEX DENTICULATA. WALLICH is a large tree growing in Ceylon, on the Bopatalawa plains at an elevation of 6,000 feet.

ILEX DIPYRÆNA is common at Mussooree and everywhere in the Himalayas. It bears a very close resemblance to the holly, especially in November and December, when it is covered with clusters of scarlet berries.

ILEX JAPONICA, *Thunb.* Syn. of Berberis nepalensis.—*Spr.*

ILEX SERRATA. A lofty species found in Mussooree, and I. excelsa in Nipal.—*Royle, Illust p.* 167. *O'Shaughnessy, page* 272.

ILEX WALKERI, *Wight. Gardn.* Is a small tree in the Central Province of Ceylon, growing at an elevation of 5,000 to 8,000 feet.

ILEX WIGHTIANA, *Wall.* Is a large umbrageous tree with small white flowers and red berries growing in the Neilgherries and in the southern and central parts of the island of Ceylon up to an elevation of 4,000 feet.—*Thw. Enum. pl. Zeyl. p.* 183.

ILI. MALEAL. Bambusa spinosa.

ILI, a valley and town in Central Asia, from which Lassen supposes the Szu Tartars were expelled by the Yue-tchi or White Huns B. C. 150. The Szu Tartars he supposes to be the Sacæ and the Yue-Tchi to be the Tochari. After occupying Tahia or Sogdiana for a time, they are stated by the Chinese to have been driven thence, also, by the Yengar, some years afterwards, and to have established themselves in Kipen, in which name Lassen recognises the Kophen valley in the Kohistan. The great Kirghis horde is adjacent to Ili and Tarbagatai. It is under the dominion of China and exchanges large quantities of cattle on the frontier for silk goods. See Kabul, p. 434.—*Kirghis.*

ILIPI, TAM. Bassia longifolia.

ILIYAT are the wandering, nomade tribes of Persia, who live in tents and have no settled habitation. They are mostly of Toork, Arab and Koord descent, and comprise a very large portion of the population of the country, though their actual numbers are not well known. They are mahomedans of the Sunni sect and herdsmen. They change their places of encampment with the season and climate, going in the summer to the Yeilauk or quarters where pasturage and water are to be found in abundance; and when the cold of winter sets in, adjourning to the kishlauk or warmer region, in which their flocks and herds, as well as themselves, are better sheltered. In each province of Persia, there are two chiefs acknowledged by all the tribes who roam in that province. In their conduct and morals, the Iliyat women are vastly superior to those of the towns and settlements. They are chaste and correct in their lives, and faithful to their husbands. Many of the best families in Persia are of Iliyat origin. The present royal family is of the Kajar tribe, a Turkish El, which came into Persia with Timur.

The Iliyat are by no means particular in their religious observances: and are not ruled or influenced by the moollah, as townsmen are. They are all, in a greater or less degree, professional robbers some tribes living solely by rapine and plunder; and others resorting only

occasionally, to such means. They have large flocks and herds which they often augment by taking possession of their neighbours. The civilized population hold them in great dread on this account.

The Iliyat families tributary to Khiva were

Yamut	15,000	Kalpak	30,000
Goklan	20,000	Kazzak	40,000
Choodar said to have been brought from the further borders of the Oxus by Mahomed Rahim Khan.	2,000	Ikdar	15,000
		Sarokh	15,000
		Uzbek	40,000
			195,000

—*Frazer.*

The distances that some of these Iliyat tribes have to perform in their annual migrations are really wonderful.

From the southern shores of Fars, the Kashgoi arrive in spring, on the grazing grounds of Isfahan, where they are met by the wandering Bakhtiyari from their warm pastures of Arabistan, near the head of the Persian Gulf. At the approach of winter both the tribes return to their respective Garm Sair.—(*Baron C. A. D. Bode's Travels in Luristan and Arabistan, p.* 256. *Frazer.*)

In the tenth century, they are said to have comprised five hundred thousand families within the province of Pars alone. Although much inferior in numbers, many of the present Iliyat tribes are very considerable, and since the destruction of Rai and the decay of Ispahan, Shiraz, and all the other great cities throughout the empire, they constitute a principal source of population, and the best nursery of its soldiers. Some of their chiefs are men so powerful that the king attaches them to his court by honourable and lucrative employments, or detains them about his person as hostages for the loyalty and good conduct of their respective clans. We find them, as they were eight hundred years ago, unmixed with the Persians who inhabit cities; retaining their pastoral and erratic habits, and using among themselves a dialect different from the language of the country, which, however, most of them can speak and understand. They are an independent and hardy race, inclined to hospitality; Two or three families in little groups, preparing or enjoying their simple meal by the road-side; or proceeding on their journey, the wife carrying one child, two or three others packed in baskets on an ass, which the husband drives, before him, is a usual picture to be seen.

The name Iliyat, is the plural of Iel (Eel) a tribe, equivalent to the Arabic kabilah. Often on approaching an Iliyat encampment the stranger is met by the women of the tribe, who burn aromatic herbs in honor of the guest, and as a token that he is welcome to their hearth. Mr. Bickmer observed a similar practice among the Chaldeans in Kurdistan. This custom must be very ancient, for we find Ferdausi alluding to it in his description of the early heroic ages of Iran.

The usual drink of the Luristan Iliyat consists of buttermilk weakened with water; a little salt is added to it, and it is then called ab-i-dhung. It is generally sour. There is nothing so efficacious for the purpose of slacking thirst on a hot summer's day, as this ab-i-dhung.—*Baron C. A. De Bode's Travels in Luristan and Arabistan, Vol. II. p.* 220. *Ouseley's Travels, Vol. I. p.* 307. *Rich Narrative of a Residence in Kurdistan, &c. Vol.* 1, *chap. VI, p.* 101. *Frazer's Travels.* See Biluchi. Tajik.

IL-KHANI, of Fars is the chief of the Kashgoi tribe.

ILAHABAD, or Allahabad. Immediately before Akber's time, this place was known as Peag or Prag; by him it was denominated, Allahabas, which subsequently became Allahabad. The name is more correctly Ilhabad, or Ilahabad, but the usual practice of writing it is Allahabad. The article coalesces with the substantive in Allah, and represents the "Almighty."—*Elliot.*

ILLANUN. Pirates on the coast of Borneo. See Lanun. Boat.

ILAVANGA, Malbal. Cassia lignea.

ILLECEBRACEÆ. The knot grass tribe of plants, comprises 39 genera. In these 3 species are found in Arabia, 1 in Persia, 1 in China and in continental India, 17 forms have been discovered, viz.

1. Herniaria.	4. Polycarpea.
1. Hapalosia.	2. Drymaria.
1. Illecebrum.	8. Mollugo.

ILLECEBRUM LANATUM.—*Linn.* syn. of Ærua lanata, *Juss.* Achyranthes lanata. *Ainslie.*

ILLECEBRUM SESSILIS syn. of Alternanthera sessilis, *R. Brown.*

ILLECEBRUM VERTICILLATUM, Burm. syn. of Portulaca quadrifida.—*Roxb.*

ILLEPI YENNAI, Tam. Oil of Bassia longifolia.

ILICEACEÆ, the holly tribe of plants, are trees or shrubs, included in 14 genera. Nine species occur in Japan, 1 in China, 16 in continental India, and, with the exception of Monetia tetracantha which grows in the plains of India, all the forms of this order have been found in the Himalaya and Khassya mountains, on the Neilgherries and the mountains about Penang, Moulmein and Singapore. The genera are Asterogyne; Ilex; Macoucoua; Monetia; Prinos. In China, says Mr. Williams, the order Ilicinæ, or holly, furnishes several genera of Rhamnea, whose fruit are often seen on tables. The Zizyphus produces the Chinese date, and the fleshy peduncles of the Hove-

nia are eaten, the latter is quite common in Hongkong. The leaves of the Rhamnus theezans are among the many plants collected by the poorer Chinese, as a substitute for the true tea. The Chinese olive is obtained from the Pimela, but it is a poor substitute for the rich olive of Syria.—*Williams' Middle Kingdom, p.* 283. *Voigt.*

ILLAR BILLAR, HIND. Cocculus leæba.

ILLICIUM, a genus of plants belonging to the order Winteraceæ of Lindley. The order contains four genera and twelve species, shrubs or small trees, one of them, the Illicium anisatum, grows in Japan and China ; one on the Khassya mountains and one in new Zealand. The general properties of the order are stimulant and aromatic.—*Voigt, p.* 13.

ILLICIUM ANISATUM.—*Linn.*

Badian-i-khutai.....AR.	Chinese anise.....ENG.
HIND. PERS,	Skimmi .....JAP.
Badian..... ,,	Marati Moggu .....TAM.
Pa co-hu-huei-hiam CH.	Anasi pu..... ,,
Anas phal... DUK.HIND.	Marati mogga.....TEL.
Star anise.....ENG.	

The star anise tree is a native of the countries extending from 28½° to 35° of N, latitude, or from Canton to Japan. Thunberg relates (*Vol. III. p.* 227) that in Japan the Skimmi (*Illicium anisatum*) was every where considered a poisonous tree, and the Japanese would not believe that the same tree produced the real (*Anisum stellatum*) Starry Anise, which they annually buy of the Chinese. The designation Star is applied to the fruit from the manner in which they grow, the pods being in small clusters joined together at one end, and diverging in five rays. They are prized for the volatile oil obtained from them, and for their aromatic taste. The barks have a more aromatic flavor than the seeds, but they are not so sweet. In China, their most common use is to season sweet dishes; In Japan they are placed on the tombs of friends and presented as offerings in the temples. They are chiefly exported direct to India, England, and the north of Europe, at the average value of 8½ dollars per picul. In 1850, 695 piculs were exported from Canton valued at 8,200 Spanish dollars. In India they are much used in seasoning curries and flavouring native dishes, and large quantities are used in Europe in the preparation of liqueurs 3,000 piculs of anise are exported annually from Cambodia, and in 1841, 81 piculs of oil of aniseed, valued at 11,900 dollars, were exported from Canton. In preparing a spirit of anise, the Star Anise, may be used instead of common anise. The capsules constitute in India a rather important article of commerce, and are sold in all the bazars. Both capsules and seeds evolve a powerful odour of anise; the taste is similar, very mild, sweet, and somewhat acidulous. The kernel of the seed is oily. The capsules and seeds abound in an essential oil, easily procured by distillation with water; this oil is rather brown, lighter than water, more difficultly congealed than the true aniseed oil, but in other respects exactly of the same properties. The powdered capsules are used by the mahomedan practitioners as stimulant carminatives. For the colics of children the essential oil is given with advantage.—*O'Shaughnessy Dispensatory, page* 191. *Thunberg's Travels, Vol. III. p.* 227. *Morrison's Compendious Summary. Simmonds. Faulkner. O'Shaughnessy. Beng. Phar, p.* 412.

ILLICIUM FLORIDANUM. See Illicium.

ILLICIUM PARVIFLORUM. See Illicium

ILLICIUM RELIGIOSUM. Siebold, LINN. Holy Star Anise.

ILLIGEREÆ. See Gyrocarpus.

ILLINDA, TEL. Diospyros chloroxylon, *R.* ii. 538

ILLU KATTE, TEL. Ichnocarpus frutescens, *R Br.*

ILLUPA, TAM. Bassia latifolia, *Willd.*

ILLYRIAN, one of the great Asiatic European stock of languages, still well known. It is the Skippetarian or Albanian or Arnaut and is a distinct Indo European idiom.

ILOCO, one of the languages spoken in the island of Lucon. In the Philippines are many separate nations or tribes, speaking distinct languages unintelligible to each other. The principal tongues of Lucon are the Tagala, the Pampanga, the Pangasinan, and the Iloco, spoken at present by a population of 2,250,000 people, while the Bisaya has a wide curreney, among the southern islands of the group, Leyte Zebu, Negros, and Panay, containing 1,200,000 people, Mr. Crawfurd says that it does not appear from a comparison of the phonetic character and grammatical structure of the Tagala, with those of Malay and Javanese that there is any ground for fancying them to be one and the same languages, or languages sprung from a common parent and only diversified by the effects of time and distance and that an examination of the Bisaya Dictionary gives different results. See India, p. 358.

ILUMBILLI MARAM, TAM. Ferreola buxifolia.

ILUPI MARAM, TAM. Bassia longifolia.

IMAGES. Those worshipped by the Hindus are made of various materials, gold, silver, and metals of inferior value, crystal, stone, wood, clay, dough, and compositions of different kinds. Some are of small size, and appropriated as household gods; others are progressively larger, and used for temple worship, and others again are of colossal size, seventy, eighty or more feet in height. A linguam at Benares requires six men to encircle it. Some of the clay and composition images made in the vicinity of Calcutta for the annual festivals,

have a very splendid appearance and are of large dimensions and after the ceremonies are over are cast into the river. The modern manufacturers of the deities are artisans in gold, silver, and other metals, stone-cutters and potters. Some of the modern castes are handsome, but the modern sculptures are commonly contemptible. Some of the ancient hindu sculptures are magnificent; and in minute ornamental and floral decorations, almost unrivalled. In Burmah the images of Goudamah Buddah are made of wood, marble and the precious metals. In Siam, Japan, &c., images are made of the ornaments, precious metals, &c., collected from the ashes of the funeral pile of a deceased person; and others again from the pulverized fragments of the bones kneaded with water into a paste, baked, and afterwards gilded. Images of snakes are common. The idea of their medicinal virtues is very old in India: a hindu attacked by fever or other disease, makes a serpent of brass or clay, and performs certain cermonies to its honour, in furtherance of his recovery. Such ceremonies are particularly efficacious when the moon is in the nakshatra (mansion, sign, or asterism,) called Sarpa, or the Serpent; called also Ashlesha. Dhanwantara, is the Esculapius of the hindus, but has not an attendant serpent like his brother of Greece; the health bestowing Dhanwantara arose from the sea when churned for the beverage of immortality. He is generally represented as a venerable man with a book in his hand.—*Colem Myth. Hind., page* 383. *Moor, page* 342. See Idols; Hindus.

IMAM, a head of the mahomedans in religious matters. It is a sacred title and is, by the shiahs, given only to the immediate descendants of the prophet, who were twelve in number, their "barah-imam." The last of these, the imam Mehdy, is supposed by them to be concealed (not dead), and the title which belongs to him cannot, they conceive, be given to another. Among the sunni mahomedans, however, it is a dogma, that there must be always a *visible Imam,* or "father of the church." The title is given to the four learned doctors who are the founders of their faith. It was long maintained that the Imam must be descended from the Arabian tribe of Koreish: but the emperors of Constantinople (who are of a Tartar family) have assumed the sacred title, which they claim on the ground of the formal renunciation of it by Mahomed the twelfth, the last caliph of the race of Abbas, in favour of Selim the first. The acknowledgment of this title renders the emperor of Turkey the spiritual head of all orthodox mahomedans.

One sect of mahomedans believe that the imam Mehdi has come and gone; and they are the "Mehdavi" or as others call them the "Ghair Mehdavi" sect, *i. e.*, people without Mehdi. It is not known that the ruler at Muscat has ever laid claim to the title of imam, though Europeans invariably confer it on him. Imam is however said to be now adopted as a royal or dignatory title by several Arab and African sovereigns. The successors of Mahomed, continued to exercise their religious functions in proof that they enjoyed spiritual as well as temporal power, and took the title of "khalif;" but various Arab princes who dared not aspire to the title of Khalif, took that of Imam, to which they frequently added that of Amir ul-Mominin, or prince of the faithful, and, like the Khalifs, observed the precaution of changing their name when they ascended the throne. The custom seemed to typify that their whole nature underwent a change, on being invested with an office, to which a certain amount of sanctity was attached.

Of the Imams of the shiah sect, one was the Imam-Ali, cousin and son-in-law of Mahomed, for he married Fatimah, Mahomed's daughter; the two sons of Ali, the Imam Hoosain and Imam Hussain, neither of whom were successful leaders, though, since their deaths they have by some sects been deified and believed to be incarnate.

In every sunni mosque, at the appointed prayers, there is a leader of the devotions who is called the "Pesh-Imam," because he remains in front "Pesh" of the worshippers leading them in the successive parts of their worship.—*Pottinger's Travels, Beloochistan and Scinde, p.* 234. *Burton's Scinde, Vol. I. p.* 129. *Malcolm's Hist. of Persia, Vol. II. p.* 345. See Jews, Ali-Illahi; Khajah.

IMAM ALI, a town in the vicinity of the Shatt ul Arab, in the Ur of the Chaldees.

IMAM ALI,—Ali, the son-in-law of Mahomed.

IMAM BARI. A building over an imam or mahomedan saint, or other holy mahomedan. The Imam-Bari at Lucknow is a magnificent palace. Its most remarkable part is an immense hall, containing the tomb of Asof-ood Doulah, the great grandfather of the last king of Oudh. Mr. Rich mentions that a pine-apple spire rises over the tomb of Zobeidah, at Bagdad wife of Haroon al Raschid.—*Mundy's Sketches in India. Rich's Residence in Koordistan.*

IMAMI, HIND. A kind of Kabul silk.

IMAM MASHUDI, the religious guide of Akbar. His tomb is to the west of the Musjeed-i-Kootub-ul-Islam.—*Tr. Hind. V. II. p.* 201.

IMAM REZA. See Jews.

IMAM SHAFAI, one of the four commentators of the Koran. He founded the Shafia school.

IMAMZADAH means the descendants of an Imam, but, it is said, generally applied in Persia, as the mausoleums built over the bodies of such descendants, which are to be found scattered in great abundance all over the country.—*Fraser's Journey into Khorasan, p.* 303.

IMAN, Sp.

IMAR, Hind: Carpinus viminea.

IMARJAL, Hind. Iris pseudocorus.

IMAUS, a name by which part of the Himalaya was known to the Greeks and Romans. Pliny was fully aware of the signification of the name for he says (Hist. Nat. VI. 117) "Imaus in colarum lingua, nivorum significans." The great part of the mountains N. West from India was also called the Paropamisus or Hindoo Cush; and Imaus and Hindoo Cush seem to have been identical. The true Imaus, however, is the ridge which separates Kashmir from Little Tibet. It appears to incline in its northern course towards the continuation of the Hindoo Koh and even to join it. The term Hindoo Koh or Hindoo Kosh is not applied to this ridge in its whole extent, but seems confined to that part of it which forms the N. W. boundary of Kabul, and this is the Indian Caucasus of Alexander. There is however much confusion in the Tibetan, Chinese, and Persian names of that great mountain mass. See India, p. 337, Kabul 436, Kashmir; Koh; Kouenlung.

IMBIR, Hind. Ulmus campestris.

IMBO, Javan. Azadirachta indica.

IMBOOLGAS, Singh. Eriodendron anfractuosum, D. C.

IMLA, Hind. The Amni of the Salt Range, Zizyphus vulgaris, or common jujube; also Pers. the Emblic myrobolan.

IMLI, Hind. Tamarindus indica, the tamarind fruit; Imli-ka-binj, the seed.

IMLI KHORASANI, Hind. Adansonia digitata.

IMLOO BAGH. See Sanatoria.

IMMOLATION, a man will rip up his own belly with a razor in order to spite two opponents. The Satti was a voluntary immolation of a widow on the death of her husband. See Burning, Burial, Hindoo, Sati.

IMPATIENS. A genus of plants of the order Balsaminaceæ belonging to the East Indies found in the mountains of Silhet, Nepal, Kemaon, Cashmere, Kunawar and the Peninsula. Single species extend into Europe, Siberia, and North America. Linnæus was only acquainted with 7 or 8 species; but not less than 100 species are now known, and almost entirely from the mountains of the Peninsula of India or the Himalayas; in those from Silhet as far north as the Sutlej, and in 30° N. lat., at as great elevations as 7,000 feet, the species are chiefly found at elevations of 4,000 and 4,500 feet, in a region where there is moisture combined with a moderate but equal temperature. They are absent from the plains of India; but some are found on the Malabar Coast, little elevated above the sea, but only during the monsoon great success has been attained in the cultivation of Balsams.

They are largely cultivated in Indian gardens as handsome flowering plants. The double flowered are most prized. The colours are rose, pink, white, blue, and variegated. When the true colour of the plant from seed can be depended upon, if sown in large beds, or patches, they have a pretty effect in full blossom. The Balsams are propagated by seed at the commencement of the rains, in small beds, and then transplanted. After the first blossoms are off they may be cut down, and will throw out fresh shoots, but will not blossom so fine as the first. A rich light loamy soil, with old decayed stable manure is the best. No plant should ever be closer than one foot, especially if the soil is rich and all lower superfluous leaves and stalks removed from the stems. They thrive well in pots, and during the time they are in blossom look very ornamental placed amongst evergreens. In the middle of the rains, the whole line of the western ghats is covered with them. The ripe capsules, on being touched, fly open and scatter their seeds, whence they get the name of "Noli me tangere." The following species may be enumerated.

albida
bracteata
campanulata
cuspidata
dasysperma
fasciculata
filiformis
fomentosia
fruticosa
gardneriana
goughii
inconspicua
insignis
jerdoniæ
kleinii
latifolia
leschenaultii
modesta
munronii
mysorensis
ornata
oppositifolia
rheedii
rivalis
romarinifolia
rufescens
scabrida
scapiflora
setacea
sylvestris
trilobata
tomentosa
tripetala
triphylla
umbellata
uncinata
verticillata
viscida

—*Voigt. Wight. Ic. Royle Ill. Himalayan Bot. p.* 150. *Eng. Cyc. Vol. III. page* 285, *Dr. Wight in M. L. S. Journal.*

IMPERATA CYLINDRICA. Thatch grass. Saccharum cylindricum, and Saccharum spontaneum. The Karens in Amherst Province cover their houses with the tall grasses which are so abundant on the coast, and a few Europeans prefer this thatch to that made from the Nipa. Two different species of grass are used for this purpose both of which were formerly referred to the genus which produces sugar cane. The sugar grass seen in Moulmain, which flowers two or three feet high has been removed since Roxburgh wrote, into the genus Imperata. This is

one of the grasses used for thatch, and is often mistaken for Saccharum spontaneum.—*Mason.*

IMPERATA KONIGII. Alang alang, MALAY, also Lalang, MALAY.

IMPEYAN PHEASANT; Lophophorus Impeyanus : the Monal, Hind. Nil. in Ladak.

IMPHI, the Chinese sugar-cane, Sorghum saccharatum has been grown in India, since time immemorial, but was not known to Europeans in India, until reintroduced in 1860.

IMPPIO, a river of the Punjab ; its sands yield gold. See Punjab.

IMPURE CARBONATE OF SODA. See Barilla Soda.

IMPURE CARBONATE of ZINC. ENG. Calamine, ENG. FR.

IMRTAN. See Afghan. Kaffir.

INACCESSIBLE ISLAND, a name of the island of Fatsizo.

INACHUS SCORPIO. See Egeria.

INAKARTO PATI, king of Janggolo of the 14th century, invented the Kris.

INAM. In mahomedan countries, it is customary to call inam grants to religious orders "grants of land," although they include only the rents thereof ; for there is no seizin of the land itself, which is the proprietary right of the cultivator only. In the tamba-patra, copper-plate patent (by which such grants are designated in Rajputana) of Yasovarma, the Pramara prince of Oojein, seven hundred years ago, he commands the crown tenants of the two villages assigned to the temple "to pay all dues as they arise, money-rent, first share of produce." In India where the cultivating proprietor has always paid a feu-duty to the State, the grant of an Inam is like the grant of a jaghire merely the transfer of the State dues. According to practice, a jaghire is a reward for past or a retaining fee for future services, or a means of support and is resumable at pleasure. The Inam for religious purpose has been a more permanent alienation, but even the Madras Government about the middle of the nineteenth century re-examined all the Inam grants, and up to a late date, decisions had been given on 102,735 cases. The total number of titles confirmed was 80,395, of which 9,630 were in respect of religious and charitable grants of a permanent character ; 43,826 personal grants enfranchised at the option of the Inamdars ; 25,295 personal grants enfranchised compulsorily ; and 1,644 personal grants not enfranchised and confirmed on present tenures. The total number of title deeds issued was 45,320. The total amount of quit-rent then payable to Government in addition to former jodi was Rs. 1,31,462. The amount paid in redemption of the quit-rent Rs. 7,740-8-0. Combined quit-rent annually payable to Government for the future upon personal Inams confirmed to the holders Rs. 2,32,380-4-0, which is about one-fourth of their full assessment—Rupees 9,47,142-8-0. *Tod's Rajasthan, Vol. I. p.* 552.—*Transactions of the Royal Asiatic Society, Vol. I. p.* 223.

INAN, MALAY. Boehmeria nivea. China-grass.

INBIR, RUS. Ginger.

INCENSE, Koondur, Zuchir. GUZ. HIND? Olibanum.

INCENSE-WOOD. Eagle-wood.

INCENSO OLIBANO, IT. Olibanum.

INCHI, MALAY, a respectable affix to names, as Inchi Dawud, Mr. David.

INCHIOSTRO, IT. Ink.

INDACO, IT. Indigo.

INDAK, HIND. of Salt Range, Gynaion vestium, also Cordia vestia. See Karuk.

INDARBA, HIND. Celtis Caucasica.

INDARJAO, HIND. SANS. Wrightia antidysenterica.

INDARJAO-I-SHERIN, HIND. Wrightia antidysenterica.

INDERJAO-I-TALQ, PERS. HIND. Wrightia antidysenterica also W. pubescens.

INDARUMI. ? DUK. Dragon's blood.

INDERABIA, of some English navigators, is also written in different charts, Andervia, Anderipe, Indervea, Dr. Vincent, (Nearch, p. 375) thinks it the Caicandrus of Arrian, but a corresponding name is not found in oriental manuscripts.—*Ouseley's Travels, Vol. I. p.* 174.

INDIA. The British nation usually give the name of India to their own possessions in the south and east of the Asiatic continent. But the vast acquisitions of Holland and Spain, and the smaller territories of Portugal and France, are equally regarded by the respective nations as in the Indies, and a description of India, therefore, needs to embrace the entire regions in south-eastern Asia through which Europeans and oriental races hold sway and which are usually termed the East Indies. A considerable portion of the countries to which this name is applied by the people of Europe, is under the rule, direct or indirect, of Great Britain, and it is perhaps, on this account that India is so frequently spoken of as British India, and the British Empire in India, as also Her Majesty's Eastern Empire in India. But British India, Netherland India, Spanish India, Portuguese and French India, are but portions of tropical Asia, and where the old term East Indies is employed, it may be taken to embrace all the states lying intermediate between Arabia and Persia on the west and the Indian Archipelago in the East, the northern boundary being the great snowy range separating India from Tibet. The term Hindustan, so familiar to European ears, is not applicable either to British India or to the countries embraced within the term East

Indies, being only the central part of the British Indian territory.

It has been recently remarked by Mr. Logan that the great divisions of Asia are the North, Mid, and South, the first comprising all the river basins that discharge their waters into the North Sea, and also the N. E. Peninsula (the Indijirka basin and the other countries beyond it to the E. being termed N. E. Asia); the second embracing Central Asia with the western basins that have outlets into the Caspian, Black Sea and Mediterranean and the eastern basins from the sea of Okhotsk to the Gulf of Leatung; the third embracing all the remainder of Asia from the Leatung Gulf to the Red Sea,—the countries to the W. of the Indus being designated S. W. Asia and the term S. E. Asia, being applied to the countries between China and India.

The ancients termed the last of these India beyond the Ganges. Leyden included it and the Indian Archipelago under the name of the Hindu-Chinese countries. Malte Brun calls it Chin-India. Ritter, the greatest of geographers, prefers the German name Hinter Indies. And instead of further India, Transgangetic India, the Eastern Peninsula of India, &c., the single words Ultraindia and Transindia, have been proposed by Mr. Logan, as they admit of the ethnic and adjective forms of Ultraindian or Transindian.

Mr. Logan is of opinion that the Indian influence has been considerable to the S. E., and he thinks that the whole Indian region consisting of the continental portions bisected by the Bay of Bengal, and the eastern islands as far as Indian influence reached directly, may be comprised under the three names of India, Ultraindia or Transindia, and Indonesia. The earlier and wider connection of Ultraindia with China being best indicated by embracing both under the term S. E. Asia.

The configuration of British India has been described as resembling closer than any other the form of a trapezium. And if, on this figure, a diameter be drawn from the mouths of the Indus to those of the Brahmaputra, two irregular triangles will be formed, each of which contains a region with marked characters of its own as to geological formation, profile of surface, climate and races of inhabitants. The northern of these triangles, whose apex approaches Ladak, is a country emphatically of plains, and in India it bears the name of Hindustan which it received from its Moghul invaders, its ancient denomination amongst Hindu geographers being Aria-varta, *i. e.* the land of the Arians, also, it is said, Jambudwipa, the country of the rose-apples. The southern triangle is usually termed the Peninsula of India, but is known in northern India as the Dekhan, or Deccan, from the Sanscrit and Persian Dekhan,—itself again derived from the Sanskrit Dakshan. Lassen derives this from Dakshina or "the right," being the country on the right hand of a hindu when saluting the rising sun; hence we have Dakshan, south, and Dakshanapatha the land to the south, which agrees with the Δαχινβαδησ of Arrian. In the Peninsula, itself, however, the term Dekhan is only applied to that portion lying between the rivers Nerbudda and Kistna, and that too, solely by mahomedans and Europeans. The terms eastern and western Peninsulas, also, have been frequently used of late to distinguish those of India and Malacca.

This portion of the globe has great ranges of lofty mountains, several navigable rivers, and a vast ocean on its south and east studded with the innumerable islands of its Archipelagos. All of these have exercised so continuous an influence on the peopling of the country,—from Africa, from Arabia, from Persia, from Tartary and from Central Asia, that a notice of the physical features is needed to explain the positions in which its occupants are now found.

Almost from the first occasion that the British assumed the character of a ruling power in India, each year has brought some change in their political relations, with some acquisition to their empire there. From the close of the Punjab war until 1863, about 12,000 square miles with six millions of people were added: and, since then, Tanjore and the Carnatic have been escheated, but, at present, British India stretches from Singapore near the equator to Peshawar in latitude 34° north, a distance of 2,700 miles, and from west of the Indus in 67° East to longitude 105° east. The political boundary thus briefly indicated is also the natural limits of a region, which has the Himalaya mountains on the north, and which is girdled by the Bay of Bengal and the Indian Ocean on the south: which has the Indus with the mountain and desert tracts of Baluchistan and Afghanistan on the west; and on the east the kingdoms of China, Burmah and Siam, from both of which it is separated by forests, and mountains extending from Assam to the southern extremity of the Malay Peninsula.

Chains of military posts have been drawn by the British over the length and breadth of this great portion of the earth, at various altitudes, from the level of the sea to heights of many thousand feet; their cantonments are linked together on the shores of the ocean, amidst pimeval forests, on arid deserts and along the fertile valleys of the great rivers; the extensive plains and table-lands of the interior are studded over with great fortresses, and links in the chain of posts are thrown 8,000 feet high over the mountain ranges of the Dekhan, and

along the southern slopes of the Himalaya, whose highest summits, clothed with eternal snows, rise to the altitude of 28,000 feet above the level of the sea.

There are posts in these territories where rain is unknown, or where only a few showers fall at long intervals, while in other cantonments the British soldiers have to live for many months of the year in a hot humid atmosphere, which soon relaxes the frame and blanches the cheek of the strongest. There are large camps in places where, in some seasons, both European and Native soldiers are struck dead, even at night, by the excessive heat: while in places more distant, their soldiers have perished amidst winter snows. Where such extremes exist, the physical aspect of the country must necessarily present the most varied features and include every variety of climate.

Nearly the whole of these regions have been elevated into table-lands varying in altitude from 1,200 to 4,500 feet, and all that can be termed lowland country are the valleys of the Indus, Ganges, Brahmaputra and Irawady and a belt of low level land lying between the mountains and the sea, extending from Guzerat along the whole of the Malabar coast southwards to Cape Camorin, thence northwards along the Coromandel Coast to the delta of the Ganges, and to be traced southwards at intervals through Chittagong, the province of Arracan, and, skirting the Malay Peninsula to Singapore.

This belt of lowland is frequently termed the low country, but the portions of it in the Carnatic and in Canara are called, respectively, the Eastern and Western coasts. It varies there in breadth from twenty to fifty miles, between the mountains and the sea-shore; but, following the windings of the coast from Guzerat with interruptions to Singapore, it is more than 4,500 miles long. The portion of this lowland in the Carnatic is drier than the rest, but the great part of it has a mean elevation of only one hundred feet above the sea; it has many inlets from the ocean, marine lagoons, popularly known as back-waters, and it is traversed by many rivers which overflow their banks during the rains and render the surrounding country a swamp for many months in the year, parts of it in Guzerat, Orissa, Arracan and the Delta of the Ganges being little above the high-water mark.

All within and to the north of this level belt is known as the "Interior" or "Up-country" and consists of the elevated table-lands alluded to: thus, the table-land of Rajputanah has an elevation of from 1,300 to 2,200 feet; those of Central India and the provinces of Malwa have an altitude of from 2,000 to 3,000 feet; that of Allahabad about 700 feet; that of Berar 1,000 to 1,500; of Aurungabad 1,700 to 2,400; of Hyderabad in the Deccan 1,500 to 1,800; of the Balaghat Ceded Districts and the Province of Bejapoor, 500 to 2,500; and the table-land of Mysore attains an elevation of from 2,200 to 3,200 feet, to the S. W. of which the western ghauts terminate in the plateau of the Neilgherries, which is about 7,000 feet above the level of the sea, although some points, as Dodabet, attain a higher elevation. From Mysore, however, the land declines gradually towards the south and east in the direction of Ceylon, the intermediate province of Coimbatore not rising higher than 1,200 or 1,400 feet, though the Shevaroy, the Pulney and the Animullay hills rise prominently from the plains, and, like the Neilgherry mountains, are occupied by tribes to whom the people of the low country are strangers. The highest of all the inhabited tracts, however, are among the southern slopes of the Himalaya; there, the mountains are inhabited up to the snow line, the population being abundant in the province of Kumaon at an elevation of from 2,500 to 4,000 feet, as well as at Simlah at an altitude of 8,000 feet, and people reside also at an elevation of 10,000 feet in Sikkim and Bhutan; the Sewalik range has an altitude of 2,500, to 3,000, feet; the highest measured crest of the Himalaya proper being more than 28,000 feet above the sea.

Seasons.—In British India there are only three well marked seasons, the cold, the hot and the rainy. The cold season of the year corresponds with that of all northern latitudes, and lasts from the middle of December to the middle or end of February, and although it is only in the North-west or on the Neilgherry hills in the south, and, occasionally, on the table-lands of Central India that the thermometer sinks below the freezing point, the dry keen winds, which then blow over the plains and elevated tracts, cause a sensation of great cold. It is in this season that the thermometer has the greatest daily range, varying from 19° to 39°.

The hot season commences in March. By the month of May the heat is intense everywhere but on the mountains. The rivers dry up and the earth is scorched and fissured by the great heat: the country seems a desert; all nature is hushed; it is the stillness of the winter of the poles. This is succeeded by a few sultry days in June, the forerunner of the rains of the S. W. monsoon; in June and July, this monsoon has carried the rains to almost every part of India, reaching the different provinces according to their proximity to the southern oceans, or to the direction given by the mountains to the winds. The face of the country then becomes green with its natural vegetation and

Dhawalgiri 28,077 feet.

the crops of the cultivators, the rivers are all full and the low-lands all flooded, particularly in Bengal, where, in several places, the ryots go to their fields on rafts, and vessels are often navigated over submerged villages which the inhabitants have temporarily abandoned. This monsoon is ushered in with great electric changes, and prevails till the end of September, when it disappears with thunder and lightning as it came; the occurrence of these electric phenomena marking the breaking up of the monsoon. The fall of rain, while this monsoon lasts, varies from 12 to 250 inches, in the different provinces, but it is distributed to a greater or less extent over almost all India, the only part deprived of it being the Carnatic, where, so far north as the Ongole, only slight showers fall in July, possibly owing to the winds of the S. W. monsoon being deflected by the barrier of mountains on the western coast; the hot weather, consequently, continues in the Carnatic from April until November, when the winds change to the N. E. and bring the rains of the N. E. monsoon across the Bay of Bengal.

The N. E. monsoon rains, however, only last for six weeks or two months; it does not extend so far inland as that from the S. W. and at places in the peninsula of India within a hundred miles of the Eastern ghats it is marked only by the occurrence of heavy showers. At Madras, on the Coromandel Coast, the annual fall of rain is about 50 inches.

Earthquakes.—Shocks of earthquakes are frequently felt in several parts of India, particularly about Ongole. In other places there have been about twenty shocks observed between the years 1840 and 1870; they are sufficiently severe but, from their short duration, injury has rarely resulted. The latest severe shocks occurred in Cutch in 1819, when the walls of Boojh were thrown down, after it had been taken by escalade by Sir W. Keir's army. More lately, while the force under Sir Robert Sale was defending Jellalabad, the newly constructed walls were thrown down by an earthquake and still more recently much injury resulted from the same cause in parts of British Burmah. Hot springs also occur in many places, on the table-lands, and in the low country.

In the Bengal Presidency, the general inclination of the land is towards the South, but the local inclinations are towards the valleys of the rivers. In the provinces of the Peninsula of India, south of the Nerbudda river, the western parts are the most elevated above the sea, the inclination being towards the eastern coast and slightly towards the south.

Mountains.—The mountains of India, without being strictly speaking, parallel, have principally two directions, viz. easterly and westerly and from North to South. Thus, the Himalaya Mountains the Vindhya, the Rajamahal Hills and the Satpoora range, have a direction from east to west,—but the Hala Mountains in Beluchistan, the Suliman Mountains west of the Indus, the Aravalli which separate Rajputanah from Central India, the Eastern ghauts, and the Western ghauts or Syhadri range, as well as the mountains in Arracan, Burmah, Siam, and Malacca all run from north to south. These mountains, many of them covered with impenetrable forests and from 3,000 to 28,000 feet high, form great physical barriers, separating countries of a different aspect, and nations of different race and origin, whose appearance, religion, language and manners are widely dissimilar. Down to the present hour, these barriers continue to direct the route alike of armies and of immigrants; and roads and railroads are only now in progress or in contemplation to overcome them. One of these roads was commenced in 1850 along the Sutlej valley, with the view of connecting Hindustan with Tibet. Other routes have been cleared through parts of the northern Himalaya; a road to the north-east, through the Brahmaputra valley has been often spoken of, and a railroad has been contemplated from British Burmah to the great river of China, to facilitate communication between the people of India and the races of Central and Eastern Asia.

Navigable rivers.—Only a few of the rivers of British India, the Ganges, the Irawady, the Moulmein river, the Brahmaputra and the Indus have ever been used in modern war. The Ganges has formed the basis of nearly all the operations in the North of India, one of its tributaries the Jumna being navigable for 1,000 miles as far as Delhi, *i. e.* within 200 miles of where it issues from the Himalaya Mountains amongst which it rises. The course of the Ganges is to the South-East through the plains of the Bengal Presidency into the Bay of Bengal. The Irawady is navigable for 500 miles as far north as Ava. It rises in latitude 28° North, and after a southerly course of 800 miles it enters the Bay of Bengal in latitude 16° North. The Brahmaputra is navigable into Assam for 500 miles, and has commercial steamers constantly running on it. The river Indus, which rises on the plateau north of the Himalaya, after penetrating the mountains in longitude 72° East and latitude 33° North, runs to the South receiving the waters of the Punjab as its tributaries, and, traversing the countries of Sind in a low valley, empties itself into the Indian Ocean, in latitude 23° North and longitude 67° and 68° East, after a course of 1,500 miles. A little fleet of commercial steam boats are now running on its waters; but it had, at first, a flotilla of war steamers and war boats

guarding the western frontier of British India and in all the military operations since 1834, in Affghanistan and Sind the Indus has been of great value as a means of communication. During the war of 1845-1846 in the Punjab, a bridge of roads was carried up the river as far as Bhawulpur and thence dispatched up the Gharra to Ferozpur, and another branch of the river, the Chenab, was in the last war navigated up to Mooltan.

There is a peculiarity in the river system of British India which merits notice. It is that shortly after issuing from the mountains among which they rise, the rivers run through low-lying valleys to the sea. Their fall is so gentle that, following their windings for even 1,000 miles from the ocean, the rivers of India are still found running in beds, only seven or eight hundred feet above the level of the sea, thereby affording great facilities for damming up their waters, and for making long reaches fit for navigation. This peculiarity is the more worthy of notice, because, throughout these territories, there are no natural inland lakes or seas deserving of note; none, certainly, which could be used for purposes of commerce, and most of them only fit for purposes of irrigation, the largest natural waters in the country are equalled, and, in many cases, surpassed by the magnificent lakes which have been formed in several places by throwing embankments across great valleys. The many shallow salt-water lagoons known as back-waters, found running close around the shores of the Bay of Bengal and of the Indian Ocean, some of them from twenty to fifty miles long,—are however well worthy of notice, as they afford great facilities for a safe traffic along the coast line, the violence of the monsoons and the few sheltered harbours on the eastern coast of the Peninsula, rendering navigation perilous at all times and often impossible.

Except the Nerbudda and Godavery, unless great engineering skill be applied to them, there are no other of the rivers of Southern India likely to prove navigable or available for military operations, but the shores of the two Peninsulas are washed by the Indian Ocean and the Bay of Bengal, and present a line of coast about 4,500 miles in length. The valleys of its great rivers and its enclosing seas have been the chief routes followed by the various emigrants into India, Ultra-India and the Archipelago.

Geology.—The investigations of Dr. Hugh Falconer have shown that, at a period geologically recent, the present peninsula of India, was a triangular island, bounded on each side by the eastern and western ghats, converging to Cape Comorin; the base of the triangle was formed by the Vindhya mountain range, from which an irregular spur, forming the Aravalli mountains, extended northwards; while between the northern shore of this island and a hilly country which is now the Himalaya mountains ran a narrow ocean strait. The bed of this strait became covered with debris from the adjacent Himalaya on its northern shore, and with this debris became entombed and preserved many and various animal remains. The present condition of the country has been produced by an upheaval of the land so that what was the ocean strait, forms now the plains of India,—the long nearly level valleys in which flow the Ganges and the Indus. Besides this, a great upheavement along the line of the Himalaya has elevated a narrow belt of the plains into the Sewalik Hills (determined to be of tertiary age) and added many thousand feet to the height of the Himalaya and facts tend to the conclusion that India had one long term and one protracted fauna which lived through a period corresponding to several terms of the tertiary period of Europe.

The series of sedimentary rocks in Central India, between Hazareebagh and Palemow on the east and Jubbulpore on the west and thence southwards to Nagpore and Chandah, has in the east five well marked subdivisions, the Talchir, Barakur, Ironstone shales, Ranigunj and the Panchet, but at a short distance to the west, there are only a threefold series, the Talchir, Barakur and the Panchet. All these successive beds (possibly with the exception of the Talchir) representing an enormous lapse of time, agree in one respect that they seem to be purely fresh-water (fluviatile or fluvio-lacustrine) or estuarine deposits. The Damoodah, the Barakur, the Adjai and the More rivers seem at an early period to have formed one general estuary. The basins of the Sone, of the Nerbuddah, of the Mahanuddy and of the Godavery, in all of which extensive deposits have been found, seem as yet not to have been connected. Further south, in the basins of the Kistna river and its affluents, the Gutpurbah, Malpurbah and Beemah, the country is occupied by the quartzites, slates, limestones, &c. which cover the larger portion of the districts of Cuddapah and Kurnool, westwards through the Raichore Doab by Gogi, Gulburgah, to Kulladghee and Belgaum and which appear to represent the older portion of the great Vindhyan series. Rocks of the same mineral character appear under the great flows of the Dekhan trap, and resting quite unconformably on the gneiss rocks in parts of the Raichore Doab and in the vicinity of Belgaum, and under parts of the ghats on the western coast, and that they belong to the same general series as the rocks in Cuddapah and Kurnool, there is no doubt.

Further south to the west of Pondicherry, at Ootatoor, are extensive beds of limestone, con-

taining numerous fossil remains, ammonites, &c. and still further south in the Tinnevelly district are extensive beds of marble.

Granite and sienite seem the chief uplifting rocks of India, and they burst through upraised sand-stone, clay slate, mica slate, chlorite slate, and limestones. This feature of granite and sienite disturbing stratified rocks can be traced at intervals from near Ceylon northwards through the table-lands of the interior; in Mysore, in the Ceded Districts, Hyderabad, Berar and across the Nerbudda into Central India, where the granite for a time disappears. Trap is visible however, in the bed of the Jumna near Allahabad, in latitude 25° north; but in the ascent to Mussoorie by Kuerkoolee, the granite reappears and makes a great eruption at the Chur Mountain—above 12,500 feet high—on the southern slopes of the Himalaya. Near Gungotree, at the source of the Ganges, is however described as the grand granitic axis of the Himalaya, and one of the greatest and most magnificent outburst of granite in the world. It traverses these mountains in numerous veins—westwards towards the Barenda pass, and eastwards towards Kamet, Nandadevi and Nandakot,—upraising the metamorphic schists which form the highest peaks of the snowy range.

Lower down on the southern slopes of these mountains at an elevation of from 8,000 to 1,500 feet, uplifted stratified rocks, consisting of hornblende rock and slate, limestone, sandstone, great beds of quartz, clay, mica, chlorite, and talc, slates, rest on the gneiss and granite; and lower still at altitudes of 3,000 to 2,500 feet above the level of the sea, gravel, boulders, marl with coal, recent clays and sand-stone form the Sewalik, or sub-Himalayan mountains. It is in these hills that extensive fossil remains were discovered, and the low alluvial tract known as the Terai, is the valley formed by the junction of the Sewalik with the Himalayan inclined rocks.

To the south of this, the highest parts of Central India occur along the Aravalli mountains and the Vindhya range, and are from 2,000 to 3,000 feet in altitude. There are, here, three inclinations, one declivity from the Aravalli mountains towards the valley of the Indus, a second from the Vindhya range northwards to the Ganges, and the third running southwards to the Nerbudda. Granite is here, also, the upraising rock; it bursts out at Oudeypore, Kaunore, Banswarrah, and Rajpore, through the gneiss, and mica, and chlorite slates, limestone and sandstone. It was to the east of this central tract that the first great deposit of coal was found lining both banks of the Damoodah, though it has, since then, been discovered in several other provinces of British India. It is in Central India, also, that the volcanic rocks to any extent are first observed as they spread east and west from Neemuch in the form of basalt, basaltic greenstone, greenstone and greenstone amygdaloid, and southwards by Oujein and Saugor across the Vindhya, assuming a columnar structure in their steep descent to the Nerbudda. The trap crosses this river meeting with sandstone and fossils in the Satpura ranges, and spreads over all western Berar and the Aurungabad province; assumes a columnar form at Gawilgurh and Chikaldah, occupies Candeish and the Concan to Bombay, and passes southwards to Malwan in latitude 16° north; its southern limits being south of Punderpoor, on the right bank of the Kistna. In the valleys near Hoomnabad, south and west of Beder, it is seen between and beneath, but never penetrating the laterite hills, and is noticed at Maharajahpettah, 30 miles west of Hyderabad. The eastern edge of this vast tract of volcanic rocks, after crossing the Nerbudda to the south, skirts the town of Nagpore in Berar, passes Nandeir, and to the west of Hyderabad to its southern limit, just mentioned. It is the greatest flow of trap-rock observed in any part of the world. South of this, as well as to the eastward, the trap only appears as great dykes, from fifty to a hundred yards broad. These dykes can be traced at places, for a hundred and fifty miles, bursting through the granite and other rocks, tearing the highest of the hills asunder and filling the chasms and crevices with their dark and compact substance. In these provinces, the elements of the trap-rock, assume in the dykes a variety of lithologic appearances, greenstone, and porphyritic greenstone; and, in the great volcanic district, basaltic greenstone, hornblende rock, basalt, and amygdaloid, with cornelian, heliotrope, prase, chrysoprase, agates and onyx. The dykes are particularly numerous near Hyderabad, but they occur in the Balaghaut Ceded Districts in the Carnatic and Mysore almost to the southern Cape of the Peninsula, and with very rare exceptions they run due east and west.

The central outburst of granitic rocks in the peninsula can be traced from north of the Godavery, in latitude 19° north, through Hyderabad the Ceded Districts and Mysore to Ceylon, these rocks and the greenstone form the prominent parts of the Dekhan, clay slate, mica, chlorite and hornblende schists, sandstones and limestones with fossils of a post oolite age being the stratified rocks through which they burst. The greenstone is supposed by some observers to decompose into a deep black earth, light when dry, and cracked and rent by the sun in the hot season, but forming a tough, deep, tenacious soil in the rains, ren-

dering marching almost, if not wholly impracticable. It is called "regur" in the Dekhan, and is the "cotton soil" of Europeans, by many of whom it is regarded as indicating an unhealthy locality. It is very fertile. The granite rocks, on the other hand, decompose into a red sandy soil, which is generally hard, and as it allows a rapid percolation of water and quickly dries, it is less fertile, but is considered more favourable to health. It may be doubted, however, if there be any facts to prove that the one soil is more favourable to health than the other, but a somewhat lengthened outline has been given of the physical features of India, as facility of access to its several districts, their fertility and salubrity, have regulated the advance and settlement of the emigrant population. Also opinions have been held that particular series of rocks afford signs by which the salubrity or insalubrity of a district can be determined, but the occupation of the country seems to have been tested by trial, for, in several places, on which the forest has encroached, or around which the country now lies waste, are architectural and agricultural remains of an advanced civilisation.

Population.—At present, the inhabitants of India are very unequally distributed. The native states of India, have 80 to the square mile, while the countries under British controul have 170, British Burmah has 26 to the square mile, Coorg 49, the Central Provinces 79, and Bombay and Sind 99, while the N. W. Provinces have 361, and Oudh 474. In the Bengal presidency, the number varies from 134 souls to the square mile in Cooch Behar, to 629 in Burdwan. In this respect India is still as described by the Honorable Mountstuart Elphinstone who mentions that "in one very extensive district of Bengal, Burdwan proper, it was ascertained to be 600 souls to the square mile, while, in some desert and forest tracts, ten to the square mile might be an exaggeration."

Along these densely crowded tracts, cultivation is diligently pursued. In some places they gather three crops, in others two, and in others one crop in a year, according to the elevation of the district, the nature of the soil and the abundance of water; nearly half of the population is engaged in agricultural pursuits, but many villagers, in their leisure hours, weave cotton articles, and make coarse fabrics from the hair and wool of their goats and sheep; in one or two places, great uninhabited deserts exist, and in several districts there are extensive forests, the few passes by which they are traversed being very unhealthy for three parts of the year, and these forests and deserts have therefore formed, like the mountains, great physical barriers.

Ancient India.—The origin of this name of India is obscure. Asia seems to have been so called from the great Asi race of Central Asia, whose name of Asi is said by Remusat to have been applied by the Chinese almost promiscuously to the nations between the Jaxartes and Oxus, as far south as Samarkand: and in one of his quotations it is applied to people of Khojand, and in another to people of Bokhara. Masudi mentions that at the time of the mahomedan conquest the country about Basrah was called Arz-ul-Hind, "The Land of India."—(*Prairies d'Or. IV.* 225 quoted in *Yule Cathay, I. p.* 243.

India is supposed to have obtained its name from the Indus, the Sin, Sinda or Hinda or Hapta Hinda, the Abu-sin of the Arabs, the first great river met in the routes from Europe and from Western and Central Asia. It is true that so far back as the reign of Darius Hystaspes, B. C. 521, the early writers placed Indians on both sides of the Indus and made India extend westward to Kandahar (Gandhara), embracing perhaps the fourteen Iranian provinces or nations, enumerated on the Nakhshi-Rustum as lying between Sogdiana and the Punjab and subject to Darius. But eastward of the Indus, the country was always India. This name seems to have been chiefly used in the south of Asia for it first occurs in the Bible, in the book of Esther (I, 1; VIII, 9) as the limit of the territories of the king Ahaseurus in the East, as Ethiopia was on the west and the names are similarly connected by Herodotus (VII, 9). The term "Hoddu" used by the Hebrews is an abbreviation of Honadu which is identical with the names of the river Indus, for to the present day all along the course of that river the letters s and h are interchanged, and, in the Venudidad, the Panjab is described as the "Hapta-Hindu" and the other native form "Sindus" is noticed by Pliny (VI, 23). The India of the book of Esther is not the peninsula of Hindustan, but the country surrounding the Indus—the Punjab, and perhaps Sind—the India which Herodotus describes (III. 98) as forming part of the Persian empire under Darius, and the India which at a latter period was conquered by Alexander the Great. The name occurs in the inscriptions of Persepolis and Nakhsh-i-Rustam but not in those of Behistun.

In more recent times, the term has been applied by the nations of Europe to the localities which they have occupied or with which they have traded. With the Portuguese the northern part of Hindustan held by the Moghul sovereigns, was styled Mogor, and Goa and the western coast of the Peninsula was to them India just as the British now designate all their possessions and as with the Dutch, now, India

means Java, Sumatra, and the Netherland possessions in the Archipelago. Also most of the traffic with India seems to have been by way of the Persian Gulf and the Red Sea. The Tyrians established depots on the shores of the Persian Gulf, and the course of trade being through the land of the Cushdi the races in India came to be included under the ethnological title of Cush, (Gen. X. 6), and hence the Persian, Chaldean and Arabic versions frequently render that term by India.—(Is. XI. ii; XVIII. 1; Jer. XIII. 23.—*Yule, Cathay II. p.* 549. *Rawlinson Herod. II.* 485. *Smith's Dictionary of the Bible, Vol. I. p.* 867.)

Over the early history of British India, much obscurity rests; for, it is generally recognised that prior to Alexander's time and for long periods subsequent thereto, there are doubts as to the correctness of the Indian accounts of kings and localities. It is, however, certain that several conquerors, in ancient times approached the present western boundaries of British India without absolutely invading it. The conquests of the Herculus Belus of Cicero, who is supposed to be the Osiris that invaded India, extended only up to the Indus. It was undoubtedly approached by Semiramis, B. C. 1230, but the warrior-queen was driven back across the Indus with great loss, retreating into Bactria with only a third of her army. This great Assyrian queen, however, extended her conquests into central Asia, until they even embraced Bactria or Bactriana, which is now represented by the modern Balkh. Another name is also mentioned in connection with Indian history, that of Ogyges, supposed to be Oghuz Khan the Scythian, whose historian, Abul Ghazi, relates that after establishing the religion of Japhet in his own dominions and in those of Tibet, Tanjat, Kitay, and other states immediately adjoining, he conquered Irak, Babylon, Azerbijan, and Armenia, and subsequently took Kashmir after a year's resistance. Darius, the Persian conqueror of Babylon, spread his rule over Bactria, which is enumerated as one of his provinces in the extraordinary inscription which he caused to be carved on the rock of Behistun. Alexander afterwards overran this same country, and penetrated from it into the valley of the Indus, which he merely crossed. But in the days of the decline of Syrian power, Bactria was erected into an independent state by Theodotus I. in 256 B. C. and he extended his dominion over parts of India which the arms of Darius and Alexander had not reached; and it is this monarch's descendants who are designated as a Syro-Bactrian dynasty. Numerous relics of his successors have been found near Peshawar, Jellalabad, and in places near Cabul, in the shape of coins.

Arians.—The great inroad, however, was of a people who have continued up to the present time to exert a great influence on the country. It was an immigration on the borders of historic times, of part of the great Arian race. Much connected with this people remains in obscurity, for they were pre-eminently a non-recording race. But Chevalier Bunsen supposes that they reached the land of the five rivers some time between 4000 B. C. and to 3000 B. C. but, as regards the length of the period from their immigration into the country of the Indus down to their advance to the land of the Sarasvati, he remarks, that we have no standard whatever, from our present point of view, by which to estimate it. All that he considers (p. 564, vol. iii) we can say regarding them is, that peculiar habits of life were contracted in the land of the five rivers, and that, out of the religion there instituted, allusions to which are found in the oldest Vedic hymns, the brahminical system, with a new mythology and the introduction of castes, gradually grew up on the eastern side of the Sutlej.

That author is, however, of opinion that the period of the passage of the Sutlej and immigration towards the Sarasvati occurred from B. C. 3300 to B. C. 3200. And that, at this stage of their progress, a schism occurred amongst them, in which the party who continued in the five rivers retained the worship of Agni only, and rejected Indra, while brahminism predominated in the other section which advanced towards the land of the Sarasvati, the modern India. Whilst they dwelt in the country of the five rivers, from B. C. 4000 to B. C. 3000 little change in their habits and belief seems, in his opinion, to have occurred. But about B. C. 3100 or 3000 their power on the Indus appears to have been broken, in consequence of some war with one of the surrounding kingdoms, and from the latter date, India east of the Sutlej up to the extent of the Arian conquests adopted brahminism. From that time, the religious views, forms and habits of Bactria were for ever abandoned by these Arian immigrants, and between B. C. 3000 to B. C. 1900 they extended their brahminical religion from the Sarasvati to the Doab.

This race called the portion which came under their own rule, by the name of Aria-vartha. But by the western nations, India, east of the Indus, was always India, and was never called Aria by any writer. Before the arrival of the Arians or Sanscrit speaking colony of Brahmins, and Kshattriyas and Vaisyas, the greater part of northern India was peopled by rude tribes,

described by the Sanscrit writers as M'hlecha, Dasya, Nishada, &c., and it is the received opinion that many of those prior occupants were of Scythian, or, at least, of non-Arian origin. But at a much later period, and when the Arians were in full occupation of the country from the Indus to the Ganges and into Bengal, all to the south of the Vindhya mountains continued to be occupied by Turanian races. An immigration into Ceylon of a colony of Arians from Magadha took place about B. C. 550 (B. C. 543), and Wajeya, the leader of the Ceylon expedition, is said in the Mahawanso, to have married the daughter of the king of Pandu. But now, seemingly, there is no Arian colony in any part of the south of the peninsula of India, individual members of that race alone appearing scattered amongst the nations occupying it.

There is nothing in history to show, nor is there in the physical appearance of the races to the east of the Ganges and of the Bay of Bengal, anything to warrant the belief, that these Arian immigrants ever advanced, in masses, beyond their present locality in the northern parts of India north of the Vindhya range. But from the period of their immigration up to Alexander's passage of the Panjab rivers there is much obscurity. Indeed Mr. Elphinstone (i. 19) considers that, until Alexander's conquests, the dates of events are all uncertain, and again, from that time till the mahomedan invasion, he thinks that a connected history of this country cannot be given. It is known that, from the khalifat, an expedition approached the confines of India by the route of Beluchistan, and that the Bactrian dynasty, for nearly a hundred years, held a considerable portion of the Indus country, but the chief inroads were those of the Scythian mahomedans, Affghans, Moghuls and Persians, with Mahmud, Timur, Baber, Nadir and Ahmed Shah as leaders between the tenth and eighteenth centuries; since then the Portuguese, French and English, have at intervals, invaded and ruled portions of India.

It is scarcely three hundred years since the British appeared in these countries. They had been trafficking along the sea-board for some time prior to the grant, by queen Elizabeth, of a charter to a company of merchants, who, under various re-grants, up to 1833, continued to trade with India, while they were also waging wars with and acquiring dominions from its previous rulers. Amongst the earliest of their possessions was the Island of Bombay, which Charles II. received as a dower with his Portuguese bride. The British power did not, however, rise to its present magnitude over the ruins of ancient kingdoms, or by dispossessing dynasties that had long held sway. But the fortunes of war set aside a few families whose power was almost ephemeral, and whom the British succeeded in the rule over the various peoples scattered throughout the country. And, short as has been the period of the British dominion, at no period within historic times, have so many portions of India been so long under one rule.

British India, in 1868, contained an area of 980,908 square miles, with a population of 164,671,621, or 170 to the square mile. But, within the boundaries of British India, are the territories of 153 Asiatic sovereigns, feudatories of the British Indian Empire, ruling over an area of 596,790 square miles, and a population of 480,000,000 or 80 to the square mile. The total of British India, feudatory and non-feudatory, is 1,577,698 square miles with a population of 212,671, 621.

The peoples, nations and races composing this number are various and difficult to describe, and not the less so because ethnologists have not as yet adopted one generally recognized classification of the deviating peculiarities which mark the family of man.

The ethnic relations of the inhabitants of the East Indies have, however, engaged the attention of the most eminent of the learned of Europe. Of those who have dwelt in India, and who have brought a personal knowledge of the people to aid their researches, may be mentioned the names of Marsden, Wilson, Earl, Hodgson, Mason, Crawfurd, Logan, Dalton, Bowring, Campbell and Caldwell, the last the most recent writer and perhaps the best acquainted with the Tamulian, or, as he designates them, the Dravidian stock. The learned of Europe who have discussed the origin of the nations of the East Indies, have done so in connection with their researches into the entire human race. The most recent authorities are, Latham, Prichard, Max Muller, Crawfurd and Bunsen, whose writings in the Reports of the British Association it will be observed are frequently quoted as authority for the views here advanced.

It is perhaps not very creditable to the present dominant races in the East, that so limited a number of their writers have taken up the subject of the ethnic grouping of the nations over which they rule. But a peculiar feature of these Indian races is the class, tribe and race separations to which they adhere, and independently of there being no class amongst the rulers possessing the leisure to devote their attention exclusively to the subject, the very multitude of the seeming nationalities is a bar to the completion of a general view. It is admitted that during all ages, either as immigrants or as conquerors, the races from the north and west have been entering India. How

Little these have amalgamated may be judged of, by mentioning, that out of 1,030 villages lying here and there between the Jumna and Sutlej and which were under British management in 1844, there were found to be 41 different tribes of agriculturists, of whom may be mentioned

Jat	443	Brahmin	28	Doghur	28
Rajput	194	Khetri	6	Kulall	5
Gujur	109	Raien or		Gossaeen	8
Syed	17	Araien	47	Bairagi	2
Sheikh	25	Kumbo	19	Miscellaneous	46
Pathan	8	Malee	12		
Mughl	5	Ror	33	Total.....1,030	

And as a character of the great revolt and rebellion of 1857 and 1858, it was observed that certain classes of villages attacked and destroyed other classes :—the powerful hand of a regular government being temporarily removed, the ancient antipathies of race at once came into play. Dwelling amongst each other, door to door, but yet never mixing, most of the races remain as distinct as when ten, fifteen, twenty, thirty, forty and fifty centuries before, they came to the south, neither eating together nor intermarrying. It is this separating system which has kept the stocks of Arian and Turanian races of India pure. On the slightest suspicion as to descent all social intercourse ceases, and the descendants, in different lines, from the same recognised ancestor form new castes. In this way, almost every family of a few hundred years' duration is now separate. The cause of the origin of this exclusive propensity is unknown, further than that the system of caste and the forms of brahminic worship commenced amongst the East Arians after their passage of the Sutlej, and now every Arian and most Turanian households in India are guided by its rules. This separation into castes or sections seems, however, primarily to have been a race distinction. It has, now, however, as regards the East Arians and others who follow the brahminical teachings, and even as regards the Turanian races a bearing quite irrespective of race or faith or creed. In explanation of this, it may be mentioned that the countries comprising British India are essentially hindu, by which is merely meant that the bulk of the agricultural and commercial classes—perhaps 86 per cent.—are neither buddhists nor mahomedans, but are followers of some form or other of the brahminical teachings and reverencing their teachers.

On the western boundary are nations, races and tribes following mahomedanism, but its marches on the north and on the east, run with the Kashmir, Jamu, Lahul, Spiti, Tibet the Chinese Nepal, Sikkim, Bhootan, Burmah and Siam frontiers and beyond Singapore lie Cambodia and Cochin-China, all of them essentially buddhist in faith.

In the southern part of India, however, the mass of the people have never been wholly converted to the brahminical faith, and everywhere throughout the peninsula are considerable numbers who continue to worship the earth deities, their favourite being the goddess Ammen, whose ordinary temple is a rude stone or a pyramid of earth or of brick and mortar. Of all the worshippers according to the brahminical teachings, however, one-half may be saiva, the other half vaishnava sectarians ; each sect may be seen worshipping at the same shrine, and, at the great temples, all hindu castes will partake of the prăsădh, food offered to the idols : but such minglings beget no communion in their social life, and every family of a different origin remains apart. The diversity thus created may be further illustrated by the following census of the races, classes, castes and sects in the Cowle Bazaar and Bruce Pettah of Bellary, as taken about the year 1844.

Castes and sects.			Total. Houses.	Total. People.
Brahmin...			203	1140
Cheyatrie			18	96
Rajpoot, (Natives of Rajputanah, of any caste)			70	261
Bard or Bhatraj, they claim to be Cheyatries, whose occupation is to proclaim the titles of kings and be their eulogists			6	23
Vesya or Comatteewanloo claim to bepure Vesya occupied as traders and other peaceful avocations.			204	982
Parsee or Guzerattee, Parsee Fire Worshippers...			4	16
Jain sect, often greatly persecuted by the brahmins.			8	14
Sudra who are Village authorities	a,	Packinattee, ...	49	225
	b.	Moottattee, ...	2	11
	c.	Vellanattee, ...	30	144
These are styled Reddy in Tamil and Telooguo, or by the Mahratta term of Potail. They collect the Government rents. They claim to be the true owners of portions of the land in Southern India.				
Husbandmen of the Sudra caste.	a.	Peracooonty Capooloo...	10	47
	b.	Goongeddy, do. ...	1	4
Laneeka wanloo, a caste of Sudras			6	24
Cudeywaklee wanloo. The women of this caste dress their hair in a bunch on the right side of their heads			27	95
Vira saiva. Lingaet sects.	a.	Linga balgee wanloo. This sect wear the Lingum, the emblem of Siva, in a silver casket on their breasts, suspended from their necks.	20	64
	b.	Jaloroo Balgee wanloo wear the lingum on their right arm.	14	72
Jangam sects.	a.	Jungum wanloo worshippers of one lingum.....	86	348
	b.	Panchabanjeeka do. worshippers of five lingums ...	187	1160
Shopmen	a.	Wanaganakaloo	3	10
	b.	Curraganika waaloo ...	5	22
	c.	Punchunganigaloo	8	36
These three dealers or shopkeepers a. b. c. are called, in common parlance by the Hindi word "Teli" or oilmen. They are petty traders or shopmen.				

Worshippers of Siva.	a. Chippegoose or Nagaloka balgee wanloo worshippers of Siva, in the form of a cobra.	58	280
	b. Siva Chippaga wanloo, worshippers of Siva	3	21
Gumpe Cumloo or Kamawaroo. This caste permit no strangers to enter their houses; they are husbandmen.		20	66
Hindoo Hawkers...Yailm wanloo		392	1768

These people follow any occupation not involving manual labor, writers, painters.

Pure Sudra of unmixed Caste.	a. Teloogoo balgee wanloo	430	1757
	b. Chetty balgee wanloo	59	462

These Sudra consider themselves to be the unmixed original race as it sprung from its creator.

Shepherds, Milkmen, Wool Shearers, Cowherds, Cowkeepers.	a. Oree golla wanloo	143	651
	b. Coraba golla wanloo	223	965
	c. Hundee Coraba do.	92	296

Divisions of the Shepherd or cowkeeper races, who intermarry. There are several other sections of this people. Golla is the Greek Gala milk.

Goldsmith.	a. Comsalla wanloo	53	204
Carpenter.	b. Wodla wanloo	18	79
Blacksmith.	c. Comala wanloo	12	49
Brazier.	d. Consagara do.	6	16
Stonecutter.	e. Sungtrasha do.	1	6

Five artizan trades divisions of the same religious sect, all of whom intermarry and the men wear the zonar or sacred thread, called in Teloogoo "Junjum."

Mendicant Priests	Dewanagee wanloo	14	50

These mendicants accept of charity only from one or other of the five artizans above named, goldsmith, blacksmith, brazier, carpenter and stonecutter.

Binjara Migratory Grain and Salt Merchants.	a. Buljara wanloo	38	195
	b. Corbana wanloo.	1	2
Weavers, divisions of the weaver caste.	a. Pursala wanloo	37	173
	b. Sumsala wanloo	9	38
	c. Puttanasala wanloo	17	85
	d. Sala... do.	32	144
Dancing Girls...Bogum wanloo		9	55

Devotees of the Vaisya caste. They belong to the Rhumba and Oor Vussee sections.

Common Women	Kubera wanloo	76	352
Potters	Komera wanloo	27	95
Washermen	Sakela wanloo.	137	541
Barbers	Mungala wanloo	89	386
Salt-makers	a. Upera wanloo	30	152
Quarrymen : Masons.	b. Wadi wanloo	50	209

These people are employed in digging tanks, making salt, and in road making.

Arrack Sellers	Adega wanloo	30	136
Oil makers	Ganola wanloo	40	165
Basket and bamboo mat makers	Maydhera wanloo	5	24
Dyers	Rungaraj wanloo	88	545
Saddlers	Zeengar wanloo	22	117
Shoemakers	Moochee wanloo	25	126
Basket Weavers and Coorchee wanloo		67	250

This race also make house mats of palm leaves

Watchmen, Village Watchmen	Matraj wanloo.	3	8

Oor Boya wanloo Mercenary Soldiery very devoted in their duties. They generally serve Native Rajahs, &c. and very rarely enter the British army.

Mess Servants	Mess Maty	6	27
Paria	Malla wanloo	515	2188

The Dher people of India, of Turanian origin, worshippers of Ammen, scarcely of brahminical faith.

		340	1510

Madega wanloo workers in raw skins, known as the Chamar or Chuckler.

Butchers	Lar Kassai wanloo.	82	448
Religious Mendicants, &c.	Satana wanloo	82	448
	Jherra wanloo	11	44
	Dhasray wanloo	6	22

These three mendicant sections are religious devotees and mendicants. The Satana keep a god "Permaloo," the image of an incarnation of Vishnu in their houses and worship it daily. They perambulate the streets morning and evening and accept alms from all but the lowest castes. They often demand alms threatening otherwise to burn themselves with a lamp or torch. The Dhasray play on the "Jangata" "Tartee" and Sincoo and hold an iron worshipping lamp in their hands. They walk before the corpse when carried to the funeral pile.

Byragi ascetic mendicants	Bairagooloo	1	4
Gossen	Gossi wanloo	1	2
Arava		16	99
Christians (Native Christians		155	676
Pindaree	Baidera wanloo	6	22

These Pindarees are here mahomedans, who keep numerous little horses which they use for carriage. They are great carriers, and of importance in military cantonments and during military operations.

Jain or Buddhists merchants	Marwaree wanloo	2	19
Europeans	Dora wanloo	19	99
Mahomedans	Ain Turke wanloo.	1433	7060
Beef butchers	Gai Kussai wanloo.	14	65
Cotton cleaners	Pinjari wanloo	31	103
Scavengers	Hulal Khor	7	41

All of these, again, have numerous subdivisions, all keeping more or less apart, and in illustration of this feature of Indian society the more recent separatist conditions of a Turanian, and of an Arian or Indo-Scythic race may be briefly noticed.

The Lingaet, or Jangama sect, noticed in the above census, are also called Lingadhara, Lingawant and Linghamat. In common with the Jangama they are "vira saiva hindus, whose sole object of worship is the lingam, a model of which they carry on their arms, enclosed in a gold or silver box, or suspended in caskets of silver around their necks. They are sectarian saivavi, and they do not in their creed recognise castes nor acknowledge brahmans. The customs and belief of this sect were fully described by Mr. C. P. Brown in the Madras Literary Journal. They are very numerous amongst the Canarese speaking people from Salem through Mysore northwards to Panderpoor on the Kistnah, and further north towards Kalliani fort, where the sect was originated in the thirteenth century by a brahmin named Basava. But further north, even in the Oomraoti district of East Berar, there were, in 1869, 7,670 of this sect. Their avocations are almost solely those of civil life, in agriculturists and shop-keepers. They are rigid in external ceremonial, but they have loose ideas in morals, probably resulting from what Wilson states as their belief in the inferiority of women and from their licentious habits they are often before the criminal courts. The great bulk of them are such rigid vegetarians, they will not even bring any living creature to a flesh-eater. Their dislike to brahmins is such that they use every means to prevent their settle-

ment in their villages; but, though by their creed they should abstain from caste distinctions they are the most exclusive of all the religionists in India, the followers of every different trade or avocation refuse to eat together or intermarry, the Jangam alone adhering to their law. They have made differences in their avocations equivalent to the caste or race distinctions.

The Jains alluded to in that census are the people usually called Marwari. They are a mercantile body and bankers, who conduct, almost exclusively, the entire banking business of India. Their name is erroneously supposed to be derived from the Malwah or Marwar territory, and almost all of them are of the Jain religion. Colonel Tod tells us that they are of Rajpoot origin, one of them, the Oswal is the richest and most numerous of the eighty-four mercantile tribes of India, and is said to amount to one hundred thousand families. They are called 'Oswal" from their first settlement, the town of Ossi. They are all of pure rajpoot birth of no single tribe, but chiefly Pura, Solanki and Bhatti. All profess the Jain tenets, and the pontiffs of that faith must be selected from the youth of Ossi. These great bankers and merchants are scattered throughout India, but are all known under one denomination, Marwari, which is erroneously supposed to apply to the Jodpoor territory, whereas, in fact, it means belonging to Maroo, the desert. It is singular he adds (Rajasthan ii. 234) that the wealth of India should centre in this region of comparative sterility. The Marwari is essentially following similar mercantile pursuits to the vaisya Komati of the Peninsula of India, viz. that of banker, and merchant, to which, however, the Komati add that of retail shopkeeping. If a Marwari engaged in business in the Peninsula, be asked as to his caste, he replies, that he is a Mahajan, a Bania, a Bais, or Vais, meaning that his profession is of that section of the people. But on further question, he explains that originally the Marwari was a rajpoot; that there are twelve great tribes, of whom are the Oswal, Messar, Agarwala, Saraogi Meddat-war, Parwar, Bijabargi, and five others. These all subdivide into innumerable "kap" or clans; in the Messar tribe alone, are 72, amongst whom are the Rathi and Dhaga. All the Marwari adhere to the "gotra" principle, taking their descent from a founder, and in their marriage ceremonies they abstain from the blood relationship never marrying in their own gotra. Their widows never re-marry.

It is to this peculiar separatist feature that Mr. Hodgson alludes, when he remarks that no question of Indian ethnology is insulated, for if we begin, even with the humblest tribe, we find that we are dealing with a portion of some great mass of the human race. Thus, he adds, "we cannot take up the investigation of a seemingly narrow topic like that of the Kuki, the Chepang, or the Gond tribes, without finding ourselves engaged in unravelling some intricate, but important, chapter of the history of one of those large masses of human kind the Indo-Chinese, the Tibetans, or the Tamulians."

It is now generally recognised that a great part of the inhabitants of British India, in the Peninsula and Hindustan, are of the Turanian, Mongolian or Scythic race, and are regarded by Europeans as the earlier occupants of the country. They are styled by Mr. Hodgson the Tamulian races and Dr. Caldwell classes the speech they use, under the term Dravidian. All these designations are framed to distinguish them from the Arian race (Iranian, Indo-Atlantic or Caucasian) who, under the British, are to be found in all posts of honour from the snowy mountains in the north to the southern-most point of the Peninsula of India; in whom, too, the characteristics of a haughty pride and a bold, independent, even arrogant, bearing towards all other races, are displayed no less prominently than amongst their kindred of Indo-Germanic origin,—"fierce, ruthless and beautiful,"—who streamed westerly into Europe from the south and south east of the Caspian sea, during the same ages before the Christian era, that the eastern Arians were moving on India along the valley of the Indus. We here see kindred, long and wide apart, who set out four or five thousand years ago for conquest and dominion, meet, far from their primitive seat; and meet, too, as dominant races, each in their own way powerful and each striving for greater power. Humboldt (Colonel Sabine's translation of Cosmos, Vol. II. p. 40), calls these the East Arians or the Brahminic Indians, to distinguish them from the West Arians, or Persians, who migrated into the northern country of the Zend, and were originally disposed to combine with the dualistic belief in Ormuzd and Ahrimanes a spiritualized veneration of nature.

These races have received various names, originating perhaps in the retention of old vague designations, as well as those known as Turanian, Tamulian, Dravidian and Scythic, all of them general terms. Dr. Mason, for instance, tells us (p. 36) that Scythia, was the name given by the Greeks to the country occupied by Tartar races, and according to Johannes Tzetze the Byzantian, it included the Asbasgæ, Alan, Sakæ, Dakæ, Rhos, Sauromatæ and every nation dwelling by the blasts of Boreas. At the present day Tartar, Tatar, or Tahtah, is a term applied to the Manchu of China, who are called a Tartar dynasty: the Bhot of the Himalayan frontier of Tibet are

also called Tartars, as also are the Turk of Khoten and Yarkend or Little Bokhara, and the Tartars ruling China are Manchurian Tangus.

Many of the Scythic tribes have entered India, mostly as conquerors, the Gete, the Takshac, the Asi, Katti, Rajpali, Hun, and Kamari. They seem to have brought with them a worship, out of which ultimately was formed the buddhist religion as promulgated by Sakya Muni. These Indo-Scythic tribes also brought with them their northern custom of using tribal designations, taken from the names of animals, Varaha, the hog, Numri or Lumri the fox, Takshac, the snake, Langaha, the wolf, Cutchwaha the tortoise, Aswa or Asi the horse, Seesodya from Seesoo the hare, &c. and several of them still hold large possessions in the Western parts of Central India and in Beluchistan. Some of them even carried their names into Europe. Asi was the term by which the Gete, Yeut or Jut were known, when they invaded Scandinavia and founded Yeutland or Jutland. The Asi nomades took Bactria from the Greeks, and Mr. Prinsep considers them to be Scythians of Azes, who overpowered the Greek dynasties in Sogdiana and northern Bactria, between 140 and 130 B. C.—(*Rajasthan, Vol. I. p.* 61 ; *II.* 233 ; quoting the *Edda.*)

Mr. Hodgson, writing on the northern races, remarks that the great Scythic stem of the human race is divided into three primary branches, the Tungus, the Mongol, and the Turk. The first investigators of this subject urgently insisted on the radical diversity of these three races : but the most recent inquirers are more inclined to unitise them. Certainly, he adds, there is a strong and obvious character of physical (if not also of lingual) sameness throughout the Scythic race : and it is remarkable that this peculiar character belongs also to all the aborigines of India, who may be at once known, from the Cauvery to the alpine Cosi and Bhagarati by their quasi-scythic physiognomy, so decidedly opposed to the caucasian countenance of the Arians of India. Mr. Hodgson also suggests that there will be found among the aborigines of India a like lingual sameness, and that consequently very extended and very accurate investigation will alone suffice to test the real nature and import of the double sameness, physical and lingual. That all the aborigines of India are Northmen of the Scythic stem, seemed to him decidedly and justly inferrible from their physical characteristics. But, inasmuch as that prodigious stem is everywhere found beyond the whole Northern and Eastern boundary of India, not merely from Attok to the Brahmaputra, where these rivers cut through the Himalaya, but also from that point of the latter river all the way to the sea ; and inasmuch as there are familiar ghats or passes over the Himalaya throughout its course along the entire confines of India from Kashmir to the Brahmakund, he thinks it follows of necessity that very careful and ample investigation will alone enable us to decide upon the question of the unity or diversity of the aborigines of India, in other words to decide upon the questions, whether they owe their confessed Scythic physiognomy to the Tungus, the Mongol or the Turk branch of the Tartars or Scythians, and whether they immigrated from beyond the Himalaya "the hive of all nations" at one period and at one point, or at several periods and at as many points. Between Gilgit and Chittagong there are 100 passes over the Himalaya and its south-eastern continuation to the Bengal Bay ; while for the time of passage, there are ages upon ages before the dawn of legend and of chronicle.

Mr. Hodgson inclines to the opinion that the aborigines of the sub-Himalaya, as far east as the Dhansri of Assam, belong to the Tibetan stock, and east of that river to the Chinese stock—except the Garo and other tribes occupying that portion of the hills lying between Assam and Sylhet ; and that the aborigines of the Tarai and forest skirting the entire sub-Himalaya, inclusive of the greater part of the marginal circuit of the Assam valley, belong, like those last mentioned, to the Tamulian stock of aborigines of the plains of India generally. But what he asks is this Tamulian stock ? what the Tibetan stock ? and what the Chinese ? and to which of the three grand and well known branches of the Scythic tree (Tungus, Mongol, Turk) do the Tamulians, the Tibetans and the Chinese belong ? Of the aborigines of Central India, of several of whose languages lists have been obtained ; the affinities of these tongues are very striking ; so much so that five of them may be safely denominated dialects of the great Kol language : and through the Uraon speech we trace without difficulty the further connection of the language of the Kol with that of the "hill men" of the Rajmahal and Bhagalpur ranges. Nor are there wanting, he believes, obvious links between the several tongues above enumerated—all which may be classed under the head Kol—and that of the Gond of the Vindhya whose speech again has been shown by Mr. Elliot to have much resemblance both in vocables and structure to the cultivated tongues of the Deccan.

Mr. Hodgson's hypothesis, in his essay on the Koch, Bodo and Dhimal, is that all the Tamulians of India have a common fountain and origin, like all the Arians ; and that the innumerable diversities of spoken language characterising the former race are but the more or less superficial effects of their long and utter dispersion and segregation, owing to the

savage tyranny of the Arian race in days when the rights of conquest were synonymous with a license to destroy, spoil and enslave. He considers that the Arian population of India descended into it about 3,000 years ago from the north-west, as conquerors, and that they completely subdued all the open and cultivated parts of Hindostan, Bengal and the most adjacent tracts of the Dekhan, as Telingana, Gujerat and Maharashtra, or the Mahratta country, but failed to extend their effective sway and colonization further south, and that this may be regarded as a historical deduction confirmed daily more and more by the results of ethnological research. Brachmanes nomen gentis diffusissimæ cujus maxima pars in montibus (Ariana) digit, reliqui circa Gangem. (*Cell. Geogr.*) And we thus, he adds, find an easy and natural explanation of the facts that in the Dekhan, where the original tenants of the soil have been able to hold together in possession of it, the aboriginal languages exhibit a deal of integrity and refinement, whilst in the north, where the pristine population has been hunted into jungly and malarious recesses, the aboriginal tongues are broken into innumerable rude and shapeless fragments, but which may yet be brought together by large and careful induction. Mr. Robinson, in paper upon sundry of the border of tribes of Assam, in the B. As. Journal, No. 201, for March, 1849, asserted the affinity of these tribes (the Bodo and Garo amongst others) with the people of Thibet. But Mr. Hodgson thinks that Mr. Robinson had overlooked the physical and psychical evidence which are each of them as important as the glottological, towards the just decision of a question of ethnic affinity. Much of the mechanism of the whole of the Turanian group of languages is common to every one language of that group, and the Tamulian and Tibetan languages are held to be integral parts of that group. He thinks that if the Bodo, for example, were of Tibetan origin it is hardly credible that their ordinary vocables should not plainly reveal the fact, seeing that they have never been out of actual contact with races of the same descent as that ascribed to them. The Sub-Himalayan dialects differ from the trans-Himalayan standard : but identity is here shown in the roots as well as in the mode of agglutinating the servile particles ; not to mention that the snows form such a barrier in this case as exists not in regard to the Bodo intercourse with tribes of Tibetan origin. The same general result follows from a careful examination of vocabularies. Apparently the Tibetan, like the Hindi, wordas at no adopted ones.—(*Mr. Hodgson on the* for *nes of North-Eastern India in Beng* , *Journ.*)

Languages.—Chevalier of some ssor Muller, Dr. Pritchard, Dr. 24 d well, Mr. Hodgson, Mr. Earl, Mr. Logan and the Revd. F. W. Farrar are the most recent writers on the classes of languages spoken by the races in South Eastern Asia. The offshoots from these, are very numerous. Along the low level tract which runs bordering the ocean from the Red Sea to the southernmost point of the Malay Peninsula, we find the Arabic, Turkish, Sindi, Guzerati, Marathi, Hindustani, Konkani, Canarese, Tulu, Malayalum, Singhalese, Tamil, Telugu, Urya, Bengali, Burmese, Chinese, and Malay, a number of languages truly perplexing to traders on the sea-board of Southern Asia. A Master Mariner, Master Richard Kynge writing in 1634, notices this, saying "and in this founde wee oftimes much trouble and vexation, with moreover losses, both of precious time and lucre. *Fyrste*, that wee could never aske in Indian tongues for such herbes, or fruites, wodes, barks or gummes, as wee knew full well, by experience in sundrye other partes, to bee wholesomme (many of our crewe lying sicke at the tyme), or savorye, or usefulle to trafficke withall. *Nexte*, that when anye were shewne us, we coulde in noe-wise tell, from ; names given to them by ; Gentooes whether or noe ; like were already knowne, in European countryes ; and yett these parts doe myghty-lie abound with herbes and woodes of sovraigne virtue." (*Piddington, Index.*)

All of these tongues come under one or other of the classes or families into which philologists arrange the languages of the old world.

In Dr. Pritchard's classification, (Report British Association 1847, Pages 241 to 250) we have four groups, or dynasties of language, three of which are confined to Europe and Asia, a fourth being common to Africa and those parts of Asia which are near that continent. The first of his four groups is 1. the Indo-European, sometimes termed Indo-Germanic, and by late writers the Arian or Iranian languages. He considers that the Indo-European languages and nations may be divided into many different groupes in the order of their affinities for instance ; but he regards the most obvious division to be a geographical one, and he styles his first, the eastern group, which, by many writers has been termed exclusively the Arian family of tongues. It includes all the idioms of the ancient Medes and Persians, who named themselves Arii, and their country Eriene or Iran, and likewise the Sanskrit with all the Prakrits, properly so termed, and the Pali of India. Among the former was that ancient Persian language in which one particular set of the cuneiform inscriptions was written. This dialect was so near the Sanskrit that the inscriptions have been interpreted through the medium of that language. The Zend lays claim to a still higher antiquity, since the Zend is

said by Burnouf, Professor Wilson and others who have studied it most successfully, to be more nearly allied to the very ancient dialect of the Vedas, which preceded the classical Sanscrit, than it is to this last more cultivated speech. How this claim is to be reconciled with the comparatively recent date of all extant compositions in the Zendish language, remains, he considers, to be explained. But that the high castes or "twice born" classes of the Indian race as they term themselves, the brahman, the chetriya and the vaisya, hindu, were of the same stock as the ancient Persians, may be regarded as a fact established by the affinity of their languages.

They also have the name of *Aria*, which means noble or dignified, and this is doubtless the origin of the epithet Αριοι which, as we learn from Herodotus (vii. 62) the ancient Medes assumed. Dr. Pritchard is of opinion that the Arian hindus must have crossed the Indus and have driven the aboriginal Indians across the Vindhya mountains and the Nerbudda into the Dekhan, where they still exist and speak their native languages, though mixed more or less with the Sanskrit of their Arian conquerors.

He adds that some other Asiatic nations of inferior note speak dialects more remotely connected with the same group of the Indo-European languages. Among these are the Pushtaneh or Affghan, the Armenian and the Ossetes, and some other nations of the chain of mount Caucasus.

He is further of opinion that the Indo-European languages are the natural idioms of all those races who at the time of the Great Cyrus became and have ever since continued to be the dominant nations of the world. And he only excepts from this remark those instances in which certain Syro-Arabian or Ugro-Tartarian nations, under some extraordinary impulse, as the mahomedan outbreak, assumed or recovered a partial sway over some of the weaker divisions of the Indo-European race.

On this point, also, Chevalier Bunsen remarks (*Rep. Brit. Ass.* 1857) that all the nations which, from the dawn of history to our days, have been the leaders of civilization in Asia, Europe and Africa, must have had one beginning, and it may be pointed out that eight distinct families of speech, the Indian, Iranian, Hellenic, Italic, Keltic, Slavonic, Lithuanian and Teutonic have all sprung from a parent speech.

The Revd. F. W. Farrar has recently published a series of lectures delivered by him on the families of speech, but in 1860, he gave the following synopsis of the same subject.

I.—Arian. This family of languages has received several names. It is the Indo-European and Indo-Germanic of some philologists. Pictet and Burnouf called it Arian from the Sanscrit word Arya meaning noble: Rask called it Japhetic. According to Mr. Farrar, it has eight divisions

Hindu.	Greek.	Lithuanian.	Tutonic.
Persian.	Latin.	Sclavonic.	Celtic.

Of these it is uncertain whether Celtic or Sanskrit represents the older phase. But it is known that all of them are the daughters of a primeval form of language which has now ceased to exist, but which was spoken by a yet undivided race at a time when Sanskrit and Greek had as yet only implicit existence.

II. Semitic of Eichom, from Shem is the Syro-Arabian of Farrar and Arabic of Leibnitz.

The race speaking this family of languages ignorant of science and theocratic, has devoted itself to the expression of religious instincts and intuitions, in one word to the establishment of monotheism.

It has, according to Mr. Farrar, three main branches.

Aramaic divided into two dialects, Syriac, Chaldee.

Hebrew, with which is connected the Carthaginian, Phœnician and Arabic.

Besides these, Egyptian, Babylonian, Assyrian and the Berber dialects are now considered to have a Semitic character by Champollion Bunsen (Egyptian) Lassen, Eugene Bornouf, Dr. Hincks, Sir H. Rawlinson (Assyrian) and Prof. F. Newman (Berber.)

III. Turanian, Nomadic or Allophyllan of Pritchard are names applied to all languages not belonging to the Arian or Semitic, and which comprise all tongues spoken in Asia or Europe not included under the Arian and Semitic families, with the exception perhaps of the Chinese and its dialects: These are,—

Tungus.	Turki.	Finn.
Mongol.	Samoiede.	

The writers on this class are Rask, Klaproth, Schott; Castren, and Muller. But even Dr. Muller admits that the characteristic mark of union, ascertained for this great variety of languages are as yet very vague and general, if compared with the definite ties of relationship which severally unite the Semitic and Arian. The Turanian languages occupy by far the largest portion of the earth, (viz., all but India, Arabia, Asia Minor and Europe) but except agglutination there is not a single positive principle, which can be proved to pervade them all. It has points of affinity with the languages of Africa and America and even with the Chinese.—(*Essay on the origin of*

Language by F. W. Farrar, A. M., London 1860.)

Dr. Prichard writing on the Indo-European stock of languages observes that the principal branches are

1. The Greek language and its dialects, and he thinks it probable that the Lydian and other languages of lesser Asia, and perhaps also the Thracian and Macedonian were altered to the Hellenic or Pelasgic Greek.

2. The old Eperotic and Illyrian, a language still well known as the Skippetarian or Albanian or Arnaut, is a distinct Indo-European idiom.

3. The old Italic languages, comprehending the Latin, Umbrian, Oscan, Siculian and excluding the Rasenic or Etruscan.

4. The Etruscan was probably an Indo-European dialect, though distinct from the Italic. Very little is, however, known about this language.

5. The old Prussian, including the Lettish and Lithuanian, said to resemble the Sanscrit more nearly than any other language.

6. The Germanic family of languages.

7. Slavonian and Sarmatian dialects comprehend the languages of eastern Europe, Russian, Polish, Bohemian and the dialects in the greater part of Europe subject to the Turkish empire.

8. Celtic.

He mentions that the Teutonic and Scandinavian tribes of the German race, were known to Pytheas, who sailed on the Baltic in the times of Aristotle; and that the brahmans probably spoke Sanskrit at the court of Palibothra when they were visited by Megasthenes in the age of the first Seleucus. All ancient Germany, Scandinavia, Sarmatia, Gaul and Britain, Italy, Greece, Persia, and a great part of India, were then inhabited by nations separate and independent of each other, speaking different languages, but languages, analogous and palpably derived from the same origin.

By the method of examining languages through their grammatic forms rather than by separate words Frederich Schlegel showed the intimate historical connexion between the Sanscrit, the Persian, the Greek, the Roman, and the Germanic languages and the following illustrations may be given:

Grimm, the philologist, discovered as the law of transposition of sounds in the Sanscrit, Greek, Roman and Gothic words, that the letters P. B. F. are interchangeable; also T. D. and H. also K. G. and X. H.

Sanscrit.		Greek.	Latin.	Gothic.	Old, High German.
Padas,	(foot)	πους	pes, pedis	fotus	vuoz
Pancha,	(five)	πεντε	quinque	finif	vinf
Purna,	(full)	πλεος	plenus	fulls	vol
Pitri,	(father)	πατερ	pater	fadrein	vatar
Upari,	(over)	υπερ	super	ufar	ubar
Vrisha,	(cow)	.....	vacca		fersa
Virisha,	(hemp)	κανναβις	cannabis		hanf
Bala,	(young)	.....	bullos		folo
Bhanj,	(to break)	.....	frangere	brikan	prechan
Bhuj,	(to enjoy)	.....	frui-fructus	brukon	pruchon
Bhratri,	(brother)	.....	frater	brother	pruodar
Bhri,	(to bear)	φερω	fero	baira	piru
Bhru,	(brow)	"οφρυς	.....	.....	praua
Kapola,	(head)	κεφαλη	caput	haubith	houpit
Tvam,	(thou)	τυ	tu	thu	du
Tam,	(him)	τον	is-tum	thana	den
Trayas,	(three)	τρεις	tres	threis	dri
Antara,	(other)	ετερος	alter	anthar	andar
Dantam;	(tooth, acc)	"οδοντα	dentem	thuntu-s	zand
Dvau,	(two)	δυο	duo	tvai	zuene
Daxina,	(right)	δεξια	dextra	taihsvo	zesawa
Uda,	(water)	υδωρ	unda	vato	wazar
Duhitri,	(daughter)	θυγατηρ		daubtar	tohtar
Dvar,	(door)	θυρα	fores	daur	tor
Madhu	(sweet)	μεθυ			meto.
Svanam	(dog)	κυων	canis	hunths	hund.
Hrid	(heart)	καρδια	cor (dis)	hairto	herza.
Akscha	(eye)	"οκος	oculus	augo	ouga.
Ashru	(tear)	δακρυ	lacryma	tagr	zahar.
Pashu	(cattle)		pecus	faihu	vihu.

Sanscrit.		Greek.	Latin.	Gothic.	Old, High German.
Svashura	German Schwaher, Schwager)	" εκυρος	socer	svaihra	snehur.
Dasan	(ten)	δεκα	decem	taihun	zehan.
Jna	(to know)	γνῶμι	gnosco	kan	chan.
Jati	(kin)	γενος	genus	kuni	chuni.
Janu	(knee)	γονυ	genu	kniu	chniu.
Mahat	(much)	μωγας	magnus	mikls	mihil.
Hansa	(goose)	χεν	anser	gans	kans.
Hyas	(yesterday)	χθες	heri	gistra	kestar.
Lih	(to lick)	λειχω	lingo	laigo	lekom.

The Lithuanian follows generally the three old languages, Sanskrit, Greek and Latin, only substituting, from its deficiency in aspirates, unaspirated for aspirated letters, for instance:—

Sanscrit.		Lithuanian.	
Ratha	(waggon)	rata	(wheel.)
Ka	(who	ka	(who?)
Dadami	(Igive)	dumi	.....
Pati	(master)	pati	(husband.)
Panchan	(five)	penki	.....
Trayas	(three)	trys	.....

C. C. Bunsen Rep. Brit. Ass. 1847, *p.* 263.

For this family of languages, however, Chevalier Bunsen,(Report British Association 1847, p. 263,) proposes the term Iranian and to subdivide Dr. Pritchard's Indo-European group into two, viz.

A great Asiatic European group of eight families, into one of which, viz. his Asiatic-Iranian, he places the languages of Iran proper or the Arian stock, viz. those of Media and Persia, including the Zend of the cuneiform inscriptions and the Zend Avesta; the younger Pehlevi of the Sassanians and the Pazend, the mother of the modern Persian tongue: the Pushtu of the Affghans belongs to the same branch.

The second of his subdivision embraces the Iranian languages of India, viz. the Sanscrit and her daughters.

2. The Ugro-Tartarian languages, the languages of High-Asia and other regions, which other writers style Turanian, are those of Dr. Pritchard's second group of nations belonging to the same great family and include the various hordes who have been known under the names of Tartar, Turk, Mongol, Mantchu, and Tungus. All these nations appear, from the result of late researches, to be allied in descent, though long supposed to be quite separate. In the vast wilderness extending from the chain of the Altai to that of the Himalaya are the pasture-lands, where, during immemorial ages, the nomadic tribes of High Asia have fed their flocks and multiplied those hordes which from time to time descended in immense swarms on the fertile regions of Asia and of Europe. Perhaps the earliest of these invasions of the civilized world was that of the Hiong-nu, expelled from the borders of China by the powerful dynasty of the Han. These were the people who, after their inroad on the Gothic empire of Hermanrich, made their way, under Etzel or Attila, into the heart of France. Hordes from the same regions under Togrul-Beg, and Seljuk, and Mahmud of Ghizni, and Jengiz, and Timur and Othman, overwhelmed the kaliphat and the empires of China, of Byzantium, and of Hindustan, and lineal descendants of the shepherds of high Asia still sit on the throne of Cyrus, and on that of the Great Constantine. As a branch of the Ugro Tartarian, he speaks of some of the insular nations to the eastward of Asia and near the coast of the Pacific Ocean. The idiom of the islands comprised in the empire of Nippon, as well as that of the independent Liukiu Archipelago, bears some signs of affinity to those of the Ugro Tartarian nations, and he adds that Mr. Norris, who has studied the Japanese, and whose very extensive knowledge of languages renders him a great authority in such questions, had assured him that the principle of vocalic harmony and other phenomena of the Tartar languages prevail in the idiom of the Japanese and Liukiu islands.

In his group of the Ugro-Tartarian, Dr. Pritchard classes the aboriginal inhabitants of India who, he supposes, were expelled from Hindustan, by the brahmins and the Arian people who accompanied them across the Indus, and retired, as it is supposed (on apparently insufficient proof,) into the Dekhan. They still occupy the greater part of that peninsula, and a portion, at least, of the island of Ceylon. Their idioms—the Tamil,

the Telugu and the Karnataka of the Mysore, —are sister dialects of one speech, and he considers it likely that the languages of the mountain tribes of India, the Bhil, the Gond, the Toda and others, belong to the same stock. Dr. Pritchard adds that professor Rask had conjectured that these nations are also of the Tartar stock. Their language has some of the peculiarities of structure which have been pointed out. He also observes that there are some curious analogies between the Tamulian and other dialects of the Dekhan and the languages of Australia, with which we have obtained some acquaintance through the labours of Mr. Threlkeld and several other missionaries, and from the able researches of Captain Gray.

Dr. Latham's views.—In the Report of the British Association for 1845, Dr. Latham remarks that the distinction between the languages of Thibet and China, as exhibited by Klaproth, must be only provisional: over and above the grammatical analogy there is an absolute glossarial affinity. Of the languages of the transgangetic peninsula the same may be asserted. Where languages are monosyllabic slight changes make palpable differences. The vocabularies of Brown, for more than a score of the Burmese and Siamese tongues, have provided us with data for ethnographical comparisons. By dealing with these collectively, we find in one dialect words which had been lost in others. The Chinese, Thibetan, Bhootan, Burmese, Siamese, and all the so-called monosyllabic languages hitherto known, are allied to each other. The general affinities of the Indo-Chinese tongues are remarkable. With Marsden's and Sir Stamford Raffles' tables on the one side, and those of Brown and Klaproth on the other, it can be shown that a vast number of Malay roots are monosyllabic. The Malay languages are monosyllabic ones, with the superaddition of inflections evolved out of composition, and euphonic process highly developed.

Baron Bunsen's views.—And Chevalier Bunsen also observes (Report Brit. Ass. 1847) that the researches of our days have made it more than probable that the Tartar, Mantchu and Tungus belong to one great stock; that the Turkoman, Chud, Fin, Lap and Magyar (Hungarian) present another stock closely united and that both these families are originally connected with each other. He proposed to call this whole group of languages the Turanian, and in lieu of Indo-Germanic or Indo-European he proposed the term Iranian, following the antithesis of Iran and Turan, established by Heeren and Carl Ritter. He further remarks that "these nations, who probably may be reduced to two families, one centreing in the Altai and the pasture lands towards the Himalaya, and the other having its centre in the Ural mountains, have acted in the history of civilisation a most powerful episode by conquest and destruction. They appeared in the fifth century as the Huns, a scourge to Romans and Germans; they produced Jengiz Khan, Timurlang and Mahomed II.; they destroyed the Persian empire, subdued Hindustan, and they still sit upon the throne of Byzantium and upon that of China. They seem destined to partake only by conquest in the higher civilisation of the surrounding nations, older or younger ones, the Chinese presenting the one extreme, the Iranians the other. Little disposed to learn from them as neighbours or subjects, they become more or less civilized by being their masters. They cannot resist the inward force of the civilisation of their subjects, although they repel it, as an outward power.

It will, thus, be seen that Chevalier Bunsen's names differ from those of Dr. Pritchard. He classes one group as the great Asiatic European stock of languages, which he sub-dividies into eight families, viz. 1. Celts, 2. Thracian or Illyrian, 3. Armenian, 4. Asiatic—Iranian; 5. Hellenico—Italic, 6. Slavonic, 7. Lithuanian tribes and 8. Teutonic.

His fourth or Asiatic Asian, or the Iranian stock as represented in Irania, he again subdivides into :—

1. The nations of Iran proper or the Arian stock, the languages of Media and Persia. It includes the Zend of the cuneiform inscriptions and the Zend Avesta. The younger Pehlevi of the Sassanians and the Pa Zend the mother of the present or modern Persian tongue. The Pushtu or language of the Afghans belongs to the same branch.

2. The second sub-division embraces the Iranian languages of India, represented by the Sanscrit and its daughters.

His Semitic stock of languages he constructs from the following nations who form another compact mass, and represent one physiologically and historically connected family; the Hebrews, with the other tribes of Canaan or Palestine, inclusive of the Phœnicians, who spread their language, through their colonization, as that of the Carthaginians; the Aramaic tribes, or the historical nations of Aram, Syria, Mesopotamia and Babylonia, speaking Syrian in the west, and the so-called Chaldaic in the east; finally, the Arabians, whose language is connected (through the Himyaritic) with the Æthiopic, the ancient (now the sacred) language of Abyssinia. He calls this second family by the name now generally adopted among German Hebrew scholars, the Semitic.—Chevalier Bunsen further remarks as the first lesson which the knowledge of the Egyptian language teaches that all the nations which from the dawn of history to our days have been the leaders of civilisation in

Asia, Europe and Africa, must have had one beginning. He adds that the researches of our days have very considerably enlarged the sphere of such languages of historical nations, as are united by the ties of primitive affinity. Those researches have made it more than probable that the Tartars, Mantchu and Tungusians belong to one great stock; that the Turkomans, as well as the Chudes, Fins, Laplanders and Magyars (Hungarians) present another stock closely united, and that both these families are originally connected with each other.

These tribes appear also as the once subdued substratum of Iranian civilisation. So in the north of Europe, where the Finnic race preceded the Scandinavians.

But the same great family appears also in Asia as the subdued or primary element. It seems probable, that the aboriginal languages of India, which attained their full development in the Dekhan dialects, belong to this stock, not only by a general analogy of structure, but also by an original and traceable connexion.—He remarks that colonies may either preserve the ancient form, or become the occasion of a great change. Thus the ancient language of Tibet, which is in the Chinese traditions the land of their earliest recollections, may have been preserved by the colonists who formed the Chinese empire, while Tibet went further in its development.

In a similar position we find another member of that family in western Europe. It there preceded the Celts, in the Iberians and Cantabrians, whose language is preserved in the Basque (Biscayans). Those tribes were once prevalent in France and Spain, probably also in Italy. Their language has the same structure, and certainly some signs or vestiges of a material conversion in roots, with the Altai-Ural idioms. He concludes by remarking that his historical formula respecting this formation will therefore be as follows:—all the nations, who in the history of Asia and Europe, occupy the second rank as to the civilising power they have hitherto displayed, are probably as much of one Asiatic origin as the Iranian nations are. They centre on the northern borders of the Himalaya, and everywhere in Central Asia are the hostile, savage neighbours of the agricultural Iranian people whom they have disturbed and dispossessed in different ages of history, having probably themselves been primitively driven by them, as nomades by agriculturists, from a more genial common home. He indicates summarily, the relation of this great family with the three great families into which the leading nations of civilization, as children of one stock, appear to be divided. The names of Cham, Shem and Japhet (the last equivalent with Indo-Germanic) represent to us scientifically three steps of development of the same stock. He asks with which of these leading nations is that great Altai-Ural family originally connected, and to which of these three great divisions, Chamism, Semitism and Japhetism do these secondary families more particularly approach. He considers there is no doubt of such a connexion, but adds that at the same time we find these languages, although very inferior to those Indo-Germanic tongues, more nearly allied to them than to Chamism and Semitism. They represent like Cham and Shem, a lower degree of development, if compared with the Iranian languages, but a degree of their own, starting as it were from the opposite pole. The tongues of High Asia form with these most perfect languages, a decided opposition to the Chamitic and Semitic branches. They are more advanced than these, and therefore later, but so to say, advanced in awrong or less imperfect way. It is for this reason that he proposes to call this whole family the Turanian, and the Indo-Germanic or Indo-European the Iranian, following, as was said, the antithesis of Iran and Turan established by Heeren and Carl Ritter. And, indeed, he adds the more we go back to the most ancient historical traditions of the Japhetic family, particularly in India and Persia, the more we see how the two branches, the Iranian and the Turanian, though always in opposition to each other are to be considered but as diverging lines from the common centre. (See Lassen, Indische Alterthumskunde, p. 728) In a note, he adds that Doctor Max Muller, gave him the following data for this assertion. "In the hymns of the Rig Veda, we find still the clearest traces, that the five principal tribes, the Yadu, Turvasa, Druhyu, Anu, and Puru, were closely connected by the ties of nationality, and had their gods in common. In the succeeding age, that of the epic poetry of the Mahabharata, these five nations are represented as the sons of Yayati one of the old fathers of mankind. Yayati curses four of his sons, and the curse of the Tur-vasa is, to live without laws and attached to beastly vices in the land of barbarians in the North. In this name of Tur-vasa, as well as afterwards in the name given to the Indo-Scythian kings in the history of Kashmir, Turushka, we find the same root as in the Zend Tura, the name of the nations in the north. But "tura" itself means quick, from tvar, to run, to fly, and thus the very name of these tribes gives the same characteristic of these nomadic equestrian tribes, which afterwards is ascribed to them by Firdusi, and which makes them always appear in India as well as on the Sassanian inscriptions of Persia, as the An-iran, or non-Arian people; that is, as the enemies of the agricultural and civilising nations."

And, further on, he adds, likewise, his belief that Wilhelm von Humboldt has established the connexion between the Polynesian languages and the Malay or the language of Malacca, Java and Sumatra, and that this Malay language itself bears the character of the non-Iranian branch of the Japhetic family. Whether the Papua languages, spoken in Australia and New Guinea and by the aborigines of Borneo, of the Peninsula of Malacca and of some small Polynesian islands, be a primitive type of the same stock as the Malay which afterwards in many parts superseded it,—is a point that in his opinion must remain uncertain until we receive from the hands of the missionaries a Papua grammar. But we thus, he adds, see that Asia (with the exception of China and Tibet), the whole of Europe and probably of America and the Polynesian islands (at least in their secondary stock) belong to one great original family, divided into the Iranian and Turanian branches and he calls this definitively the Japhetic race. In many parts we know that the Turanian race has preceded the Iranian: its language certainly represents an anterior step or preceding degree of development. In some parts we find that the Turanian race succeeded to a still older native element.

Dr. Pritchard's THIRD family of languages belonging to the great Asiatic continent, are the Chinese and Indo-Chinese idioms or the monosyllabic and Indo-Chinese languages. They are, however, in his opinion, associated by the resemblance of their structure, consisting of monosyllabic words and not by any considerable number of common vocables. Other languages have monosyllabic roots, as the Sanskrit, but the words of the Sanskrit become polysyllabic in construction; not so the Chinese, which are incapable of inflection, and do not admit the use of particles as a supplement to this defect—the position of words and sentences being the principal means of determining their relation to each other and the meaning intended to be conveyed. Baron William von Humboldt has observed that conversation in these languages therefore requires a greater intellectual effort than is necessary to comprehend the meaning of sentences spoken in the inflected languages. And he remarks that all the nations who speak these languages bear a considerable resemblance to each other in their mental character and disposition, and still more obviously in their physical characters, in which, however, some varieties are observable. Strongly marked as the peculiarity of the monosyllabic languages undoubtedly is, they are not as a class so completely insulated as many persons imagine. The Bhotia or Tibetan language belongs to this family, but it is in some respects intermediate between the monosyllabic languages in general and the Mongolian, which is one of the Tartarian group.

Dr. Latham however is of opinion (*Report Brit. Association* 1845, *p.* 77) that in addition to their grammatical analogy there is an absolute glossarial affinity between the languages of Tibet and China, and he thinks that the same may be asserted of the languages of the transgangetic peninsula. In examining the vocabularies of upwards of twenty of the Burmese and Siamese tongues, words are found in one dialect which have been lost in others, he mentions that the general affinities of these Indo-Chinese tongues are remarkable, and that the Chinese, Tibetan, Bhootan, Burmese, Siamese and all the so-called monosyllabic languages, hitherto known, are allied to each other. A vast number of Malay roots are monosyllabic, the Malay languages being monosyllabic ones, with the superaddition of inflictions evolved out of composition and euphonic processes highly developed. And, he continues, "the next class of tongues akin to the monosyllabic is that of Caucausus. The numerous languages of this class have long been reduced to four groups; the Georgian, the Lesgian, the Circassian, the Mizdzhegi. That these four are fundamentally one, may be seen from Klaproth's tables, whose classification seems only provisional. These tongues, dealt with *en masse*, have their affinities with the monosyllabic tongues. As with the Malay language, the monosyllabic character is modified by the evolution of agglutinational and inflectional processes, but not much by euphonic processes. An original continuity of language, displaced at present by the Turkish and Mongol, is thus assumed for parts between Caucasus and Thibet. (*Dr. Latham in Rep. Brit. Ass.* 1845. *pp.* 77, 78.) The same author observes that a monosyllabic basis of separate words is provisionally assumed as the fundamental element out of which inflections are evolved by agglutination and amalgamation. This makes it possible that poly-synthetic tongues, like the American, may be represented in their earlier stage by monosyllabic tongues like the Chinese. Glossarial investigations confirm both these views. There is a radical unity for the different Siberian groups of the Asia Polyglotta, *e. g.* Yukageer, Yenesean, Samoeide, &c., and *a fortiori* for the Turk, Mongol, and Manchu groups. Each and all of these have affinities with the monosyllabic tongues, and through these with the Malay and Caucasian.

Polynesia, he adds, presents the first appearance of isolation, in the languages of New Guinea, Australia, &c., *i. e.* the Negrito tongues. The philological evidence of their being akin, either to the Malay or Tamul languages, is, he thinks, at present indefinite and inconclusive. And, Southern India, and the

Indian hill-ranges, he says, present the first appearance of isolation in the languages of continental Asia. But, although unplaced they can scarcely be called isolate.

African influence.—Subsequent researches have established the affinity of the languages of Southern India, and Mr. Logan (Journ. Ind. Arch. Vol. IV, Nos. 5 and 6, May and June 1850, p. 310) points to the prolonged intercourse between the western and eastern parts of the Indian Ocean extending from the Arabian Sea, Persian Gulf and Red Sea to the Mozambique channel on the west and to the Indo-Australian Seas, on the east. He believes that the shores of the Indian Ocean were occupied by races in an advanced stage, before the seeds of a higher civilization germinated in the basins of the Nile and Euphrates; amongst whom were navigating tribes who spread themselves over every habitable island of the Eastern Ocean from Madagascar to the Fiji group. Amongst all the foreign influences, he adds, of which the presence can be clearly traced, two are of the widest extent and greatest importance. The first entirely African and Indo-African in its character, embraced the whole Indian Archipelago, Australia and Papuanesia, and certainly included a portion of Micronesia, though whether it extended to Polynesia he is doubtful. The races to which this influence must be referred, prevailed along the shores and islands of the Indian Ocean, from Africa to Polynesia, their sole limits being those of the monsoons, and he infers that when they thus spread themselves over Africa, India and the Indian Archipelago, there could have been no civilized Semitic, Iranian, Burmese or Siamese races, on that sea to hinder them.

The language of their population belonged to a state intermediate between the monotonic and the inflectional, and had strong and direct affinities to the other families of language of this stage,—the Ugro Tartarian, Japanese, old Indian and African, and to a certain extent, too, the American, which last may be considered as constituting a peculiar family. Amongst the best preserved examples of these languages are the Formosa, Philippine and the Australian, and he thinks it probable that some of the eastern Milanesian languages will be found to be equally characteristic.

In briefly remarking on the progress of Ethnology in Oceanica and America, Dr. Pritchard also mentions that besides much other valuable information, the great work of Baron Humboldt, on the Kavi speech, has afforded the important result that the resemblances known to exist between the nations of the islands in the Pacific Ocean termed Polynesian and the tribes of the Indian Archipelago, Malacca and Madagascar, are not, as some persons have thought, the effect of casual intercourse, but are essential affinities, deeply rooted in the construction of these languages. For the proofs of this assertion, and of the ultimate fact in ethnology which results from it, viz. that the races of people are themselves of one origin, he refers to Humboldt's work. The Papua languages, or those spoken by the black and wooly-haired nations, are for the most part as yet unexplored, but the dialects of the Papuan races often partake more or less of the Polynesian. Whether this arises from the adoption by the Papua of the Polynesian vocabulary has not been determined, though most persons incline to this last opinion. It is, however, now well known that some black nations have Polynesian dialects. The idiom of the Fijian islanders, for example, is properly a dialect of the Polynesian language.—(*Dr. Pritchard in Rep. Brit. Ass.* 1847, *pp.* 241 to 250.)

Dr. Pritchard makes his FOURTH family, the Syro-Arabian languages, which he says, appear to have been spoken from the very earliest times by the various nations who inhabited that part of Asia lying to the westward of the Tigris.

Chevalier Bunsen names these the Semitic stock of languages amongst which he includes those of the *Hebrews* and other tribes of Canaan or Palestine inclusive of the Phenicians:—the *Aramaic* tribes of Aram, Syria, Mesopotamia and Babylonia, speaking Syrian in the west and the so-called Chaldaic in the east; and thirdly, the *Arabians*, whose language is connected (through the Himyaritic) with the Ethiopic, the ancient (now the sacred) language of Abyssinia.

Modern languages.—The Sanskrit language is not spoken in any part of India, but up till the introduction by the British, of the western forms of education, every brahmin learned Sanskrit and many of them were learned men. These have greatly disappeared. Sanskrit and its congeners are inflectional languages, after the manner of the languages of Europe; while the Turk, Mongol, Tangus, and Ugrian, in the North and West, and the Tamil in the South, are agglutinate tongues. The Tibetan, Burmese, and all the Nepalese dialects are monosyllabic tongues. The Sanskrit differs from the Tamil of the South, and much more so from the Tibetan, Nepalese and Burmese, on its North and West. It has no relations with the Arabic, Armenian, Iron or modern Persian. The nearest congeners to the Sanskrit are the Sarmatian languages of the Russian Empire, then the classical tongues of Rome and Greece, then those of Germany and the Keltic, this class of languages being called the Indo-Germanic. Of the Sclavonic and Lithuanian, the two branches of the Sarmatian, the affinities of the Sanskrit

are closest, and closer with the Lithuanian than with any other known tongue. Sanscrit, next to Lithuanian is most like the Sclavonic.—(*Latham.*)

Sanskrit was a dead language in the time of Buddha. The alphabet of the oldest Sanskrit manuscript and oldest composition in Sanskrit is of Pali origin. The Sanskrit and Pali are, both, dead languages. It will thus be observed that the Arian or Sanskrit speaking races of India, seem to have been closely connected with the Zend-speaking, Greek-speaking Latin-speaking, German-speaking, and Sclavonic-speaking races, and not at all with the Arabic, Phenician and Hebrew families. Sanskrit in all its perfection was at one time, probably between the eighth and fourth centuries B. C., the spoken language of that race which immigrated into India from Central Asia, and to which modern orientalists give the name of Arian. The Hindi, Tamil, Telugu, Bengali and others of the languages of India, have their own ancient literatures; but even where these languages are in no way connected with the Arian stock, the subjects of their compositions are all referable to those of the Sanskrit. The Sanskrita Vach, the "Perfect Language," is the vehicle of the older literature of almost every part of India. According to a reviewer of the works of Ernest Curtius, that author is of opinion that the ancestors of the peoples of India, of the Persians, Greeks, Italians, Germans, Slaves and Kelts, were originally one people dwelling in the uplands of Asia: and that the first to separate themselves from this united Arian or Indo-European family, and to push their way into Europe, was the Kelts, they were followed by the Germans, and these by the Slaves and Letts. The next great swarm that deserted the hive and left behind them the progenitors of the Medo-Persians and the Indians, was composed of the common ancestors of the Greeks and Romans. But Sanskrit, though the latest researches have exploded the theory that it was the actual parent of that large stock of languages, which goes by the name of Indo-European and extends from India to the Americas, comprising Zend, Persian, Afghan, Armenian, Greek, Latin and all their progeny—the Celtic, the Sclavonic, the Teutonic and Scandinavian families, the languages of the whole Japhetic branch of mankind, it is not denied, that while it is the actual parent of some, as the Teutonic and Sclavonic families, it is certainly the eldest brother of and presents older and more original forms than all the rest. Professor Max Muller, however, who does not accept the ordinary chronology of the world's age, in his history of Ancient Sanskrit Literature, divides the interval in which it appeared, into four periods The first of these, the Chandas period, he computes to have lasted from 1,200 to 1,000 B. C., and during that time the most ancient of the Vedic hymns were composed. The second or Mantra period lasted from 1,000 to 800 B. C., and its hymns bear traces of the growth of a sacerdotal spirit and system. The third or Brahmana period lasted from 800 to 600 B. C. In these ancient liturgical books, the ritual application of the hymns, is prescribed with painful minuteness, and often with a mixture of childish allegorical interpretation. His fourth period is that of the Sutras or aphorisms, in which the ceremonial prescriptions were reduced to a more compact form and to a more precise and scientific system.

Amongst the most recent writers on the spoken tongues of India have been Sir Erskine Perry and the Reverend Dr. Caldwell. They remark that the brahmins make a simple classification of the languages of India depending mainly on geographical considerations, by which five northern languages are grouped in one class and five southern ones in another, under the denominations of panch Gaur and panch Dravid, applying the term Gaur or Bengal to all northern India while that of Dravida, the name of that part of the Coromandel Coast lying between the twelfth and thirteenth parallels of north latitude, is applied to the whole Peninsula. Their classification is as under:

The five Gaur.	The five Dravid.
1. Saraswati (extinct)	1. Tamil.
2. Kanoji	2. Marathi.
3. Gaur or Bengali.	3. Carnatika.
4. Mathala or Tirhuti	4. Telinga or Telugu.
5. Orissa or Urya.	5. Gujerati.

Dr. Caldwell, in his Comparative Grammar, remarks that by the term Gaura or Gauda, are meant the Bhashas or Praerits or vernacular tongues spoken in northern India, some old ones of which have since ceased to be spoken, or have merged into others. At present the languages which may be considered Gaura, are Bengali, Hindi with its neighbour the Hindustani, Punjabi, Gujarathi, Marathi, the languages of Kashmir and Nepal, altogether nine. The Pandits named the five Dravira, the Telinga, Karnatika, Mahratha, Gurjara, and Dravida or Tamul proper, but at present Dr. Caldwell displaces the Gurjara or Gujarathi and the Marathi, and considers the Dravida proper or Tamul, the Telinga, Talunga, or Telugu, and the Karnataka, Kannada or Canarese, to be the three principal languages of the Dravidian family, and he adds thereto the Malayalma, the Tulu, and the uncultivated Toda, Kota, Gond and Ku, making altogether nine Dravidian or Tamulian tongues. Of the Hindi tongues the Kashmiri, Uria and Gujarat

are the languages spoken in the smallest limit. But the Jataki, Sindi, Panjabi, Haruti, Marwari, and Konkani, are other Hindi dialects. Mr. Elphinstone, however, makes another classification. He assigns Gujerati to the northern and Urya to the southern languages, and the Haiga brahmins in Canara, give a third list of Dravids, in which they exclude the country on the Malabar coast where they themselves are domiciled. These brahminical divisions, however, are not founded on any scientific principles, for the languages of India from the Himalayas to Ceylon, it is now known, belong to two essentially different stocks, viz: the Dravidian or Tamulian, such as Karnatica, Telugu, Malayalam, Tulu, and Tamul, and languages of undoubted Sanskrit origin or the Arian or Sanskrit stock. He remarks that the affinity between the Telugu and Karnatica is so great that in order to make the correspondence complete it frequently suffices to change an initial or an inflection, and Ellis shows both these languages to be cognate with Tamul. Again the Tamul speaking inhabitants of the Coromandel Coast can make themselves intelligible when they get into the districts on the western coast of the peninsula, where Malayalam is vernacular. So the language of Tuluva (on the coast of Canara), has a strong resemblance to that of Malayala, though the Tuluva speaking race are unable to understand their Malayalam neighbours. The languages or dialects of the aboriginal mountain races occupying the Neilgherries, are Tamulian, and the Kodagu of the mountains of Coorg is a dialect of Tulu. On the crest of the high and romantic range, extending from Cochin to Cape Comorin, and reaching to 8,000 or 9,000 feet above the sea, Francis Buchanan found that the rude tribes spoke a dialect differing only in accent from Tamul. The language of the mountaineers of Rajmahal dividing Bengal from Bahar, abounds in terms common to the Tamul and Telugu, and Mr. Hodgson, after comparing the vocabularies of seven languages now spoken by rude tribes in Central India, pronounced all of them to belong to the Tamulian stock, while the Brahui on the mountains west of Sind, are said to have a language very like that of the Toda. Thus a closely allied family of languages extends over all southern India, cropping out on the hill tops in Central India, on the mountains in the west, and perhaps also traceable on the southern slopes of the Himalayas. According to Rask, Singhalese belongs to the same family, and Lassen states that the languages of the Laccadives and Maldives come within the same category.

In the North, however, we meet with languages of a different family, springing from those Arian conquerors who, during the thirty centuries preceding the Christian era, migrated from central Asia, entered India from the north and north west, and diffused themselves, their language, their religion and their brahminical distinctions, over the plains of India, at a period before the authentic history of this country begins. According to this view therefore, the principal languages of India should be arranged as under:

(A)—Arian, Sanskritoid, or Northern Family.

1 Hindi.	2 Kashmiri.
a. Hindustani or Urdu.	3 Bengali.
b. Brij Bhasha.	*a* Tirhuti.
c. Rangri Bhasha or Bhaka.	4 Gujarati.
d. Punjabi.	*a* Kachi.
e. Multani.	5 Marathi.
f. Jataki.	6 Konkani.
g. Sindhi.	7 Urya.
h. Marwadi.	
i. Haruti.	

(B)—Turanian, Tamuloid, Dravidian or Southern Family.

1 Telugu or Tiling.	4 Malayalam.
2 Karnatica.	5 Tulu.
3 Tamul.	6 Gondwani.

Our present knowledge of the languages belonging to the Arian class does not enable us to determine whether they are developments of some tongue, of which the Sanskrit is the cultivated representative, and of which Magadha and Pali at the era of Asoka and the introduction of Buddhism into Ceylon, was a spoken form, or whether Sanskrit has been superinduced upon some aboriginal tongue, as it has been demonstrably though in much smaller quantity upon the Tamuloid languages of the South, and as French has been introduced into Anglo-Saxon. Certain it is that in every Arian tongue, a considerable and apparently primitive element is found which is not traceable to Sanscrit and which in Gujerati is reckoned at one-third of the whole language.

With this knowledge of so much in common, in the several Indian tongues, it would at first view seem an easy matter to become acquainted with them. But at the first step there is this difficulty that every dialect has its separate alphabet and every province has two or three alphabets in use. The various nationalities cannot use each others books nor write to each other. Even were it possible out of the fourteen current alphabets of India to select one for universal use, there is not one of them which it is not extremely difficult to read, difficult to write, and difficult to print. The natives themselves cannot read them fluently. Even pundits and moonshees are continually obliged to pause for the purpose of spelling the words. A fluent reader of any of the native characters is almost

unheard of, while a mere boy who is taught the Roman characters will, in the course of a few months, read anything that is given to him without stopping. Writing, it may well be imagined, is still more difficult. As a general rule it is impossible to write fast in the native alphabets without making so many blunders and omissions that the manuscript becomes an unintelligible scrawl. The greatest difficulty of all, however, occurs in printing. For one dialect a fount of type is required consisting of not less than 700 letters, simple and compound; another requires 900 letters; a third 1,000 and so on, the cost of preparing such a fount, and the difficulty which a compositor has to contend with in having a "case" before him with this prodigious collection of characters, are great. With one character in common use, it would have been comparatively easy to frame two dictionaries—one with words common to the Arian family, the other with Dravidian words; but the many written characters has rendered that impossible and before the end of the 19th Century if no unexpected change occur, the English language will have become the chief medium of intercourse between the various races in India.

IN ILLUSTRATION OF THE TONGUES SPOKEN, THE LORD'S PRAYER IS GIVEN IN NINE OF THE LANGUAGES OF SOUTHERN ASIA.

ARABIC.	HINDUSTANI.	PERSIAN.	ENGLISH.	ASSAMESE.	BENGALI.	GUZERATHI.	CANARESE.	TAMIL.	TELUGU.
9. Abunálázi fissamawati le-atta qaddasa ismoka.	9. Ai hamare Bap, jo bihisht men hai, Tera nam muqaddas ho.	9. Ai Pidr-i-mayan ki dar bihisht hasti, nám-i-Tu muqaddas bad.	9. Our Father which art in heaven: Hallowed be Thy name.	9. He ámár swargat thoká pitri; Tomár nám púja yá hauk.	9. He ámár der swargashtha pitah; Tomár nám púja hauk.	9. O akasmana hamára báp, Tahará nama puvitra munayé.	9. Paraloka dalli iruva namma tandaye. Ninna namuu parishudha wagili	9. Swargatil irrukira yengal Pitavé; Umudaya per parishudamai vananga paduvadága.	9. Swargamulo undé ma Tandri ni peru pavishud'hamu cheya-badunu-gaka.
10. Latáti malakútoka latakun mashiatoka kama fissamai o-ál-ál-arzi.	10. Teri badshahat áwe. Teri marzí, jaisi bihisht men járí hai, dunyá men bhí barawe.	10. Bádsháhat-i-Tu biaíd, Marzí-i-Tu dar dunya járí shawad, hamchunán ki dar bihisht járí ast.	10. Thy kingdom come. Thy will be done in earth, as it is in heaven.	10. Tomár rájiya hauk, Jene swargat tenekui prithibít o tomár issha pur hauk.	10. Tomár rájatwa hauk; tomár ichchha swargeté jeman temani prithibí-teo saphal hauk.	10. Taharu raj ávé. Jama akasmo Thunna parthvé par Tahare itcha thayé	10. Ninna rajiavu bar'li. Niuna chittau paraloka dalli agúva prakárá bhumia melliú ágáli.	10. Umudaya irájiam varuvadága; umudaya shittam paramandalatillé shaiapadukiradupola, bumi ileyum shaiapa. duva dága.	10. Ni rajiamu watsuuugaka; ni chittamu swargamandu cheyabade tattu bhu-locammandunu cheya badunu-gaka.
11. Khubzona kafafuna áte nal yoma.	11. Hamárí rozíne kí roti, áj ham ko de.	11. Nán-i-rozína i-ma mara imroz bidih.	11. Give us this day our daily bread.	11. Aji ámár khábar behání ámák diá.	11. Amárder prayojaniya áháradya deo.	11. Hamárá nitna rotla, aj amné apa,	11. Namma anudinada roti yennu ihottu namage kudu.	11. Inraiku engalágárattai engaluku tarum.	11. Ma nitiapu aharamu nedu, maku immu.
12. Wagfirlana khatayana kama naghfero nahnu leman akhtailaina.	12. Aur jis tarah ham apne qarzdaron ko bakhshté hain, Tú apne dain ham ko bakhsh de.	12. Wa ham-chunan ki máyán qarzdarán-i-kheshra mi-bakhsheem aqrazi-ma bibaksh.	12. And forgive us our debts, as we forgive our debtors.	12. Aru jenekni ámár dhórnáh ontok ámi hohun. tenekuámár dhar era.	12. Ar ámrá jeman ápan apar ádhidigake khyamá kari, tadrup tumio ámár der aparádh khyamá karo.	12. Né jama hamné hamára dava daroné mafu karfachá Thu ma Tu hamára dava hamné máf kar.	12. Navu namma saligararigé biduva prakára. Namma salagalanu namage biddu.	12. Engal kadináligalúkú nangal manippadupola devarir engal kadangalai manitarúlúm.	12. Ma aparádhulánu mému manninché lágu ma aparadhamulanu manninchumu.
13. O-lá-tadkhulna fittajaribe lakin najena min us shaire Lián us súltánáta, o-ulkudrátá o-úl-já-lala ábadan iáká Amin.	13. Aur hamko ázmáish men na dál: balki burái se bachá, kyunki, bádsháhat, aur qudrat, aur jalál hamesha Tere hí hain. Amín.	13. Wa máyánrà dar ázmáish ma afghan balki az badí najat bidih: zerá ki bádsháhat wa qudrat, wa jalál dáim ba Tu ast. Amin.	13. And lead us not into temptation but deliver us from evil: for Thine is the kingdom, and the power, and the glory, for ever. Amen.	13 Aru ámák perikhyaloi nibá. kintu ápadar pará amák rakhyá kara Rajatto, áru mahimá, aru prabhao ei kakalo hadai tomar. Amen.	13 Ebang ámárdigake parikhyate ánioná kintu minda haite rakhyá kara Rajattwa, o gaurab, o parákram e sakali sádákále tomár. Amen.	13. Né hamné paritchamo nalpána hamné bhundayethicho dava kemké raj Thutha parkármo Thutha mahima sarvakal suthi Thuhara nehi, Amín.	13. Nammann shodhana yelli serisade kedi nodaginda namannú tapisu yakandare rajiavu, bálavú, mahi mayu yendendagu ninnavé. Amin.	13 Nangal shodanai pravésiádapadi shaidu, timáyil nindruengalai irachitu kollum. Irajiamum vala maiyum, magimaiyum, Umaké enrenraikum Unda irukindrana. Aman.	13. Mammuna sodhana loki tisukápoká, kidununchi mammuna tappinchumu; yendukanté, rajiamunnu parakramunnu mahatwamunnu yellappatikinni niviyunnavi. Aman.

Races now in the E. Indies.—No one of the nations or races of those who were occupying India and South Eastern Asia, prior to the mahomedan invasions, retain any strictly historical record of the routes by which they reached their present localities or of the dates of their advents. Researches into the families of language to which the spoken dialects belong, and the existing physical peculiarities of the several races permit, however, the belief that India and the islands and parts of South Eastern Asia were peopled long prior to historic times, that a succession of races or of branches of the same human family, have entered India and in some instances become amalgamated with or been dispersed amongst the prior occupants, or have pushed them further on into less peopled or less fertile districts, or amid forest and mountain tracts. In India proper from the Himalaya to Cape Comorin, even yet, every village and every hamlet have small bodies of predial slaves, who though possessing certain minor agricultural rights are not allowed to purchase lands; are compelled to reside outside the village walls, and are prevented quitting the locality, for they furnish the only free labour, available for the labors of the field. The total number of the non-Aryan aborigines and outcastes is estimated at 12,250,000 people. Also, within the walls almost of every town and village of British India are to be seen the Arian brahman, the rajput of varied origin, the Arian vaisya and sudra hindoo, the Mongol Dhangar, the Gaoli, the Ahir and the Kurumbur, mahomedans of Turk, Mongol Persian, Affghan, Beluch, Arab and African descent, and several slave races dwelling outside the walls, all testifying to the varied routes which immigrants and conquering nations have folowed. Also, the towns, villages and hamlets in India are multitudinous, each with its own distinctive name, nevertheless of very few of these names can the origin, be traced, or are the names intelligible to the present inhabitants, a fact of itself showing how far back we must recede into unknown ages, when endeavouring to realise the period of their first settlement. The view taken by General Briggs is that the earlier occupants of India entered it by successive incursions and that though their religious tenets were the same, one horde obtained their food by the chase dwelling in or near the forests abounding with game; the other occupied the open plains, subsisting on the milk of their cows and buffaloes and feeding on the flesh of their flocks and sheep. These two classes were constantly at war, and the same aversion and innate hostility against each other exist at the present day. At the time the Aryan hindus entered India, both classes of this race appear to have been spread over the whole surface the country, under the several denominations of

Mina	Morawa	Banderwa
Mer	Kollari	Cheru
Bhil	Pulli	Bengy
Dhirokoli	Pariar	Koki
Mhar	Yenedy	Garro
Mang or Man	Chenchy	Kassia
Beder	Barka	Hajin
Dher	Tallari	Bhar
Gaoli	Gond	Dhamuk
Kurumbar	Kond	Dom.
Cherumar	Sawara	

He points to the fact that the names of many of the territorial divisions of the country have been derived from these earlier races, thus Kolwan and Kolwar from the Kol:
Bhilwan and Bhilwara from the Bhil.

Mharashtra, contracted in Mharatta, from the Mhar.

Man-desa, from the Mang or Man.

Beder from the Beder.

Gondwana or Gondwara from the Gond.

Or-desa or Orissa from the Oria.

Bengala from the Bengi.

Behar from the Bhar.

Merwar or Marwar from the Mer, with Ajmir, Jessulmir and Kombalmir, called after chieftains of the Mer race.

Ahirwara from the Ahir.

Mr. Hodgson briefly sums up his views as to the groups to which the races in South Eastern Asia belong, in the remark that the latest investigators of the general subject of human affinities include in the great Mongolian family, not merely the high Asian nomades, or the Turk, the Mongols and the Tangus, but also the Tibetan, the Chinese, the Indo-Chinese, and the Tamulian. And under the term, Tamulian, he includes the whole of the aborigines of India, whether civilized or uncivilized, from Cape Comorin to the snows, except the inhabitants of the great mountainous belt confining the plains of India towards Tibet, China and Ava. These last he thinks are, in the North West, derived from the Tibetan stock; and in the South-East from the Indo-Chinese stock; the 92° of East longitude, or the Dhansri river of Assam, apparently forming the dividing line of the two races, which are each vastly numerous and strikingly diversified, yet essentially one, just as are the no less numerous and varied races of the single Tamulian stock.

Mr. Hislop took almost a similar view, as the result of his philological inquiries.

Turanian races.—The great Turanian or Tatar family of languages is spoken by all the tribes from the Himalaya to Ohotsk and to Lapland and includes the Hungarian, Krimean, and Turkish tongues. In India, are four distinct

branches of this family of languages, spoken by members of the Turanian race. In the north, are the Himalayan tribes, with their dialects, occupying from the Kunawars on the Sutlej to the Boti of Butan in the extreme east. Then there are the Lohitic class, comprising with the Burmese and others of the Malay peninsula, the dialects of the Naga tribes and of the Miker in Assam, and of the Bodo, Kachari, Kuki and Garo in eastern Bengal. Nearly related to this class, is the Kol or Munda family of languages including the Kol, Southal, and Bhumi of Sinbhum and western Bengal and the Mundala of Chota Nagpur. The Kur or Muasi and the Korku in Hushangabad and westwards in the forests of the Tapti and Nerbudda, until they come in contact with the Bhil of the Vindhya hills, and the Nahal of Khandesh, belong to this Kol family, indeed, the late Mr. Hislop held that the word Kur is identical with Kol. The *fourth* branch is the Tamulic or Dravidian, to which belong the Brahui of Baluchistan, the Gondi, the Tuluva of Kanada, the Karnata of the S. Maratha country, the Todava of the Neilgherries; the Malayalum of Travancore, the Tamul and the Telugu.

The close relationship of the Kur and Sonthal and their separation from the Dravidian, are illustrated by a few examples.

English.	Kuri.	Sonthalior Kol.	Gond dialects.	Tamil.	Telugu.
Dog	Sita Chita	Seta	Nei	Nay	Kukka
Ear	Lutur	Lutur	Kavi	Kadu	Chaoo
Hair	Op; Up:	Up	Meir	Mayir	Yentekalu
Nose	Mu	Mu	Muku	Mukku	Mukku
Belly	Lai	Lai	Pir	Walru	Karpu
Fire	Singal	Singel	Narpu	Nerappu	Neppu
Water	Da	Da	Tanni	Tannir	Niru
House	Ura	Ora	Ron	Vidu	Illu
Star	Epal	Ipil	Sukum	Tarakei	Manshi
Man	Koro	Bara	Manwai	Manidan	Randu
Two	Barku	Apia	Rand	Irandu	Muru
three	Apkor		Mund	Mundru	

The Kur or Muasi and the Korku or Kurku to the N. West and west of the Mahadeva hills are, in language, at least, quite distinct from the Gond tribes.

Line of immigration.—From that geographical distribution of the Kol and Dravidian languages, Mr. Hislop asks "may we not conclude then that while the stream of Dravidian population, as evidenced by the Brahui in Baluchistan, entered India by the North-west, that of the Kol family seems to have found admission by the North east; and as the one flowed South towards Cape Kumari (Comorin) and the other in the same direction towards Cape Roumania, a part of each appears to have met and crossed in central India." This hypothesis, a Reviewer remarks, rests on the presence of the Brahui in Baluchistan a fact however which is not inconsistent with the supposition that the Dravidian tribes, may also have entered India from the North East, or even across the Himalaya, as the Kanawari, Newar, Chepang and other tribes have done, while the Kol tribes were an offshoot from a latter horde, the main body of which entered the Eastern Peninsula. The Brahui may have been driven westward from the upper Indus by the invading Arians.

Chevalier Bunsen, (Report Brit. Association 1847) mentions that throughout Asia, the two great nations who once centred—the one in the Altai and the pasture land towards the Himalaya, the other having its centre in the Ural mountains,—appear in Asia as the subdued or primary element, as the subdued substratum of Iranian civilization, and that the aboriginal languages of India which attained their full development in the Dekhan dialects, belong to that stock.

Mr. Hodgson, writing on this point, gives as his opinion, that every medium of proof which has been employed to demonstrate the unity of the Iranian family is available to demonstrate the unity of the Turanian and that the Tamulian, Tibetan, Indo-Chinese, Tangus, Chinese, Mongol and Turk are so many branches of another single family, viz. the Turanian.

Professor Muller is of opinion that when the Arian tribes immigrated into the north of India, they came as a warrior people—vanquishing, destroying and subjecting the savage and despised inhabitants of those countries. But that, in the countries south of the Vindhya, their entry was in the way of colonization, and instead of introducing their own Sanskrit language, they adopted those of the southern nations—refined and improved them till they even rivalled the Sanscrit in perfection, though there remain up to the present day, in some parts of the interior of the Peninsula, savage tribes never reached by the superior civilization of the Arian. But, although the Arian conquerors seem to have crushed and extinguish-

ed the great mass of the aboriginal inhabitants in the north of India, yet some of these Autochthones, or earlier inhabitants of India, who were considered by the brahmins as impure and unworthy to partake of their religious sacrifices, found a refuge in the thick forests of the mountainous districts, and in the countries south of the Vindhya range, while it is not unlikely that some of them were tolerated by the brahmins, so as to remain in a state of slavery, constituting the class of Sudras, to whom though they were not considered as twice-born, like the three other classes, some few civil rights were conceded and to whom in latter days even a brahminical origin was attributed.—(*Prof Max Muller, Rep. Brit. Ass.* 1847, *p.* 330.)

Mr. Hodgson is also of opinion that all the aborigines of India, are Northmen of the Scythic stem, and he considers this view to be justly inferable from their physical characteristics. He thinks, however, that very careful investigation will alone enable us to decide whether they owe their confessedly scythic physiognomy to the Tangus, the Mongol or the Turk branch of the Tartars or Scythians and whether they immigrated from beyond the Himalayas at one period and at one point or at several periods and at as many points. Members of that stock, he continues, are found from their original seats on the north of the Himalaya southwards to the seas, and between Gilgit and Chittagong there are a hundred passes over the Himalayas and its south eastern continuation to the Bay of Bengal, through which they may have migrated ages upon ages before the dawn of legend and of chronicle. In every extensive jungly or hilly tract throughout the vast continent of India there exist hundreds of thousands of human beings in a state not materially different from that of the Germans as described by Tacitus and he adds that these primitive races are the ancient heritors of the whole soil, from all the rich and open parts of which they were expelled by the hindus.

Dr. Pritchard has also arrived at the conclusion that when the Arian hindus crossed the Indus, they drove the aboriginal inhabitants across the Vindhya mountains and the Nerbudda into the Dekhan, where they still dwell, speaking their native languages, though mixed more or less with the sanskrit of their Arian conquerers. (Report for 1847 of British Ass. pp. 2, 41?, 250.) At another place, however, he expresses the opinion that the expulsion of these races from Hindustan into the Dekhan has been assumed on insufficient proof, but they still, he adds, occupy the greater part of the Peninsula of India and a portion at least of the island of Ceylon, Their idioms, the Tamul, Telugu and Karnatica, are sister dialects of one speech and he concurs with Professor Rask who regards the languages of the mountain tribes of India, the Bhil, the Gond, the Toda and others as also of the Tartar stock and mentions that some curious analogies have been observed between the Tamulian and other dialects of the Peninsula, and the languages of Australia.

Race distinctions Non-Arians.—It may be here remarked that to all these prior races, the Arian immigrants applied the most contemptuous expressions, Dasya or country people, Locust-eaters, Hole-dwellers, Rejectors of Indra, Monkey-tribes, snakes, &c. but the term most frequently used is M'hlecha. This name, now only employed to designate any person other than a hindu, long continued to be applied to all the unsubdued Non-Arian tribes in India, But the aboriginal scythian inhabitants of India seem to have been subdued and transformed from M'hlechcha into Sudra, by slow degrees and the process is everywhere yet in progress. In the age of Manu they retained, their independence, and the appellation of Mhlechcha in Bengal, Orissa, and the Dekhan; but in the earlier period which is referred to in the historic legends of the Mahabarata, the M'hlechcha and Dasya are mentioned as disputing the possession of Upper India itself, with the Arya, and in conjunction with certain tribes connected with the Lunar line, they succeeded in overrunning the territories of Sagara the thirty-fifth king of the Solar dynasty.

Though Sudra is now the common appellation of the mass of the inhabitants of India, whether Gaurian or Dravidian it, according, to Lassen, was originally the name of a tribe dwelling near the Indus. Lassen recognises the name in that of the town Συδρος on the lower Indus, and especially in that of the nations of the Sudroi in northern Arachosia. He supposes them to have been with the Abhira and Nishada a black long haired race of aborigines, subdued by the Arians. It cannot, however, be doubted that, by the Aryans, the term was extended in course of time to all who occupied or were reduced to a dependent condition, whilst the name Mhlechcha, continued to be the appellation of the unsubdued Un-Arianised tribes.

Both Lassen and Max Muller suppose that the whole of the Sudra or primitive servile classes of northern India, belonged to a race different from their Arian conquerors, but Dr. Caldwell thinks it probable that a considerable portion of them consisted of the slaves, servants, dependents or followers of the high caste Arians, and like the latter belonged to the Arian race. And the legend that the Brahman, Kshatriya, Vaisya and Sudra, all sprang from Brahma's body, though from different parts of it, is in favour of the idea that the Sudra differed from the twice-born Aria, in rank only, not in blood.

Southern migration and races.—These writers, it will be observed look solely to the North, as the region from which India was peopled. But Mr. Logan *(Jour. Ind. Archip. Nos. 4 and 6, Vol. IV, May and June* 1850) has recorded his belief that in bygone ages the races who prevailed along the shores and islands of the Indian Ocean from Africa to Polynesia, spread themselves over Africa, India and the Indian Archipelago, at a time when there were no civilized Semitic, Iranian, Burmese, or Siamese races on that sea, to hinder them. He points to the prolonged intercourse between the western and eastern parts of the Indian Ocean, from the Arabian Sea, Persian Gulf and Red Sea to the Mozambique channel on the west, to the Indo-Australian seas on the east, and he is of opinion that by means of the Euphrates and the Nile, the ancient civilization of the Mediterranean and the Nile spread their influence into India, the Euphrates itself being the seat of a great archaic development of intellect and art. He considers however that the shores of the Indian ocean were surrounded by races in a stage before the seeds of a higher civilization germinated in the basins of the Nile and the Euphrates, and that they were influenced by the more powerful and populous nations of the Nile and southern India long before the later and slowly descending Iranian civilization touched them. These races included navigating tribes, otherwise they could not have spread themselves over every habitable island of the Eastern Ocean from Madagascar to the Fiji group, if not throughout Polynesia also. To account for this extension, it is not necessary to suppose that they had larger boats than those in which, in modern times, the Papua have been accustomed to make descents on Ceram, and the Sakalava on Camore and the Coast of Africa. But the far higher maritime art of southern India appears to be one of the most ancient in the world. It was certainly not derived from the brahminical tribes of the northwest and it was too much in advance of the Himyaritic to have been borrowed from them. There are, he says, abundant reasons for believing that India, before the prevalence of brahmanism, was at least as civilized as Africa, and he adds that nations who had reached this stage, were as capable of perfecting a navigation of their own as the Chinese, and far more so than the Arabs, who wanted the nurseries which the large eastern rivers gave to India. The earliest glimpse we have of the vessels of the east coast of India is at a comparatively recent period, 1,800 years ago, but it is strongly in favour of an indigenous art. Amongst all these foreign influences of which the presence can be clearly traced, two are of the widest extent and greatest importance. The first is entirely African and Indo-African in its character, it embraced the whole Indian Archipelago, Australia and Papuanesia. Whether it extended to Polynesia and Micronesia Mr. Logan regards as still doubtful, but it certainly included a portion of Micronesia. Along the shores and islands of the Indian Ocean the races to which it must be referred appear to have prevailed. Their limits were those of monsoons, or from Africa to Polynesia. When they thus spread themselves over Africa, India, and the Indian Archipelago, the great outlying regions of the old world, there could have been no civilized Semitic, Iranian, Burmese or Siamese races on that sea to hinder them.

The language of their population belonged to a state intermediate between the monotonic and the inflectional, and had strong and direct affinities to the other families of language of this stage,—the Ugro-Tartarian, Japanese, old Indian and African, and to a certain extent too the American, which last may be considered as constituting a peculiar family. Amongst the best preserved examples of these languages are the Formosa, Philippine and the Australian. It is probable that some of the eastern Melanesian languages will be found to be equally characteristic.

Tibeto-Indian.—The second of the great insular families, he continues, is the Tibeto-Indian and Mayama-Anam. It connects itself with all the races and languages from Tibet to Anam, but it chiefly flowed in through the ethnic basin of the Malacca sea. By a long continued influx this family spread itself over the Malayan Peninsula, Sumatra, Java, Borneo, and Celebes, but its further progress, over the many islands to the north and east appears to have been long checked by the older races.—(*Jour. of the Indian Arch. Vol.* IV. *No. 5 and 7. May and June* 1850, *page* 310.)

Dravidian race.—Mr. Logan who has had great opportunities of contrasting and comparing the Dravidians from various parts of India inclines to call them South Indian. He remarks that physically the population of southern India is one of the most variable and mixed which any ethnic province displays. A glance at a considerable assemblage of Kling (Telugu) and Tamular of different castes and occupations, shows that the varieties, when compared with those of similar assemblages of men of other races, such as Europeans, Ultra-Indians or Indonesians (including Negros in the last two cases), are too great to allow of their being referred to a single race of pure blood. Some are exceedingly Iranian, some are Semitic, others Australian, some remind us of Egyptians, while others again have Malayu-Polynesian and even Simang and Papuan fea-

tures. Yet when the eye takes in the whole group at once, they are seen to have all something in common. They are not Iranians, Polynesians, Papuas, &c., but South Indians. The Dravidian language, however, or one of its principal elements, was probably an extension of a Mid or W. Asiatic formation, and it may be inferred that the common element of the Dravidian, the Fin and Japanese languages, must be much more ancient than the occupation of Japan by the Japanese, India by the Dravidians and Finland by the Fins.

The peculiarities in the Dravidian physical type, when compared with the Scythic, are African and Africo-Semitic.

The main affinities of the Dravidian formation thus point two ways,—the linguistic chiefly to a Scythic, and the physical chiefly to an African origin or fraternity. The geographical position of the Brahui would lead us to explain the double alliance by placing the native land of the Dravidian stock in Beluchistan and including it with Arabia, or the southern portion of the latter,—in the archaic African or Africo-Semitic era. That the African physical element prevailed over the Scythic, while a Scythic language has entirely superseded one of an African character, finds explanation in the fact that the Scythic races and languages have in themselves an intimate archaic connection with the African, and the Dravidian language, although Scythic more than African, has special Africo-Semitic affinities. He is further of opinion that races may blend without the different types being effaced and that, while certain exclusive or excluded castes, or sequestred geographical sections of the population, may preserve one type better than another all may continue for some thousands of years, to be reproduced in softened and modified forms even in the least secluded portions, and to this he refers his explanation of the variety of physical types visible in south peninsular India. That the Dravidian race did not bring with it into India, the civilization which the present great southern nations possess, as the Arian did theirs, appears, he thinks, to be little questionable when we consider the antique character and affinities of the dialects of the Male, Orond, Khond and Toda, the very archaic and barbarous character of many of the customs of the widely separated tribes which speak them a prior race, and, above all, the nature of the relationship of the dialects to those of the civilized nations. The known ethnic facts lead directly to the conclusion that the uncivilized Dravidian speaking tribes are genuine Dravidians who have in a great measure escaped the culture which the more exposed tribes have received and thus preserve a condition of the race, certainly not more barbarous than that which characterised it when it first entered.

The Dravidian race everywhere in India, has been long in contact with other races and shows the influence which the intermixture has produced. If the formation of their language be taken as a test, it leaves no doubt that one tribe carried a large batch of its native glossary over all India from the Himalaya to Ceylon. In the Himalaya and Northern India, the old race has long been in contact with ultra-Indians, Tibetans and Arians. But, if their physical appearance be examined, even in the extreme south the diversity which prevails shows that there has been great intermixture, but there are nevertheless widely prevalent characters most of which are not Arian nor Tibetan and are even distinct from Ultra-Indian.

The more important of these characters are appointed, and frequently hooked, pyramidal nose, with conspicuous nares, more long and round; a marked sinking in of the orbital line, producing a strongly defined orbital ridge: eyes brilliant and varying from small to middle sized: mouth large, lips thick and frequently turgid; lower jaw not heavy, its lateral expansion greater than in the Arian and less than in the Turanian type; cheek bones broad and large rather than projecting, as in the Turanian type, giving to the middle part of the face a marked development and breadth and to the general contour an obtuse oval shape, somewhat bulging at the sides; forehead well formed but receding, inclining to flattish and seldom high; occiput somewhat projecting; hair fine, beard considerable and often strong, colour of skin very dark, frequently approaching to black.

We may, he adds, conclude from the ethnic character and position of the ancient Indian population, that it belonged to the small Turano-African type. But successive modifications of race, seem to have been going on in India from times long anterior to the Arian or even Tartar eras and imply linguistic changes also.

The above is the higher and much improved type. But, as in Africa, Ultra-India and Asionesia, a smaller, more Turanian, and less Semiticised type is still preserved although variously crossed. The successive Turanian predominant races and formations and the Irano-Semitic have in turn influenced all the great outlying southern provinces, Africa, India, Ultra-India, and America, the last in general indirectly, through Ultra-India, India and Africa. From the formation of the language, there was seemingly a still older intrusive people, the Scythico-Semitic and pastoral, who found India less Scythic and more African than it became under their influence, but the same evi-

dence shows that the Dravidian race and linguistic formation preceded the Ultra Indian, Tibetan and Arian in India, and prevailed everywhere to the southward of the Himalayas. Their route seems to have been from the N. W. where, from time immemorial, the region between the Indus and Euphrates has been occupied by the Turanian, Iranian and Semitic races. Physically the Dravidians are somewhat Turanian, and the linguistic formation of their language has a strong and unequivocal affinity to the great Asiatic Turanian, or Ugro-Japanese alliance. The Turanian formation, physical and linguistic, evidently long preceded the Iranian and Semitic, as an expansive and dominant one and it is certain that the Turanian was migratory and diffusive on a great scale, long before the Semitic and Iranian, which must have remained sequestered in some portions of the mountain band of Asia Minor, Armenia, and Irania and the adjacent S. W. region which includes the basin of the Euphrates, during the great era that must have been occupied while the Turanian linguistic formation spread to Lapland and Japan, to North Cape and Ceylon.

The peculiarities in the variable physical character of the Dravidian physical types, when compared with the Scythic, are African and Africo-Semitic. The very exaggerated occipital and maxillary protuberances are not characteristic of the typical African head, but of a debasement of it confined to certain localities. Several east and mid African nations have the so-called African traits much softened, and differ little from the Dravidian. Even woolly or spiral hair is not a universal feature in Africa, some tribes having fine silky hair. The Dravidian pyramidal nose, the sharp depression at its root, the slight maxillary and occipital projection, the turgid lips, the oval contour and the beard, are all African. He thinks there is reason to believe that the strong Africanism of some of the lower South Indian castes is really the remnant of an archaic formation of a more decided African character. The position of India between two great negro provinces, that on the west being still mainly negro, even in most of its improved races, and that on the east preserving the ancient negro basis in points so near India as the Andamans and Kidah. It is therefore highly probable that the African element in the population of the peninsula of India, has been transmitted from an archaic period before the Semitic, Turanian and Iranian races entered India, and when the Indian ocean had negro tribes along its northern as well as its eastern and western shores.

As bearing on this point it may be remarked that Dr. Pritchard mentions as the result of Baron W. Humboldt's researches into the Kavi language, that the resemblances between the nations of the Polynesian islands and the tribes of the Indian Archipelago, Malacca and Madagascar, are not, as some have supposed, the effect of casual intercourse, but essential affinities, deeply rooted in the construction of these languages, and that the races of people are themselves of one origin.—(*Rep. Brit. Assoc.*, 1847, *pp.* 241-250.)

Chinese.—Chevalier Bunsen (*Report Brit. Assoc.* 1847) says that according to Chinese traditions, Tibet is the land of their earliest recollections, and Dr. Latham (*Rep. Brit. Assoc.* 1845) says that in addition to their grammatical analogy, there is an absolute glossarial affinity between the languages of Tibet and China: and that the Chinese, Tibetan, Bhutan, Burmese, Siamese and all the so-called Monosyllabic languages are allied to each other.

Routes followed.—Mr. Logan long resided at Penang and his opportunities of examining the various races of the South of Asia were great. He is of opinion that the various races in south Eastern Asia, reached their present positions along the great rivers and by traversing the seas, and he styles the original seats and routes, sea basins and districts, defining the former term as the seas with the marginal basins of their affluent rivers.

Mr. Logan's Tibetan district is the great plateau of mid Asia and is centrical ethnically as well as geographically to all S. E. Asia and to Asianesia, abuts on the west on the eastern extremity of the primitive Iranian region, and is connected with China and all the sea basins on the east of Asia by means of the Yang-tse-Kiang and Hoang-ho.

The Indian Oceanic basin of that writer consists of the whole of India and of the Bay of Bengal, the bay affording means of communication between the western margin of the China Malayan basin and the eastern sea board of India.

The Yang-tse-kiang forms with the Hoang-ho, a twin basin, to which the most advanced and powerful Eastern civilization owes its development. The Yang-tse-kiang is connected on the west with the twin basins of the Salwin and Irawadi, which are themselves connected inland with the Tibetan district and on the S. and E. with the Indian Oceanic basin.

Tibeto-Indianesian.—India, has both land and sea communication with the Tibeto-Indianesian region, viz. by the passes of the Himalaya, the valleys of Assam and the Brahmaputra, and by the ocean, coasts and winds of the Bay of Bengal.

It contains, therefore, the district of the Malacca straits, the marginal districts of the northern part of the Malay Peninsula, and the

basins of the Salwin, Irawadi and Kolandan, all of which also pertain to the eastern region, but its peculiar districts are the basins of the Brahmaputra, Ganges, Godavery, Kishna, Ceylon and the marginal districts on the west.

He says that from all historic times uninterruptedly to the present day, the sea basins whose ethnic influence has been in operation, are the China, Malacca, Java, Mangkasar, Solo, Mindoro, Molucca, Banda, Papua, Jilolo, Papuan, Papua Australian and Papua Micronesian seas, and the Archipelagian seas of Johore, the Trans-Javan or Timorean chain, the Bisayan group, the Moluccas, Eastern Melanesia and the different Polynesian and Micronesian groups. All of these are broad highways throughout the Archipelago, permit foreign navigators and the natives of the islands to traverse them freely and permit of constant intercourse with the rivers on the continent, thereby bringing the whole under the operation of foreign civilizations, and, opening as they do into each other, they are as broad highways traversing the whole Archipelago in different directions, and uniting it, both for foreign navigators and for the more advanced and enterprising of its native communities.

Instead of the name "Indian Archipelago" which is too long to admit of being used in an adjective or in an ethnographical form Mr. Earl at first suggested the term Indu-nesian but rejected it also in favour of Malayanesian. The purely geographical term Indonesia, is suggested by Mr. Logan as a short synonym for the Indian Islands or the Indian Archipelago, as we thus get Indonesian for Indian Archipelagian or Archipelagic, and Indonesians for Indian Archipelagians or Indian Islanders.

By Mr. Logan's term Malayu land he understood all districts, whether geographically united or not that are possessed by communities of Malayu, and by Malay or Malayu is understood men of the Malayu race and language. So by his Jawa-land is understood all the lands of the Jawa race ; so Sunda land, Wugi-land, Batta-land, &c.

He observes that for compound insular districts it is very desirable that single geographical names should be used. Until unexceptionable ones are suggested we must continue to speak of the Sumatra—Philippine islands ; the Moluko-Timorean, &c. The Indian Archipelago must remain, but the shorter form Indonesia might be usefully employed on many occasions.

The principal divisions may be designated :—1st western or W. Indonesia i. e. Sumatra, the Malaya Peninsula, Borneo, Java, and the intermediate islands.

2nd, North Eastern or N. E. Indonesia i. e. Formosa to the Solo Archipelago and Mindanao, all included, and embracing the Philippine and Bisayan groups, &c.

3rd, South Eastern or S. E. Indonesia, from the East coast of Borneo to New Guinea, including the Western Papua islands and the Keh and Aru Archipelagos.

4th, Southern or S. Indonesia, the great southern or Trans-Javan chain between Java and New Guinea or from Bali to the Timor Laut group.

The different portions of the first division are sufficiently distinguished by the names of the great lands of which it is composed. The only portion of the 2nd division which has not a distinctive name is the Southern chain which has a close ethnic connection. As it is throughout the great seat of piracy in the Indian Archipelago it has been proposed to term it Piratania, including under that name Mindanao, Solo, and the crowd of other islands extending from Mindanao, to the N. E. coast of Borneo and separating the Mindoro from the Solo sea. In the 3rd division, S. E. Indonesia, may be distinguished as subordinate groups, the Molukas, Halamahera, Ternate, Tidore, &c. (N. Molukas, Banda, Ceram, &c. S. Molukas and the Keh Arus.)

The sea basins, that is the seas with the marginal basins of their affluent rivers, which are districts of the greatest importance physically as well as ethnographically, he proposes to name after the seas. The basin of the Java sea will then be the Java basin, so the Mangkasar basin, Celebes basin, China basin-better China Malayan, &c. Mr. Logan is of opinion that the post-fix "nesia" should be confined to the great divisions of the Indo-Pacific insular region,—Indonesia ; Melanesia, (New Guinea, Australia, and all the eastern Papua islands) ; Micronesia (all the islands between Melanesia and the Luchu and Japanese chain) ; and Polynesia, all the islands of the Pacific to the east of Micronesia and Melanesia as far as Easter island. Papuanesia might be occasionally used to distinguish the northern Melanesian islands inhabited chiefly by spiral haired tribes from Australia.

As Oceanica includes all the Indo-Pacific islands, he proposes to use the word Asianesia to indicate the great S. E. insular region, which has intimate connexions, geographical and ethnic, with Asia. It would include Indonesia, Melanesia, Micronesia and Polynesia, but not the N. E. chain that lies along the continent, because, it forms a distinct and well defined geographic and ethnic group. He would therefore call it Ainojapanesia, and to include all the Japanese and Aino islands from Formosa to Kamtschatka.

He remarks that these great basins have several subordinate ethnic regions to which it is necessary to advert, if we desire to trace to

their sources the successive foreign elements that have been introduced into the Archipelago, The principal one in the North Pacific is that which is surrounded by the Japanese, Luchuan, Meiakoshima, Formosa, Philippine. Palos, Oluthy, Marianne, and Bonin groups. On the S. E. it merges in the Muro-Polynesian band ; on the S. W. it constitutes a portion of the Indian Archipelago ; on the N. W. it forms the outer boundary of the China-Corean basin on the N. it connects itself with the basins of the Japanese and Okhotsh seas, and is thus brought into direct ethnic union or close connection with the E. districts of M. and N. Asia. The China sea unites the Indian Archipelago primitively with the great ethnic region of S. E. Asia by the districts of the Hongkiang, Tongkin, Mekong and Menam basins, and the marginal Chinese and Anam districts,—the Malay Peninsula, which forms the western bounding district, being ethnically a common portion of the Archipelago and the continent.

This *Peninsular district* again enters on the west into the twin basins of the Salwin and Irawadi, which are themselves closely connected more inland with all the previous basins, as well as with the great eastern one of the Yang-tse-Kiang. The latter is intimately connected with that of the Hoang ho, and forms with it the twin basin to which the most advanced and powerful eastern civilization owes its development.

The *Tibetan district*, the relations of which important district is central ethnically as well as geographically to all S. E. Asia and to Asianesia, unites all the preceding ones, connects them with the great plateau of mid-Asia, and abuts on the eastern extremity of the primitive Iranian region.

The next ethnic region of the Indian Oceanic basin is that of the Bay of Bengal or *Indo-Malayan sea* which unites the western margin of the China Malayan basin with the eastern sea-board of India. As the rivers of the Indian Peninsula connect it closely with the western marginal districts, the watershed being near the Indo-African sea, while the basin of the Ganges has its head nearly in the same longitude, we may consider the whole of India as of portion of this region. It contains therefore the district of the Malacca Straits, the marginal districts of the northern part of the Malay Peninsula, and the basins of the Salwin, Irawadi and Kolandan all which appertain also to the eastern region. The districts that are peculiar to the Indo-Malayan basin, some however being common to it with the Indo-African basin, as are those of the Brahmaputra, Ganges, Godavery, Kishna and Nerbudda, with the secondary districts between the Ganges on the one side and the Nerbudda and Godavery on the other, the great Dekhan and Singalese projection and the western marginal districts. India is connected with the Tibeto-Indonesian region—landward by the passes of the Himalaya, the Asamese valley, and the eastern margin of the lower Brahmaputra basin, and oceanically by the coasts and winds of the Bay of Bengal. By the latter it has also a direct and independent connection with the insular portion of the first region.

The *Indo-African sea* is that portion of the Indian Ocean extending from its N. W. boundary to the Mozambique Channel and including the Persian Gulf, Arabian Sea and Red Sea. It has had much influence on the ethnology of Eastern Africa. The corresponding eastern portion of the Indian Ocean may be termed the Indo-Australian Sea. Important ethnic considerations—relating to the Oceanic winds make it necessary to distinguish these two regions from the middle one ; this, with the districts of the Indus basin, the marginal district of Beluchistan, the great longitudinal one formed by the Persian Gulf and the basin of the Euphrates, the southern Arabian district, that of the Red Sea, and the marginal or Trans-Nilotic one of E. Africa, form the next region. Of these basins, the Euphrates and the Red Sea are of especial importance, for by them the ancient civilization of the Mediterranean and the Nile spread their influence into the Indian region, while the Euphrates basin was itself the seat of a great archaic development of intellect and art.

Races now inhabiting Southern and Eastern Asia.—The many countries from which the various occupants of India have come create a difficulty in framing a notice of each of them in a continous narrative.

Semitic race.—The Semitic populations in Asia, are the Arabians, Syrians and Samaritans; in Africa, the Abyssinians of Tigre and Ambara, Agow, Falasha, and Gafat. Several branches of the race have played a distinguished part in the history of the world. Conquest and commerce, but chiefly the former has greatly diffused this race. In various inroads, they have gone northward and eastwards into Persia, India and China and smaller parties are to be found located in Burmah, Malaya and Polynesia. Many of them have likewise conquered and migrated to the west, along the north of Africa and into Europe, where, as in Spain, they ruled for 700 years, and were again driven back into Africa. The original highland south-west of Armenia (Arminu) the country between the sources of the Euphrates and Tigris, and Mesopotamia proper, is Aram Nahrain. The Aramæans, were a Semitic race of highlanders who first settled on the upper part of the Euphrates

and Tigris districts, and then passed through Mesopotamia proper (Aram of the two rivers), the low land (where is Mash, Mons Masius) which falls gradually towards Syria, afterwards called Aram. The name of Uz, in Nejd, proves that its off-sets extended as far as North Arabia. The Aramaic tribes, according to Ch. Bunsen, are the historical nations of Syria, Aram, Mesopotamia and Babylonia, speaking Syrian in the west and the so-called Chaldaic in the East. In the gradual diffusion of mankind, the western provinces of Iran seem to have fallen to the share of the Aramæans and Elamites—and the Semitic people and language displaced the Cushite. From their primitive language two distinct branches sprung,—the original Arabic, with the Musnud, Koreish and other dialects of that tongue, being one, and the Aramaic, the other. The latter had two grand sub-divisions, from one of which, known as the Western Aramaic, were derived the Amharic, Syriac, Hebrew, &c. &c. and from the other or Eastern Aramaic came the Syrian, Babylonian and Chaldean tongues. From its monosyllabic construction the eastern seems to be more ancient than the Western Aramaic, and it appears likewise to be the root of the Zend, Pehlevi Sanscrit and other dialects in use throughout a portion of the territory along which it had spread eastwards.—(*Bunsen, Vol. iii. and iv.* See India, p. 314. Iran; Babel, Mareb; Semitic Race.)

Arabs.—The Arabic language, as written in the Koran, is the most developed and richest of the Semitic tongues. It is not now spoken in any part of Arabia, as there written. Probably it never was so, any more than the Latin, the English, the German or Italian have ever been spoken as written in their respective bounds, and Burton quotes from the Arabic Grammar of Clodius, that the dialectus Arabum vulgaris tantum differt ab erudita, quantum Isocrates dictio ab hodierna lingua Græca. Indeed the Arabs themselves divide their spoken and even written language into two orders, the "Kalam Wati," or vulgar tongue, sometimes employed in epistolary correspondence. and the "Nahwi," or grammatical and classical language. Every man of education uses the former and can use the latter. And the Koran is no more a model of Arabic (as it is often assumed to be) than "Paradise Lost" is of English. Inimitable, no man imitates them.—(*Burton's Pilgrimage to Mecca, Vol. III. p.* 330.)

The Arabian Sea, that part of the Indo-Afric ocean on the south of Arabia, including the Red Sea and Persian Gulf, has 6,000 miles of Sea Coast. Along this and the African coast and to the west are several nations of similar origin.

Arabs.—The Peninsula of Arabia with the Indian ocean on its south, the Persian Gulf on its east and the Red Sea on its west, has numerous fertile valleys amidst mountains, and great sandy desert tracts. The ancient Greek and Roman geographers divide Arabia into A. Felix, A. Petrœa and A. deserta. The first nearly corresponds to the modern Yemen, but including Mahra and Hadramaut: the second the modern Hejaz:—the third, extends N. E. from A. Felix as far as the Euphrates. Some oriental authors have included the whole Peninsula, under Yemen and Hejaz: others into Yemen, Hejaz, Nejd, the Tehama and Yemana. Hadramaut, Mahra, Shehr and Oman have also been reckoned independent provinces by some, while others include them in the two great divisions, Yemen and Hejaz.

The people known as Arabs, are spread from Syria to the Indian Ocean. They are chiefly in tribes and those who occupy the country around Jerusalem, are the Anezi, Shammar, Mowali and Salhan.

The Assir tribe occupy between Meccah and Medinah. They have six kabileh, Bin ul-Asmar, Bin ul-Akmar, Charaan, Assir, Roufe ida and Ahida, and muster about 44,500 fighting men.—(*Fontanier.*)

The Cha'ab-Arabs, occupy the lower part of Mesopotamia. They are a tall, warlike race, strong limbed and muscular, active and healthy. It is necessary, when considering the Arabs, to distinguish between a series of grades towards civilization, in which they are at present to be found. The Bedouin, is wandering, pastoral, tent-loving, disdaining to trade, yet avaricious and willing to sell his ghee, his mutton, or his horse, and always found in wide and open wastes, unpressed upon by adequate exterior power. Yet, even the Bedouin bends to circumstances. He accepts the region allotted for his pasture grounds. Plunder has its laws and vengeance its chivalry. If he will not trade, he has still wants; and suffers the presence of a Jew or Saleebah as the Affghan suffers that of the hindoo. A little higher in the scale, as with the Cha'ab, is the original wandering pastoral Arab, in a district where he is pressed upon from without, and where boundless plunder and roaming are restrained by exterior force. The Arab then partly turns to agriculture, and for this he must in some degree settle. Society harmonizes to this level. Trade is possible. Corn is sold. The abba cloaks are woven and exported. Dates are planted. The appetite for trade grows by what it feeds on. Huts of reeds replace tents; and one sees in their feeble efforts at reed ornamentation, and in their rough twisting of their reed rope for their bunds, the possible germ of some architectural efforts. Yet higher in the

scale is the Arab flourishing as an experienced and wealthy merchant in a town, or administering a well-ordered and comfortable rural district. Passing among these people, society is seen in its transitional state towards civilization.—(*Pelly, Rawlinson, I.* 36.)

The present Arabians, according to their own historians, are sprung from two stocks: Kahtan, the same with Joktan or Yoktan, of the Bible the son of Eber, whose descendants occupy the south; and Adnan descended in a direct line from Ishmael, the son of Abraham and Hagar who occupy the north."—(*Sales' Koran, Preliminary Discourse, p. ii*)

Yoktan according to Ch. Bunsen, was one of the two sons of Nimrod and was the chief of the first Arabian emigration that proceeded southwards. Tradition points to the mountains of Armenia as the birth place of the Arab and Canaanitish races. It is supposed that they travelled along the banks of the Tigris into Mesopotamia, from which a portion of them commenced a great migration southwards, the result of which was the foundation of the primeval kingdoms of Southern Arabia, the kingdoms of the Adites in Yemen, who believe that they came from the sacred North, and once lived in a glorious garden of the earth which they are to restore. In the matter of their present locations, Dr. Latham, in his Ethnology, mentions that Hejaz, is peopled by the descendants of Ishmael, but the inhabitants of Meccah and Jedda, consist of pilgrims and their descendants of African, Persian, and Turk-blood. In Southern Arabia, Yemen, Hadramaut and Oman, the people are more or less Himyarite in blood, history and civilization. Those of the towns of Mokah, Sanai, Rodda and Loheia, are the more civilized and the desert and hill Arabs are rude and ignorant, one of them so rude in speech as to be named the Bin-i-Kalb, children of dogs—and the Berekede a branch of the Asir are said to prostitute their wives like the Jakuri Hazara. At Hasek is the tomb of the prophet Hud, the fourth in descent from Shem. At the entrance of the Persian Gulf, the pirate coast begins and extends 300 miles northwards. The southern tribes of the Peninsula of Senai, are more or less fishermen. The early Arab religion was Sabæanism, a worship of the heavenly bodies, mixed with idolatry, but with Mahomed commenced the Arab conquests, the creed, science and literature. At present, the Arabic alphabet is in use amongst the Turks, Persians, Malays, some of the people of India and Africa. It was however of Syrian origin. The Arab family is mahomedan, except the christian Arabs of Malta,. Nejd or Central Arabia, is Syrian and arranged into divisions called "*Suk.*"—(*Latham's Ethnology.*) The people occupying this Peninsula, are however regarded by Captain Burton as of three distinct races: viz. the aborigines of the country, who have been driven, like the Bheels and other autochthonic Indians, into the eastern and south-eastern wilds bordering upon the ocean: second, a Syrian or Mesopotamian stock, typified by Shem and Joktan, that drove the indigenæ from the choicest tracts of country; these invaders still enjoy their conquests, representing the great Arabian people. And thirdly, an impure Egypto-Arab clan well personified by Ishmæl, his son Nebajoth and Edom (Esau, the son of Isaac)—that populated and still populates the Sinaitic Peninsula. The indigens or autochthones, he says, are those sub-Caucasian tribes which may still be met with in the province of Mahrab, and generally along the coast between Muscat and Hadramaut. The Mahrab, the Jenabah, and the Gara especially show a low development, for which hardship and privation only will not satisfactorily account. These are "Arab el Aribah," for whose inferiority oriental fable accounts as usual by thaumaturgy. Dr. Carter has remarked the similarity between the lowest type of Bedouin and the indigens of India, as represented by the Bheels and other jungle races. The principal immigrant race, he also says, are the Noachian, a great Chaldægoan or Mesopotamian clan which entered Arabia about B. C. 2,200, and by slow and gradual encroachments drove before them the ancient race and seized the happier lands of the Peninsula. This race would correspond with the Arab el Muta-Arribah or Arabicised Arabs of the eastern historians. The third family, an ancient and a noble stock, dating from B. C 1,900, and typified in history by Ishmæl, still occupies the Sinaitic Peninsula. These Arabs, however, do not, and never did, extend beyond the limits of the mountains, where they are still dwelling in the presence of their brethren. Captain Burton considers it highly probable that the Copts, or ancient Egyptians, were "half-caste Arabs;" a mixed people like the Abyssinian, the Galla, the Somali, and the Kafir, an Arab graft upon an African stock. Hence the old Nilitic race has been represented as woolly-headed and of negro feature.—(*Burton's Pilgrimage to Mecca, Vol. III. pp.* 29, 31, 41, 45.)

Women.—The Arab are not so scrupulous as the Turks and Persians about their women; and though they have the harem, or women's part of the tent, yet such as they are acquainted with come into it.—(*Mignan's Travels, p.* 16.)

Pirates.—The pirate race whose power and influence was long felt by the neighbouring tribes, and is still intimately connected with their political condition, occupy a part of the coast within the Persian Gulf comprehended between the mountain range and the sea-shore,

and extending in that direction from Kasab to the Island of Bahrein,—a distance of 350 miles. On the map, this portion bears the designation of the Pirate Coast. Ibn Haukal, in his version of the Koran, informs us that before the deliverance of the children of Israel from Egyptian bondage, the subjects of a private monarch in these parts seized on every valuable ship which passed. The possession of a few ports within and near the entrance of the Persian Gulf, where it is not more than thirty miles across, enabled them to perceive and sally out on all passing vessels. To the Portuguese during their brief career in India, they proved quite as troublesome as they did in the latter part of the eighteenth century to the British. With these robbers the imams of Maskat have been repeatedly at war. In 1809, an expedition was sent against them under Captain Wainwright, in his Majesty's ship Chiffonne. Their principal stronghold, Ras-ul-Khaimah was stormed and taken, and fifty of their largest vessels burnt or destroyed. Leit, on the island of Kishm, and several other ports, were reduced; but though this had the effect of checking them for a time, they soon rebuilt these ports, and gradually returned to their old practices. The inhabitants of the Pirate Coast consider themselves to be far superior to either the Bedouin or town Arab The latter, especially those from Oman, they hold in such contempt, that a Maskatti and an arrant coward are by them held to be nearly synonymous. They are taller, fairer, and, in general, more muscular than either of the above classes, until they attain the age of thirty or forty years, when they acquire a similar patriarchal appearance.—(*Wellsted's Travels, Vol. I. pp.* 249, 262.)

Africa.—In Africa, the Semitic race are found as fetish-worshippers, christian mahomedans and Jews.

Abyssinia—is christian, with the chief truths of the Bible blended with merely human notions.

The Adal tribes also said to be a Semitic race, dwell on the west of the Red Sea. They call themselves Afer, but by the Arabs they are called Kanakil, from their chief tribe Ad-Alli, and Dr. Krapf is of opinion that this Afer is the Ophir of scripture,

Galla, a Semitic race, occupy Shoa in Abyssinia. They are one of the finest races in Africa of a dark brown colour with strong hair, and well limbed. They live in a beautiful country, extending from L. 8° N. to L. 3°. S. with a climate not surpassed by that of Italy or Greece, and speaking a language as soft and musical as pure Tuscan. They are from six to eight millions in numbers. Amongst them are scattered christian tribes, but the religion of the race in general is Fetish, and the seven tribes of the Wollo Galla are mahomedans. The fetishists worship the serpent as the mother of the human race, and hold their religious services under a tree. They keep every fourth day as a day of rest. They acknowledge a supreme being whom they call heaven (Mulungu) and have a notion of a future state. There seem to be three natures or attributes in their supreme being, viz., Wak or Waka, Supreme, Ogli, a masculine, and Ateti, a feminine power or embodiment. They have two holidays in the week, viz. Saturday, which they call Saubatta kenna or little Sabbath and Sunday, which is their Saubata gadda or greater Sabbath.

Zanzibar.—The Zanzibar dominions comprise that portion of the coast included between Magdashoa in 2° north latitude and Cape Delgado in 10° 42′ south latitude. Beyond them, to the north, are the independent Somalee tribes, which extend almost to the Red Sea, where they meet the Dankalie race; and on the south they are bounded by Mozambique. The extent of coast under the dominion of the sultan of Zanzibar is about eleven hundred miles, but the most valuable parts of his sultanate are the islands of Zanzibar (containing the capital of the same name), Pemba and Monfia. The first is situated at a distance of from twenty to thirty miles from the mainland; and is in size about equal to the Isle of Wight. It contains none but small streams.

The Tonareng is a nomade race dwelling in the great desert, very fair, with long hair, aquiline noses, high foreheads and thin lips. They say their prayers in Arabic, and speak a Semitic tongue. Their arms consist of a long lancewith a broad head, javelins 6 or 7 feet long, with jagged hooks at the pointed end, a round buckler (darega) of buffalo or elephant hide from Soudan, and a poniard, a broad bladed scymeter.

The Kabyle, south of Algiers are the Berber race, the old Numidians and differ in language, form and habit from the Arabs of the plains. Their number is about 700,000 they have a federal republic, the old Quinque-gentes who gave so much trouble to the Romans, who treed the soldiership of Maximilian and sixty years afterwards again revolted.

Further West, in Morocco is a population of about eight millions

Berber...	2,300,000	Negro and Abid...	120,000
Shellok...	1,450,000	Christians...	300
Moor...	3,550,000	Renegades...	200
Arab...	740,000		
Jew... ...	340,000		

The Arabs of Morocco, are the Moors of Spain, the Saracens of France, tall, graceful sons of the Arabian desert, courteous, brave, hospi-

table and confiding,—descendents of the conquerors, who in the first ages of the Hijrah propagated the religion of Mahomed, crossed the Straits of Gibraltar, destroyed the Gothic chivalry, reigned in Spain for 700 years, invaded France, devastated Italy and pillaged the suburbs of Imperial Rome. When the last Arab king submitted to Ferdinand and Isabella and the Moorish palaces of Grenada were surrendered to the christians, the old conquerors went back to Africa and resumed their nomade life. In Tripoli, the Arab has monopolized the country. In Tunis, the native reappears in a smaller proportion and in Morocco he is very scarce.

The Berber and Shellok are untamed, warlike tribes dwelling on the mountains; when possible, rovers of the sea, claiming fanciful origins, but impatient of any subjection. They are the same race as those whom the French call Kabyle and Zouave. The Moors are little idle men, who grow fat from indolence, they are lowanders, traders, dwellers in cities, avaricious, perfidious, cowardly, cringing and insolent. The Riff-dwellers of Kalhiya, Cape Tres Forcas, correspond to the Arab Saheli on the Red Sea coast, the name being evidently from "ripa" a bank.

Euphrates to the Indus.—The regions through which these two rivers run, and the countries intervening have, since remote ages, been occupied by races who have taken a prominent place in history. Aram-Nahrain, is the Syria between the rivers, of Gen. xxiv, 10 and Deut. xxiii, 4. The greater part of what was called Mesopotamia, in latter times, constituted the territory of ancient Babel, and was the Aram Nahrain of Scripture. The same territory in Gen. xxviii, 2, is called Padan-Aram, or Champagne Syria, both of which designations agree with the description of the country given by Strabo.

Strabo says that the Tigris washes the eastern side of Mesopotamia, and the river Euphrates its southern and western; whilst the Taurus separates it from Armenia on the north. Pliny is still more distinct. He says that Mesopotamia has the Tigris to the east, the Euphrates west, the Persian Gulf south, and the Taurus north, with a length of 800 miles and a breadth of 360 miles, the city of Charax being at the extremity of the Gulf. (*Lib. vi. c. xxvii.*) Mesopotamia extends above 10° in longitude from Balis, in 38° 7′ 10″ east longitude, to the estuary of the old Kárun, in 48° 45′ 16″ and 7°′ 31′ 5″; in latitude from the shores of the Persian Gulf, in 30° to Sumeisat, in 37° 31′ 5″ north latitude; its greatest width being about 170 miles from Jaber Castle to Hisn Keifa, on the Tigris, and its extreme length nearly 735 miles. The irregular triangle thus formed has a superficies of nearly 76,117 square miles, including the shores of the Gulf from the Pallacopas to the old Karun. The principal towns of Mesopotamia are Diyár Bekr, Hisn Keifa, Jezireh, Mosul, Tekrit, Sámmará and Kut-el-amárah along the Tigris; Erzingán, Kemákh, Egin, Kebbán Maden, Malatiyah, Rum, Kal'ah, Bir, Rakkah, Deir, Rawd, Anah, Hadisah El' Uzz, Jibbah, Diwániyah, Lamlun, Sheikh ul Shuyukh, and Kurnah along the Euphrates: in addition to Suverek, O'fáh, Háran, Seroug, Ras-el-ain, Márdin, Nisibis, Sinjar, El Hadhr, Kerbeláh, Mesjid Ali, Samawáh, Zobeid, and many other villages, both in the mountains and along the streams, between the two great rivers. Grane, or Quade, Mohammarah, and Básrah are the ports; and the last, being the principal, is next in importance to Baghdád, the capital.

The races that have ruled here from the most remote times have been many and remnants are still to be traced of former dominant peoples in the varied languages still spoken.

The inhabitants of that region at present consist of Arabs, Osmanli Turks, Kurds, Turkomans, Syrians, Jews and Christians. Arabic is the general language; Turkish, Kurdish, Chaldee, Syriac, and Syro-Chaldean dialects being the exceptions. The sunni mahomedan religion is prevalent; but, in Upper Mesopotamia, there are many christians of the creed of Nestorius, some of whom have become Roman Catholics and Jacobite as well as Roman Catholic Syrians.—(*Euphrates and Tigris. Col. Chesney, p.* 111, 118.

Professor Rawlinson believes that Chaldea was a part of the great Mesopotamia plain, bordering the Persian Gulf on the south with Arabia on its west, and the limit between lower and upper Mesopotamia on the north. Chaldea seems to have been divided into a northern portion from Hit to Babylon, and a southern portion from Niffer to the shores of the Persian Gulf. In each of these there seems to have been a tetrarchy, viz., Babel, Erech, Accad and Calneh, in the land of Shinar (Gen. x. 10) and Hur, or Huruk, Nipur and Larsa or Larancha, which seem to be the scriptural Ur of the Chaldees, Erech, Calneh and Ellasar. The northern tetrarchy was Babel or Babylon, Borsippa, Cutha and Sippara, the last the Sepharvaim of Scripture. A Semitic or Aramaic race is usually supposed to have early occupied the great alluvial plain at the mouth of the Euphrates and Tigris. They called themselves Aram, and the Greeks called them Assyrians, or Syrians, and Niebuhr regards the early inhabitants of lower Mesopotamia as pure Aramæans closely akin to the Assyrians from whom indeed he regards them as separated only politically, and this view is taken by Bunsen and Muller: but Professor Rawlinson (i. 54) regards as correct, the scriptural statement that they were Hamites, Cushite or Ethiopian. The first Babylonish dy-

nasty began B.C. 3784, by a powerful Chaldee kingdom in Southern Babylonia and the historical city of Babylon is supposed to have been built B.C. 3250. The Chaldean dynasty lasted for 1550 years, B. C. 2234, when Babylon was taken by Zoroaster, a Mede, who then founded there the second Babylonian dynasty. The Median dominion ended B.C. 2011, after a rule of 224 years. The Chaldee were on several occasions the dominant race. The term Chaldæa, is derived by Pococke from Kula a tribe, and deva, a god or brahmin. Chaldæans were undoubtedly the first people who dwelt in cities and formed a nation in the south of Persia. They settled in Mesopotamia, but it is supposed that they originally came from near Ararat and that they had spread northward towards the Caucasian range, where they engaged in astronomical pursuits. The ancient Babylonia, is the modern Irak-i-Ajam. The temple of Belus the sun-god of the Babylonians, in the City of Babylon, was built about B. C. 3,500 or B. C. 3,250, in the era of the largest pyramid, but five centuries before the pyramids generally. This temple was built many thousand years after, and was quite distinct from the watch tower mentioned in, Genesis. The temple of Belus, was in the centre of the city of Babylon, and was the vastest monument in Babylon, and the world, and seems to have been erected 323 years before the birth of Abraham. It was a temple but also meant as the watch tower of Babylon.—(*Bunsen, Vol. IV. pp.* 479, 491 *and* 654.)

The Chaldee was an Aramaic dialect, differing but slightly from the proper Syriac: Ezra iv, 8 to vi, 8 and vii, 12-26; Daniel ii, 4 to vii, 28 and Jeremiah x, 10 are written in the so-called Chaldee. There is also a Chaldee gloss in Genesis xxvi, 47. The Babylonian language in the time of Nebuchadnezzar is very close to Hebrew. The Chaldee language may have been that of Terah, but the possibility of the language of Abraham remaining in its original state during the 216 years that he and his family resided in Canaan; and the 430 years that the Hebrews abode in Egypt; and the 400 years from the Exodus to David, is untenable. (*Rawlinson.*)

Euphrates to Indus.—The region intervening between the Euphrates and the Indus is thinly peopled. It is occupied by races who are subjects of the king of Persia, the bulk of whom are nomade and of varied origin; by the races on the north known to Europe as Afghans; by the Brahui mountaineers and the Balooch races of Baluchistan, and races on the sea coast whose origin is unknown. Macdonald Kinneir (*Geog. Mem. p.* 44) questions whether the inhabitants would amount to more than eighteen or twenty millions even including the Iliyat races, who probably exceed the number of those who reside in towns.

South Persia.—According to the Jehan Numa, one of the earlier divisions of the province of Fars was into the five circles or departments called "Kurre:" and named Istakhr, Darabjird, Shapur, Ardashir and Kobad. At present, it consists of three principal parts, viz. 1. Fars proper (Persis Proper.) 2. Laristan near the Persian Gulf; and 3. Behbehan, or the country of the Khogilu, which represents the circle of Kobad. Behbehan is bounded on the north by the great belt of mountains which separate Irak-i-Ajam from the southern provinces of Persia; the northern and north-eastern shores of the Persian Gulf form its boundary to the south, Ram-Hormuz and the Ka'b country lie to the west, while Shulistan separates Behbehan on the east from the direct dependencies of Fars. On the east and south-east, Behbehan is surrounded by the Mamaseni tribe: on the north and north-west by the Bakhtiyari, and on the west and south by the Ka'b Arabs. Also, the mountainous region to the north and north-east of the plain of Behbehan is occupied by the Khogilu tribes,—and the districts of Lirani and Zeitun, near the Persian Gulf, together with the fortresses of Gul-i-gulab, all come under the control of the governor of Behbehan.

Among themselves, with their equals, the Persians of the higher classes who are settled in towns are affable and polite; to their superiors, servile and obsequious; and towards their inferiors, haughty and domineering. All ranks are equally avaricious, sordid, and dishonest, when they have an opportunity of being so; nor do they care for detection when they have once reaped the benefit of their superior genius, as they term it.—(*Pottinger's Travels, Beloochistan and Sinde, p.* 212.)

Iliyat.—The word Iliyat is derived from Eel, a Turkish or Tartarian word, signifying tribe; to which "aut," an Arabic termination of the plural, was added; a combination not uncommon.

The Iliyat tribes in Persia, are mostly of Arab, Tartar and Turcoman descent; but with tribes from the Bakhtiara mountains, who are of a race totally distinct from the northern hordes, and, probably, something more indigenous to the soil, than any of the other wanderers; but all lead the same manner of life, and bear the common name of Iliyat their pastoral habits little distinguishing them from the Bedouin Arab, or the nomade Tartar on the banks of the Tedzen.

The subjects of the Persian empire therefore appear to consist of two large distinct classes: the stationary inhabitants of towns and cities; and the wandering dwellers in tents and temporary villages.

They comprise a very large portion of the population of the country, though their actual numbers are not well known. They are mahomedans of the sunni sect and herdsmen.

Many of the best families in Persia are of Iliyat origin. The present royal family is of the Kajar tribe, a Turkish El, which came into Persia with Timur.

In winter, the Iliyat either inhabit temporary huts, or follow the sun into warmer districts; the empire of Persia being sufficiently extended to yield a temperate climate somewhere, in almost all seasons. They change their places of encampment with the season and climate, going in the summer to the yeilauk or quarters were pasturage and water are to be found in abundance; and when the cold of winter sets in, adjourning to the kishlauk or warmer region, in which their flocks and herds, as well as themselves are better sheltered. Their summer abodes consist of large black tents, made of woven horse-hair, the sides being matting, or dried rushes. They are usually pitched in a quadrangular form on the banks of their hereditary rivers, and under the brow of the mountains which had shadowed their forefathers for unknown generations. Hence, though they wander, it is yet within bounds. They have a country, and only change their place in it. The nomade tribes of Arabia and of Tartary bear the same character; possessing an extended inheritance, though it be only a desert. (*Porter's Travels, Vol. I. p.* 475.) The Iliyat constitute the military force: and their chiefs, to whom the tribes are entirely devoted, are the hereditary nobility of the kingdom of Persia. Those in the southern provinces, the Bakhtiari, Fielhi, and Mahmaseni, trace their origin to the most remote antiquity, and are probably the descendants of the warlike bands who inhabited the same country in the days of Alexander. The Kashgoi are a nomade Turkish tribe of about 12,000 families, whose chief is the Il-khani of Fars. They and the Bakhtiari from the warm pastures of Arabistan and the head of the Persian gulf arrive in spring on the grazing of Isfahan. At the approach of winter, both the tribes return to their respective Garm-sair or wintering lands. The entire southern region of Fars, bordering on the Persian Gulf, is called the Garmsaer or "hot region." It extends from the sea to the latitude of Kazeroon, and runs parallel with the Persian Gulf, from the banks of the Tab to the confines of Laristan. From Bushire, eastward, as far as Cangoon, the tract is named the Dushtistan or "land of plains." The Tungistan, commonly pronounced Tungistoon, or "narrow land," is a small tract of land east of Bushire. The greater portion of the people of the whole Garm-sair, consists of an independent lawless set, many of the tribes being robbers by profession.

The Garm-sair of Sijistan is a narrow tract of country along the lower course of the Helmund. The Baluch races seem to pronounce it "Gurmsehl" or Garmsail, and one of their wintering places is north-west of Nooshky and distant about 75 miles. (*Pottinger's Travels, Beloochistan and Sind, p.* 103. *Rich.*) Each Iliyat tribe has a separate grazing ground for its flocks; and this land, from long and undisputed possession, is considered as the property of the different chiefs. In the fine season they are continually on the move, in search of pasturage; but, in the winter, several of the tribes, amongst which may be numbered the Karagoosli and Afshar, settle in villages. In Dahistan, Asterabad, and the Northern parts of Khorasan, instead of tents they live in small portable wooden houses. They principally subsist on the produce of their flocks, and consequently grow but a very small proportion of corn; they manufacture cloth, as well as several other little articles for their own use, and the most beautiful Persian and Turkish carpets, so much admired in Europe, are the work of the Iliyat. Inured, from their infancy, to arms, to danger, and fatigue, and tenacious, at the same time, of the honor of their tribe, they are at once the prop and the glory of their country. Each tribe is divided into "teera" or branches, and each teera has a particular leader, all of whom are however subservient to the chief. These chiefs are, both from birth and influence, the first men in the empire; they are always mutually jealous and hostile; and the king, by nicely balancing the power of the one against that of the other, insures his own safety and the peace of his dominions. It is also the custom to detain at court, either the chief himself or some part of his family, as hostages for the fidelity of the tribe.—(*Kinneir's Geographical Memoir, p.* 44-45.)

The Iliyat tribes says sir John Malcolm are all soldiers, and generally horsemen. The cities furnish no soldiers to the army except infantry, they are defended by a militia, who sometimes take the field.—(*Malcolm's History of Persia, Vol. II. p.* 187.)

In their conduct and morals, the Iliyat women are vastly superior to those of the towns and settlements. They are chaste and correct in their lives, and faithful to their husbands.

Bulbassi.—The Bulbassi is a Kurd race composed of the following tribes:

The Kabaiz, the reigning family, consist of about two hundred persons; 2. Manzoor; 3. Mamash; 4. Piran; 5. Rummook; 6. Sinn and Taafah, who together make one tribe. The chiefs of tribes are called Muzzin. Each chief has a certain number of thieves, who rob for him; and his tribe makes him voluntary gifts

of provisions. These are his only revenues. The price of blood among the Bulbassi is twenty-two oxen, but it may be made up in other effects, to which often a nominal value is attached, more than twice the real amount, when the affair is to be compounded amicably. Their only laws are the usages of the tribe, and these are administered by the chief, assisted by the council of elders. No crimes are punished with death but adultery, seduction, and such like. The Bulbassi will not bestow a girl in marriage on a person of another tribe or people. They have courtship among them, and carrying off a girl by the lover is common. When a chief dies, he is succeeded by the best or bravest of his family, with the common consent of his tribe. If his eldest son is incapable, the best of the brothers succeeds. When a chief is once nominated he cannot be deposed, and his authority is so well defined, that there are no instances of a chief ever having attempted to exceed his powers. In their own country the Bulbassi do not willingly acknowledge any superior, either Turkish or Persian; but when they descend into the regions of Karatchook they pay a tribute of sheep to the Bey. They are very fond of armour; and most of the principal people among them possess a complete suit of mail. The Bulbassi Koords have a most curious way of curing wounds. They sew the wounded man in the skin of a bullock fresh stripped off the animal, leaving only his head out; and they leave him in it till the skin begins to putrify. They say this never fails to cure the most desperate spear or sabre wound. —(*Rich Residence in Koordistan, Vol. I. p.* 153.)

Races on the Sea Coast, Ichthyophagi.—The people on the coast seem to be identical with the races who are known to have dwelt there two thousand years ago; and described by the ancients as the Ichthyophagi. From Basrah to Hormuz, the sea coast people still principally live on fish. The Mahi-abah and Mahi-ashnah, literally fish bread and fish soup, used among the people of Lar is prepared from fish, (more particularly a small kind found near Hormuz) by exposing it to the sun. Strabo and Arrian relate, that the ancient Ichthyophagi, made into bread in a similar manner, the fishes which they had dried and roasted. The region of the Ichthyophagi commenced at Malana near Cape Arabah and ended between the ancient Dagasira and the place now called Cape Jask, or more properly Jashk. Churchill's Collection of voyages mentions that "the coastes of Persia as they sailed in this sea, seemed as a parched wildernesse, without tree or grass; those few people that dwell there, and in the islands of Lar and Cailon live on fish, being in manner themselves transformed into the nature of fishes. So excellent swimmers are they, that seeing a vessel in the seas, though stormie and tempestuous, they will swimme to it five or six miles to begge almes. They eate their fish with rice, having no bread: their cats, hennes, dogges and other creatures which they keepe have no other dyet." Nieuhoff who travelled in 1662, says that about Gambroon, the common people make use of dates instead of bread or rice; for it is observable that the ordinary food of the Indians all along the coast from Basora to Sinde, is dates and fish dried in the air; the heads and guts of the fishes they mix with date stones and boil it altogether with a little salt water, which they give at night to the cows after they come out of the field where they meet with very little herbage.—(*Taylor's Travels from England to India, Vol. I. p.* 266. *Churchill's Collection of Voyages, Vol. II. p.* 230 *(first edition). Ouseley's Travels, Vol. I. p.* 228. *Townsend's Outram and Havelock, p.* 297*).*

Beluchistan.—Around the borders of British India are numerous warlike tribes with whom the rulers on the marches, both prior and subsequent to the British domination, have ever been at war. The first of these met with as we approach India from the west are the tribes occupying Beluchistan. This territory, extensive, varied in character to no ordinary degree, consists of lofty rugged table land and level ground and their climates exhibit the severest heat and the most intense cold. The mountainous table land, a great central mountain range running north and south, which comprises the provinces of Sahrawan, Jhalawan and Lus, extends from the Afghan mountains north of Quetta southwards to Cape Monze, or from Lat. 40° to L. 25° North, a length of 340 miles. In breadth it extends from the level plains of Cutchee eastward, to Nooshky on the borders of the Seistan desert westward, extending thus about 150 miles, widest about the centre, but it gradually narrows southwards until at Cape Monze, the range is only a few miles in width. The height also varies. The greatest altitude is attained at Kelat, about 7,000 feet, where the climate is European; southward it rapidly declines, until in the province of Lus, the elevation is little above that of Sind. This region is occupied by many races some of whom have come from Syria on the shores of the Mediterranean, and others have reached its plains and mountains from the north. This mountain range is the great natural boundary of western India through which, here and there, are long and meandering valleys. Approaching races have been stopped by this great barrier while others have been thrust into it by subsequent intruders. There are two principal divisions, the Baluch and the Brahui, who are sub-divided into numerous clans, between whom are constant blood feuds

though all of them recognise the khan of Kelat as their paramount chief.

Mr. Campbell says the Baluch, in all the east of Beluchistan are but the upper stratum of the population, and there, as also in Sewestan and Cutch Gandava, the Jet race form the greatest portion of the agricultural population (p. 78.) The Baluch acquired recently dominion in Sind and some have settled in the N. W of India, to as far as Delhi, where they are scattered about in various capacities, and are often camel drivers. They are large powerful men, but swarthy.

They serve as mercenary soldiers, in Arabia, and latterly in Bombay they have been labourers at the harbour and on the quays.—(*Campbell, pp.* 78, 142.)

The countries west of the Indus, to which Europeans apply the terms Beluchistan and Afghanistan, are, however, not known by these names to their inhabitants. These are, partly, dwellers in towns and, as indicated by their physical appearance are of widely different races, who have pushed or been pushed forwards from the south, the west, and the northwest, into their present sites. In the territory of confederate tribes, termed Beluchistan, are (1) Baluch tribes proper, viz: the Brahui, the Rind, and the Lumri; (2) Those not Baluch, viz.: the Dehwar of the capital, the Jet of Cutch Gandava; the Babi; the races occupying the maritime provinces, the Afghans of Shall and the hindu residents of villages. Baluch is a term used by Ibn Haukal who says "the Baloujes are in the desert of Mount Kefes, and Kefes, in the Parsi language, is Kouje, and they call these two people Koujes and Baloujes." The Baluch race extend from the eastern limit of Cutch Gandava to the confines of Persia, but include many tribes, speaking different dialects and of very different descent, as some have dark countenances and others very fair. The greater part of the country west of the Indus, from the parallel of Shikarpore to that of Sehwan, is held by Baluch tribes. In the Afghan district of Siwi, N. W. of Dadar, are the Baluch tribes of Khajah and Shilanchi, the latter, in Siwi, being neighbours of the Afghan tribes of Safi, Kurak, Margazari and Duppal. Also, in the hills east of Kahan, are the independent remote Husseni, Chacha, and Ketra tribes of Baluches. They border with the Piari Afghans on the east. There are numerous Baluch east of the Indus, and those in Bhawalpore and the Panjab, are said to be Rind.

The question of the original countries of these tribes is still undecided: the Baluch and Brahui are sub-divided into an infinite number of tribes, who take their names from the chief under whom they serve, the district or country to which they belong, or the traditions as to whence they derive their descent. Lt. Pottinger mentions that the Beluchee tongue partakes considerably of the idiom of the Persian and at least one-half of its words are borrowed from that language, but greatly disguised under a corrupt and unaccountable pronunciation. The Brahuiki, on the contrary, is so dissimilar in its sound and formation, that he did not recollect to have marked in it a single expression in any way approaching to the idiom of the Persian. It contains, he adds, a portion of ancient hindoo words.

The contour of the people of these two classes is as unlike, in most instances, as their languages, provided they be descendants of a regular succession of ancestors of either; but the frequent inter-marriages which take place amongst them have tended in some degree to blend together the peculiar characteristic of both, so that in many families, and even in whole tribes, they have ceased to exist.

The Beluchee branch, in the first instance, form the original class of that name, into three principal tribes, called Nharui, Rind, and Mughazzi. The Nharui, principally inhabit that portion of Beluchistan which lies to the westward of the desert, and there are likewise khel of them at Nooshky and in Seistan.

There are, undoubtedly, two languages spoken in Beluchistan, the Beluchiki a hindi tongue of the Arian or Sanskrit stock in which Persian, Sindi, Punjabi, and Sanskrit words recur; and the Brahui which belongs to the Scythic or Turanian or Tamulian or Dravidian stock.

The Brahui language, spoken by the mountaineers in the khanship of Kelat, in Beluchistan, contains some Dravidian words and a considerable infusion of unquestionable Dravidian forms and idioms. Considered as a whole, Dr. Caldwell regards this language is derived from the same source as the Punjabi and Sindi, but it unquestionably contains a Dravidian element, derived from a remnant of the ancient Dravidian race having been incorporated with the Brahui. The discovery of this element beyond the Indus river, proves that the Dravidians like the Aryans, the Græco-Scythians and the Turco-Mongolians, entered India by the North West route. The Brahui state that their forefathers came from Halb, Aleppo.—(*Dr. Caldwell's Comparative Grammar.*) The Brahui language, according to Dr Caldwell is mainly Punjabi with a Dravidian element: According to Mr. Campbell, is mainly Arian (Indo-Persic) with a Turanian element. (*Campbell, p.* 56.)

The typical Brahui are certain tribes in Saharawan and Jhalawan. The Brahui are sunni mahomedans, are stout, squat, have short thick bones, with round faces and flat lineaments, with brown or even red hair and beards. They have, both in feature and speech, indications of a Turanian element. (*Campbell, p.* 54.) They are

hardy, often migratory. Their political chief is the khan of Kelat.

The Rind and Maghazzi are settled in Cutch Gandava, to which fertile plain they have emigrated at different periods from the province of Mekran, and have become incorporated with the Jut, or cultivators of the soil, as the subjects of the khan of Kelat; a few of these likewise reside in the hills to the N. E. of Cutch Gandava and on the skirts of the deserts north of Kelat. The sub-division of the Brahui tribes amount to about ten, and those of the Rind and Maghazzi each amount to double that number.

The Brahui are a more unsettled and wandering race, always residing in one part of the country, during summer and emigrating to another for the winter season; they likewise change their immediate place of resort many times in search of pasturage for their flocks—a practice rare among the Beluch tribes. They differ so much from the Beluch in external appearance, that it is almost impossible to mistake one for the other. The Brahui, instead of the tall figure long visage, and raised features of their fellow-countrymen, have short, thick bones, with round faces and flat lineaments; and Lieutenant Pottinger had not seen any Asiatics to whom they bear any resemblance, for numbers of them have brown hair and beards. The Kamburani, being the chief tribe, are subdivided into three distinct gradations of rank called Ahmedzye, Khani and Kamburani. The first supplies the khan; the Khani are of the secondary rank of chiefs. The word Kamburani includes all the remainder of the tribe, but in common is applicable to the whole body. They receive wives from, but do not marry their daughters into other tribes.

He says, of the original settlement of the Belooch and Brahui tribes in the country, that when Mahomed, the successor of Subaktagin, the first sultan of the Ghaznavi dynasty, turned his arms towards India, he subjugated the whole of the level district, west of the Indus, to the very foot of the Brahui mountains. His son, Musaood, extended these conquests still more westerly into Mekran; he adhered, however, to his father's plan of not ascending the lofty ranges, and all subsequent invaders of Sind, seem to have been guided by their example. The Balooch, however, ascribe their origin to the earliest mahomedan invader of Persia, and are very desirous of being supposed to be of Arabian extraction. They spurn the idea that they are derived from one stock with the Afghans. The affinity of the Beluchiki to the Persian language affords of itself strong evidence in favour of this position (viz. that they came from the westward) to back which, we still see that the majority of the Beluch nation still dwell on the western frontier; but as neither hair, features, manners, nor language, bear the slightest similitude to those of the Arabs, he rejects the claim totally. In the beginning of the fifth century of the Hejira, the Suljuk Tartar appeared in Khorasan, and in the short space of ten years, wrested that kingdom from the house of Ghaznavi. It was ceded to Alp Arslan, and constituted a part of the Seljukide dominions, until the extinction of that race, about 150 years posterior to Togrul Beg having assumed the title of emperor. In the lapse of time, the Beluch are alluded to both by that general term and particular tribes and as dwelling in the very districts which they people at this hour.

We learn from the Greek and Asiatic historians that, as these armies became dismembered, either by the death of their generals or a defeat, the barbarians who composed them wandered over the country until they found an advantageous place to fix themselves, or entered the services of some more fortunate chieftain than their own as mercenaries. Such, in his opinion, were the Beluch, and that they are of Turkoman lineage, various circumstances go to prove. Their institutions, habits, religion and, in short, everything but their language, are the same; this last anomaly is easily explained. The Seljuk had long settled in Persia, where they naturally adopted the colloquial dialect, and brought it with them on their expulsion by the Kharazmian kings. The unremitting enmity of these kings forced vast hordes of them to fly from Persia after they had been colonised there for many years. The fugitives are said to have gone to Seistan and the neighbouring countries, which are those of Sind, Seistan, and the Brahui mountains.

The Rind, one of the principal divisions of the Belooch tribes—have a tradition that they came originally from Aleppo.

The Brahui appear to have been a nation of Tartar mountaineers, who settled, at a very early period in the southern parts of Asia, where they lived an ambulatory life in khels, or societies, headed and governed by their own chief and laws, for many centuries; and at length they became incorporated, and obtained their present footing at Kelat and throughout Beloochistan. It is impossible to form more than a supposition, what was the nature of the region from which they emigrated, but their pursuits and way of domestic life afford the strongest reason for believing that they were originally mountaineers; and some amongst them affirm that the very name demonstrates this by its signification being a compound of an affix boan and roh, a word said to mean a hill in the dialect still spoken in some parts of Thibet; such reasoning, however, is not entitled to any great dependence, though supported by the collateral evidence of the Beloochees, being called in one quarter of the country Nharui,

which, if we admit the former derivation, means "lowlanders," *i. e.* literally not hillmen, a name they received from the Brahui when they came amongst them, and evinced a preference for the champagne districts, low villages, and plains. The Brahui imagine themselves the aborigines of the country.

In another place he states, that he considers the hindoos to have been the first colonisers of the upper part of the Brahui mountains, and that the Brahui gradually settled amongst them. That the first hindu rajah was named Sehwa, who called in the aid of these mountain shepherds against a horde of depredators from the western parts of Mooltan, Shikarpoor, and Upper Sind; and that the Brahui, having defeated and driven off these invaders, deposed the rajah Sehwa, and seized the government for themselves—a chief of the name of Kumbar becoming khan of Kelat, of whom the present khan, is a lineal descendant.

The foregoing, says Dr. Cooke, would lead us to suppose:—1st. That the original inhabitants of the country were hindoos, who fled from the conquering mahomedans who invaded Sind, Lus and Mekran, A. H. 93:—2nd. That the Brahui were Tartar mountaineers, who gained a footing in the country and ultimately supplanted the former becoming the ruling race:—3rd. That the Belooch came from the westward, but whether they were Seljuk Tartars or Arabs from Aleppo, is a matter of doubt.

The other classes mentioned as residing at Kelat are the Babi and Dehwar. The first are merchants, who appear to have come originally from Affghanistan: they are considered a wealthy people. The Dehwar are, in all probability, the descendants of the Tajik of Balk Their language is nearly pure Persian, they inhabit the Deh or villages, and do not migrate; are an agricultural people, hard-working and poor.—*Dr. Cooke in Bombay, Medical Transaction, No. VI. New Series*, 1860, *p.* 31.

Dr. Latham classes the Belooch language with the Persian, but considers it as a modified form. He says, "E. and S. E. of the proper Persians of Kirman, come the Belooch of Beloochistan. If Rask's great theory be the correct one, which makes all the fragments of nations speaking a Tamulian dialect parts of one great continous whole, which spread in the earlier ages over India and Europe, underlying the more recent system of Celtic, Gothic, Slavonic, and classical nations, as the primary strata in geology underlie the secondary and tertiary, but cropping out, or being exposed here and there—as the fragments of nations—of Lap, Finn, and Basque in Europe, and of the Cuchwaree, Cohatee, Tudo, Gond, Lor and other mountaineers of India; if I say, this theory be the correct one, then the Brahui, being of the great Tamulian family, would be the aboriginal inhabitants of the country. Thus the Koord who inhabit the Dasht-i-be-daulat, doubtless came from Kurdistan, probably amongst the armies of some mahomedan invader of India and, perhaps, laden with spoil, preferred on their return, to settle where they now are, rather than continue their march to their own country, and made choice of the Dasht-i-be-daulat. Again many of the Jhalawan tribes are undoubtedly of Rajpoot origin; and until lately, the practice of infanticide was prevalent amongst them. Near Bagwana is a cave in the rock filled with the dried mummy like bodies of infants, some of which have a comparatively recent appearance. The Sacæ, who formed part of Alexander's army, and whose country is stated by Wilson to have been that lying between the Paropamisan mountains and sea of Aral, still exist as a tribe of the Brahui of Jhalawan. It is not improbable that they accompanied Alexander as far as the south of Sind, and returning with Craterus up the Moolla Pass, settled in their present position. The Belooch also have by no means a pure and unbroken descent from any one source. Adopting Pottinger's theory, that the main body were Seljuk Tartars driven out of Persia, as he describes, and that the Belooch have no resemblance in any way to the Arabs, yet undoubtedly, many are of Arabic descent. In many cases the outline of their physiognomy is very similar to that of the Arab of Egypt and Syria; and if such a Belooch were dressed in the Arab dress, it would be exceedingly difficult to detect his nationality. Others are Sindians who fled to the hills on the invasion of their country by the mahomedans. The original hindoo inhabitants of the Murree and Boogtee hills were driven out by their present occupants, but the natives of Barkhan (the Khetran) inhabiting the more mountainous district to the north-ward were able to hold their own. The whole are nominally subject to the khan as chief of all, but his power appears to vary with his popularity. The tribes, especially the Brahui mountaineers, reside in tomans, or collections of tents. These tents are made of goat's hair black or striped; the furniture is very simple—a few metal cooking-pots, a stone, hand-mill, and some rough carpets and rugs, with a distaff for spinning wool, and a hookah, are all that are usually found in a Brahui tent. That of the chief may, perhaps, be better furnished, and he is richer than his neighbours in flocks and herds. The dress of the lower orders is made up of a long tunic, trousers loose at the feet, and a black or brown great-coat or cloak, usually of felt, kummerbund and sandals. They wear a small cap, either fitting tight to the outline of the head, or dome shaped, with a tassel on the top. Those of the higher classes are

elaborately ornamented with gold thread. A few wear turbans, and the Belooch have them preposterously large, of white muslin. The higher classes are somewhat better dressed and carry loongees, or scarfs, which they throw around their shoulders in exactly the same manner as a Scotchman wears his plaid, and as the ancient Irish or Hyperboreans wore them ages ago.

Instead of the Cholo, Beloochi women generally wear the Gaghgho, a long shift resembling an English night shirt, but opening behind between the shoulders, and with half arms. It is generally made of red or white stuff, and reaches almost down to the ancles. Red is the fashionable colour and elaborately worked at the breast.

The men wear their hair long and flowing over the shoulders, whilst a luxuriant beard falls over the breast. The women tie their hair in a knot behind, brushing it smooth in front, and keeping it in place by a kind of fixature. The colour of the hair is frequently brown or red, and many of the natives have a European cast of countenance, in some cases strongly resembling the Irish. A man shoulders his matchlock and stalks his enemy as he would an ibex, shooting him down whether he be armed or not, or working in his field. There was, about A. D. 1854, a feud existing between two tribes, in which one had already lost 300 men, and the other 120. In some cases, by making compensation either in money, land, or cattle, the difference may be settled.

At the commencement of the winter months, all emigrate to the plains, and many leave the hill country as early as the middle of September.

A considerable portion of Beluchistan is subject to the khan of Kelat, the four sub-divisions of whose territories are given by Mr. Masson as,

Western.	Maritime.	Central.	Eastern.
Nushki	Las	Saharawan	Kach Gandava
Kharan	Hormara	Kelat	Harand on the Indus
Mushki	Persani	Jhalawan	Dajil „
Panjghar			
Kej			
Kolwah			
Jhow			

Western Sub-division; Nushki.—The Zigger Minghal and Raskshani, who inhabit Nushki, have no proper towns or villages, but reside in tents, and are not migratory. Their river, the Kaisar, is useless for irrigation and is lost amongst the sands. They cultivate wheat at the skirts of the hill ranges supporting the plateau of Saharawan. Snow seldom falls. The Zigger Minghal at one time occupied the Dasht-i-Guran near Kelat, but their increasing numbers compelled them to migrate into Nushki, dispossessing the Rakshani, of whom two tomans or clans still reside at Nushki. They have a much valued breed of horses, called Tarji. Their flocks are very numerous.

The Kharan province, in which lies two small towns, is occupied by a tribe of Persian origin called the Nousherwani, of whom the Alif Zye are one branch. They cultivate a little wheat and barley but insufficient for their own wants. They claim a descent from Noushirwan, similar to the Udipur rajputs.

Mushki has several towns and castles, and is occupied by the Mehmasani, the Nousherwani and Mirwari tribes.

The Mirwari Brahui are located in Mushki, Jhow and Kolwah. The Brahui entered from the west and point to Khozdar as the capital prior to occupying Kelat.

The Mehmasani have branches in Seistan, and the hills of Luristan.

Panchghar, has ten small towns, it is celebrated for its groves of date trees, and is occupied by the Gitchki tribe of Brahui, of peaceful and agricultural habits.

Kej, the most western of the Kelat territories, is called *Mekran*,—sometimes also Kej Mekran and is the Gedrosia of the Greeks. It is inhabited by many tribes of whom the Gitchki is the most numerous but about half the population is of a sect of mahomedans called Ziggar. The maritime and fishing population of the little ports on the coast of Mekran from Sanmiani to Charbai, are denominated Med, and comprise four divisions, the Guzbur, Hormari, Jellarzai, and Chelmarzye.

The *Chuha* people, occupy a district of same name, on the river Hub, which falls into the sea at Cape Monze. They are said to be of Sumrah or of Brahui origin, and seem to occupy the Pubb hills of Kurachee.

There are, in Mekran, cyclopean structures, raised by some unknown prior race. They are called Ghorbasta or Ghorband and bear a resemblance to the cyclopean remains of Europe. They are built across ravines to form tanks and on the declivities of mountains to distribute the water. They have been constructed by an agricultural race who had, on entering it, foreseen that the country would not otherwise support them and the race is supposed by Dr. Cook to have been Pelasgi or a people with kindred habits.

Kolwah, four or five days journey from the coast, has several villages and castles, and is occupied by the Mirwari, Rodahi, Homerari and Nousherwani tribes, who interchange their commodities with the coast, sending wool, ghi, hides and bdellium.

Jhow has but one village, Nandaru, its tribes are the Mirwari and Halada, the latter Brahui and pastoral. Numerous mounds here called "daim" exist, where coins and trinkets are found, remnants of some former race.

Maritime Division.—Las is separated from Lower Sind and the Indus delta by the Hala Mountains, and is occupied by the Lassi division of the tribe of Lumri or Numri. They have about twelve divisions or clans, one of which, the Jamhut, furnishes their chief or Jam. They trace their origin to Samar, who founded Samarkand, and acknowledge a consanguinity to the Bhatta of Jesulmir. The Lumri are an active hardy pastoral people, their wealth consists in flocks of goats, with fewer buffaloes, and camels. They despise agriculture : wild Lumri are found grazing on the rocky banks of the Hab river. Their language varies little from that current in Sind. They manufacture coarse fabrics from the wool of their goats and camels. The Lumri eats meat almost raw and is greatly addicted to the use of opium. Las has only two or three places for receipt of custom. Near one of these, Bela, are found coins, trinkets and funereal jars. Sunmiani contains numerous of the Mehman sect or race, and part of the fixed population of Bela is called Jaghdal.

Hormara a sterile district with a port of same name is subject to Las. Near Jabl Malan, is a tribe called Gujur, at Garuki, the Sangur tribe, and at Hormara in Mekran, with four hundred houses, is a tribe of this name. The Hormara tribe say they came originally from Sind.

Persani west of Hormara is a small port of two hundred houses.

Central Provinces.—The Saharawan territories are about 10,000 square miles. The population does not exceed 50,000. The borders of this elevated plateau, the more northern of the Baluch confederate provinces, runs with the Afghan districts of Peshing and Toba, dependent on Kandahar, and is separated on the east by a range of hills, from Dadar and Kach Gandava. It has only the Bolan river and a few rivulets, but the climate is cool, and the rains ensure good grain harvests.

Shall his one of its districts where snow lies for two months of the year. The population consists of the Kassi tribe of Afghans who claim affinity with the Safi clans, but in spring and summer numerous Brahui tomans range over its plains. Its capital called Shall by the Baluch, by the Afghans is called Quettah, an equivalent for kot or fort.

Mustung has a healthy climate and fertile soil. It contains no Afghans, the fixed inhabitants are Dehwar, mixed with the Raisani, Sherwani, Mahomed Shahi, Bangol-zye, Lari, and Sirpherra tribes of Brahui.

The Raisani the most respectable of the Saharawani tribes (from "rais" Arab a ruler), are able to raise 500 fighting men.

The Shirwani occupy exclusively Khad and Kishna, and reside with other tribes in Shall and Mastung. They take their name from their belief that they came from Sherwan on the Caspian.

The Mahomed Shahi dwell chiefly at Mastung and Kubak, but hold also Zir-dad a village west of Bagh in Kach Gandava.

The Bangul-zye exclusively occupy Isprinji, but reside also at Shall and Mustung and in winter repair to Talli near Lehri.

The Lari, exclusively hold Nermuk, but reside also at Mustang and Shaee, with other tribes.

The Sh Luss reside at the skirts of the hills west of Khanak.

The Sirpherra reside in summer in Ghurghina, and during winter in Kach Gandava.

Mangchar has a few dispersed hamlets. It is well irrigated with canals and the whole plain is intersected with bunds or dams to preserve the rain. The tomans are scattered over the plain. Many brood mares are kept. It is separated from Mustung by a lengthened valley termed Khad, in which the Shirwani tribe of Brahui dwell. The Brahui tribes on the east, border with the Mandawari, Kuchik and Puzh Rind tribes and the Ghazgi Brahui, adjacent to Kach Gandava.

Besides these, Merv is held by the Kurds ; Isprinji by the Bangul zye ; Kuhak by the Mahomed Shahi ; Nurmuk by the Lari Brahui ; Lup by the Kalui Rind ; Kishan by the Sherwani. The fixed population of the several villages dispersed over this tract does not exceed 2,500. On the west of Saharawan the country is held by pastoral tribes, the Sirpherra and their branch, the Rodani, Kurds of the Dasht-i-be Dowlat : Sherwani of Khad, and the Ralsani of Dolai and Khanak.

Dasht-i-be Dowlat belongs to the Kurd Brahui tribes. It is in the northern part of Saharawan and west of the Bolan hills, is about 15 miles in length and breadth. In spring it is covered with lovely flowers and grasses and is then covered with the tomans of the Kurd, who retire to Merv after the harvest of autumn and then predatory bands of Khaka roam over the ground and attack travellers.

The Kurd tribe possess the Dasht-i-be Dowlut and Merv also Tikari in Kach Gandava.

Central Provinces.—Kelat is the name of a town and province. The town with its 800 houses is in a narrow valley having on the east the hills of Kach Gandava. The population of Kelat consists of many Dehwar, Brahui, Hindus and slaves and the entire suburbs are occupied by Afghans.

The plain of Dasht Guran south of Chappar is inhabited by the Sunari, a branch of the Jehri tribe of Jhalawan.

Jhalawan with less elevation than Saharawan is held by Brahui tribes, amongst whom are the Minghal, Bizunju and Sandalari, in the

hills. The fixed population in their little towns does not exceed 10,000 and are greatly exceeded by the pastoral tribes, The great tribes of Minghal and Bizunji, giving them the preponderance.

The Minghal are of rude and predatory habits. They occupy the southern hills of Jhalawan from Khozdar to Bela in Las. They have two great divisions, the Shahi-zye and Phailwanzye.

The Bizunji, of which are two great divisions the Amalari and Tanbarari, are west of but on the same hills as the Minghal. They are a violent people and much addicted to rapine.

Eastern provinces.—Kach Gandava of which the capital is Gandava, is a great level tract, and is inhabited by three very distinctly marked races, the Jet, the Rind (including the Maghazzi,) and the Brahui. The Jet seem the original race, and occupy the centre of the province. The Rind with their lawless subtribes the Jakrani, Dumbaki, Bugti and Marri, are a more recent intrusive race dwelling on the skirts. The Doda, a division of the widely dispersed great Marri tribe, for the last three centuries, have occupied the hill ranges east of the plain of Kachi. The Marri are a brave race and have long been distinguished as daring depredators.

Harand and Dajil, in Kach Gandava, but bordering on the Indus, are inhabited by the Gurchani tribe of Rind, and have the Muzari on their south.

The great Rind tribes are sub-divided into 44 branches, though not Brahui are denominated Baluch. Their tradations affirm them to have immigrated ages ago, from Damascus and Aleppo. Their language is the Jetki in common with that of the other inhabitants of Kach Gandava and Mard-i-Rind means a brave man. The Rind of Kach Gandava are of the Utan-Zye divisions.

The Utan Zye dwell at Suran.
„ Dumbki and Jakrani dwell at Lehri.
„ Doda Marri „ Kahan.
„ Bugti in the hills east of Lehrat, Sing Saloh and Teriki.
„ Homarari dwell at Tambu.
„ Jamali „ Rojan.

Of these Rind tribes, the Dumbki, Jakrani, Bugti and Doda Marri, have always been distinguished by their rebellious and predatory habits. They indulged these in attacks on the British armies west of the Indus. The Marri tribe is considerable and inhabit the eastern hills of Kach Gandava, and a peaceful and obedient portion of the tribe are in the hills west of the province below Jell. A large portion are at Adam Marri, on the S. E. frontier of Sind. The Marri of Kach Gandava are notorious for their lawless habits and make frequent inroads on the plains. They and the Maghazzi seem to have emigrated from Mekran to Kutch Gandava, at different periods, and to have become incorporated with the Jut cultivators.

The following minor Rind tribes reside in the north eastern hills of Sahrawan.

Kallui at Lup.	Mandarari at Rodbar.
Kuchik at Kirta.	and
Pushh at Johan.	Pugh at Kajuri.

The Rind on the western banks of the Indus are of two great tribes, the Gurchani, who inhabit Harand and south of these the predatory, but nearly independent, Mazari tribe.

The Maghazzi have only four families, the Butani at Jell being the chief. They are the deadly enemies of the Rind, but are probably of the same race.

The Maghazzi are sub-divided into four principal families or clans, of which the Butani of Jell are the most illustrious and give the chief or sirdar, to the whole. They boast of being able to muster 2,000 fighting men, and between them and the Rind a blood feud long existed. The Maghazzi and Rind are alike addicted to the use of ardent spirits, opium and bhang.

An extraordinary sect, the Daee, are met with at Gajer. They resemble the Brahui in appearance, and wear the same dress. Also, portions of certain Brahui tribes are Daee, such as the Saget (a) Takee, Shadu, Laee, Marbrow, &c. They have a moolla or priest, and a book. They say that they originally came from the westward near Kej, where there is a city called Turbot. The sect abounds in Mekran, and has extended as far east as this. At the city called Turbot is a little hill of circular form called by them Ku-Murad, on the summit of which is their principal musjid, where they meet at stated times to perform their rites.

Professor Wilson, in his "Ariana Antiqua," page 141, mentions the Daee amongst other Scythian tribes, as associated with the Massagetæ, and in a map attached to Digby's translation of Quintus Curtius, their position is fixed a little south of the Jaxartes. This coincidence of association with the Sageta, and Sakæ, both then and now, is worth remarking.

SIND.—This country is on the lower Indus and its delta with the ocean on its south, the valley of a great and fertile river to the north, and warlike races pressing forwards from the west. Often conquered, by the Scythic nations, the Bactrian Greeks, Arians, Persians, Arabs and Baluch, the races in it are numerous. About the commencement of the christian era, the Rai dynasty ruled from Kashmir and Kanouj to Makra and the port of Dabal on the shores of the sea of Oman, and from Surat to Kandahar and the Solaiman range. The

commencement of this dynasty has not been ascertained, but in the time of Rai Diwaij, the capital was Alor. He was a powerful chief, who contracted alliances with the rulers of India. He was succeeded by his son Rai Siharas I. Rai Sihasi was the celebrated son of Rai Siharas, and the next were Siharas II, who reigned 42 years, and was killed in battle. He was a contemporary of Nousherwan. After Saharas II, a brahman dynasty succeeded. The reign of the Rai seems to have extended to 137 years and to A. D. 479.

Several places on the Indus are named after the Chach dynasty, viz. Chachpur, Chachar, Chachgaon, Chachi. Chach was a brahmin who usurped the kingdom of the Rai dynasty of Sind. He was a contemporary of Shahram or Shahrear, and he is supposed to have invented the game of chess. He seems to have reigned about A.H. 2, and to have been succeeded by his brother.

Mr. Camphell says the Sindi people and language are almost confined to Lower Sind, and there the Sindi has much arabic mixed with it. The Sindi people are well grown and robust, but dark skins, immoral and idle, and given to hunting, fishing and pastoral pursuits quite as much as to cultivation and the delta and country of the lower Indus, seem to be ill and insufficiently cultivated (*p.* 141) Mr. Campbell supposes a mixture of Arabic, Persian and Kol blood.

Most of the races dwelling in Sind, designate themselves by tribal names, either assumed by themselves or applied to them. These names indicate the country or town from which they came, or the ancestor or distant race from whom they have sprung. The bulk of the people of Sind profess mahomedanism.

Syud Mahomedans claim to be descendants of Mahomed, through his daughter Fatimah and her husband Ali. There are of them, 13 tribal designations in Kurachi, and 11 in the Hyderabad district. In the Hyderabad collectorate, the Syuds are land owners and extensive cultivators and say they came from Arabia and Persia, about 700 years ago.

Koreshi was the Arab tribe to which Mahomed belonged. They have in Sind many tribal names: they are cultivators, kazi and scribes and originally came from Syria, Iran and Irak, and claim descent from Ali, Abas, Abubakar, Umar and Usman styling themselves Alvi from Ali, Abasi, from Abas, Sidiki from Abubakar, Farooki from Umar, Usmani from Usman.

Belooch.--The tribes who have come from Beluchistan are known in Sind by the general term Beloochi. The Rhind tribe is in Sind the head of all those from that region, and from them have descended other tribes. The Talpur, however, became rulers in Sind and the Rhind remained their dependants. The Belooch are generally said to have come originally from Aleppo in Syria, they have, however, all the characteristics of Arabs, sharp, well defined features and well built limbs. Many of their Sind divisional appellations merely denote families or descendents of men of renown whose names the families bear. There are 28 tribal names in the Kurachi district and 60 in that of Hyderabad. On the upper Sind frontier, likewise, the Belooch retain the characteristics of Arabs, alike in features and customs. They have sharp well defined features, are very spare but have well built bodies and limbs. They are averse to regular labour and restless, but they will undergo the most wonderful fatigue for the purpose of stealing a camel or bullock. All their traditions point to Syria as their original site and the date of their advent as about 1,200 years ago. Amongst themselves, the Rhind rank first in importance, then the Loshari, Jutooi; Dhumki, Jukrani, Murri, Boogti. The Brahui have mostly remained in the mountains of Beloochistan. General Merewether says that their traditions are less clear than those of the Belooch, but that they also came from the west entering Beloochistan from Kirman by Mekran.

Kurrumatee.—These have descended from the Belooch race but have subdivided into 39 tribes:

Asundee, a tribe from Multan.

Mogul, a tribe from Persia.

Tooruk or Toork, do do Khorasan.
Afghan do do do

Arghoni.—This tribe came to Sind in the time of the Summa dynasty which they overthrew and succeeded about A. H. 927 and ruled for 35 years, being in their turn overthrown by the Turkhani in A. H. 962. The Turkhani came to Sind about that year and were in power from A H. 962 to A. H. 1021.

Foreign tribes.—Of the foreign tribes are descendants of Haroon, Mukrani, Loodee (now known as Loodia) Habshi, Sidi, and Jungiani.

Summa claim to be descendents of Sam, son of Noah. They have been long in Sind, of which they are supposed to be the original occupants. They were in power as rulers from A. H. 752 to A. H. 927, when they were overthrown by the Arghoni. Their sub-divisions are very numerous, nearly two hundred. The chief seem to be the Summa, with the sections Sumaja, Dera-Sumani, Loond Summa, Joona-Summa, Oto-Summa, Saheb-Summa, Sahad-Summa, Shekhab-Summa and Sind-Summa. As they are regarded as the original occupants of the country, their tribal names may suggest to ethnologists the regions whence they came.

Abra.	Janpuwan.	Nalica.	Shora.
Abraja.	Jaraja.	Nalua.	Soltanote.
Ageel.	Jasingorah.	Nara.	Sootia.
Amra.	Jokia.	Notia.	Subta.
Babra.	Jugseea.	Notiar.	Summa.
Beeya.	Jutt.	Numria.	Sumaja.
Bodia.	Kaka.	Oodbahuigo-	Derra-sum-
Buda.	Kakajah.	ra.	mani.
Budio.	Kidri-pota.	Oodbaja.	Loond-Sum-
Buttee.	Koraja.	Oodha.	ma.
Charshoo.	Koria.	Oodhar.	Joona-Sum-
Chellaria.	Loodia.	Oonur.	ma.
Chugra.	Lookba.	Oottur.	Oto-Summa.
Coor.	Lound.	Phool.	Sahd summa
Dissur.	Lukkha.	Phoolnabia.	Saheb-sum-
Doongua.	Mindra.	Potor.	ma.
Gooba.	Moosra.	Pullee.	Shekhab-
Hajana.	Muhur.	Puria.	Summa.
Halla.	Munabya.	Rahtor.	SindSumma.
Hingoja	Munapya.	Ramabey.	Tukhra.
Hingora.	Mungra.	Randbheer.	Vurriah.
			Wahud.

The *Soomra* race entered Sind about A. H. 445, and became the rulers of Sind in A. H. 609, from which year they continued in power till A. H. 751, when they were overthrown by the Summa. The name was originally pronounced Samra. The tribes in the Kurachee district are the Kumeerpota ; Meetopota, Budeepota and the Norungpota. In the Hyderabad District the Soomra are cultivators and oil manufacturers.

Miscellaneous Tribes, of Sind, professing mahomedanism are as under.

Awan	Memon khowaja	Nakhooda
Chuwan	Memon Sayata	Solangee
Guda	Machee	
Khowaja	Mochee	

The Memon or Mehman mahomedans are cultivators, shop-keepers, artizans, &c. They are believed to be converts from hinduism and are distributed through the Kurachee district, taking their tribal names as given below, principally from their original place of abode. The Khwaja are of the shiah sect and call themselves followers of Khwaja Soliman, Farisi. Their tribal names are

Akhoond	Khwaja	Puggir
Bandroo	Kussabi	Quazi
Hudokut	Loosi	Surha
Katiyar	Mirzapori	
Khebrana	Patoli	

Gola, formerly slaves, principally from Africa, are the Sidi, Habshi, Khaskeli, Sindi and Zemghur.

Tradesmen, are the Raza, Lohar, Wadha or Dakhan, Dhobi, Pinjara ; Katri, Khori, Mochi, Sunara, Thattiara, Mubana, Baleshali, and Machi.

There are, besides, in the Hyderabad district 78 races of miscellaneous origin.

Jhutt, in the upper Sind frontier, converts to mahomedanism, they are a wandering race, but attach themselves to Belooches and other tribes. They are squarer and stouter in their build, and have broader features than the Belooch, they are camel-breeders and dealers.

Hindoos.—In Lower Sind, in the Kurachi collectorate, are brahmins from the Kokun, and Mahratta country, Guzerat and Nagar. There are also, however, Gour brahmans, the Sarsat or Sindi and the Pokarna from Jeysulmir. In the Hyderabad district, they are even from more distant countries, from the Dekhan Telingana, Dravida, the Carnatic, and Kanouj.

Khatri or kshatri occur both in Hyderabad and Kurachee.

Vaish,—Of these are several tribes, seemingly embracing all who engage in traffic and banking. In Kurachee are the Amil, Godi, Kanooga, Mahajan, Merani and Wanhia ; and in Hyderabad also the Lohana, Bhattia, Bhabera, Panjabi, Mehisirri, Oosuwar, Suhwani, Khalsa, and Shahdadpuri.

Sudra Hindoos, are the Bagoi ; Jakhiri, Jeysulmiri ; Khutti ; Kulal, Kurmi, Lohar, Mochi, Ode, Sochi, Sonara, Sootar, Thumboolee.

THUR and PARKAR districts are occupied almost equally by mahomedans and hindoos, sub-divided into classes. They generally use a mixed language called Dati, composed of Sindi, Marwari, and Guzerati though Guzerati is in use in some parts of the district. They are naturally inactive and in manners and customs resemble the Cutchi. They are chiefly occupied in cattle breeding and as graziers, for which they evince a greater preference than for agricultural pursuits. The mahomedans are Syuds Beloochi, Brahooi, Jhut and Summa. The hindoos are brahmins, Soda. There also twenty-five commercial tribes, five outcast races, the Mengwar, Bheel, Colee, Bala-Sahi and Shikari, and thirteen miscellaneous tribes Shaikh, Memon, Merum, Kumbrani, Gudda, Bujeer, Mohana, Jokiah, Doakur, Koliah, Amunda Bhopa, Mahur Hakra.

KUTCH or CUTCH is a province on the northwest of the peninsula of India bordered by the Runn. Its chief is styled Rao. Its capital is Bhooj ; on the north are Pawar and Patcham. Kanta extends along the coast containing the sea port towns of Mandavie, Munnia and Tunia, the port to Anjar. Waghair, to the east, contains Shahpur Ardasir. To the west, are Garrah and Ubrassa in which are the towns of Mhar, Narna, Lakpat Bandar, &c. The inhabitants of Kutch are given to predatory habits. The Kumbi or cultivators are not numerous, Charon and Bard (Bhat) are numerous. The Jhalla are Rajputs of Sindian orgin, and there are tribes of Lowanna,

Ahir, and Bebhari. The Bhatta are of Sindian origin, a fair handsome race, skilful and industrious mechanics, and are found in all the ports of Arabia and Western India.

Kaba, a piratical tribe in the gulf of Cutch.

The *Khosa* are a maraunding tribe on the Thul desert between Hindustan and Sind.—*Mrs. Elwood's Letters. Wilson's Glossary.*

GUZERAT is bounded on the south and west by the gulf of Cambay, the Arabian sea, the gulf of Kutch, and the Runn of Kutch. On the N. E, long ranges of rugged bald mountains, throwing out spurs and covered with forests and broken only by the debouchures of mighty rivers, separate it from Marwar, Meywar, Malwa, Khandeish and the rest of India. The peninsula of Kattywar on the south-west, formerly called Saurashtra or Soreth, has a fringe of hills along the coast, but is for the most part gracefully undulating and abounds in good water and pasturage. Guzerat, with an extensive sea board, a fertile soil, and in a central and naturally well defended position, has had from the earliest times a distinct and self asserting nationality which has survived to the present day through a multitude of dynastic races. It has been repeatedly invaded, from the sea, from the north, along the lime of the Indus, through the desert of the Runn, across the desert from Mooltan, through Malwa, and from Maharashtra in the south, by the aboriginal Bhil and Koli, the various Rajpoot races, and by the Bactrian kings, Demetrius and Menandar; and mahomedans of Arab, Moghul and Afghan descent, the Mahratta, the Portuguese, the Dutch and the British have all left their descendants in the province. At the time that the Chowra dynasty were established under Vun Raj, large tracts of Guzerat were occupied by aboriginal tribes. The aboriginal Bhil and Koli still occupy the forests and mountains, but in the open country they have blended with or been displaced by successve waves of immigration, amongst which the fair haired Kathi still shows his Scythic origin and the Rajput races retain their lands under British political supremacy. About the beginning of the Christian era, the Sinha, or Sah dynasty, rose to power and lasted until about A. D. 250 They are believed to have been of Parthian descent and to have worshipped the sun which is a conspicuous element on their coins. Sehore was their capital. Their sway extended southwards to Sattara and Kolapoor, and comprehended most of what is now the presidency of Bombay, they are also supposed to have subdued Lanka, and given it the same of Sinhaladwipa which has been modified into Ceylon, and to have carried their arms into the Archipelago. About A. D. 250, the Sah were subdued by the Gupta, who invaded Guzerat, after subduing the Indo-Scythian dynasty of central and northern India. In their turn, about A. D. 319, they were displaced by a native race who ruled from Balabhi or Vulubhee at the foot of the hills of Chamardee. This dynasty lasted till about the middle of the seventh century when it was overwhelmed by invaders of Sassanian origin. Before their fall, the authority of the Balabhi rulers had been extended through Guzerat and Kutch, and their rule had been magnificent. The monarchs were of the braminical faith, and worshippers of Siva, but one of them in the 5th century named Siladitya was converted to the jain sect. Between the jain and the brahminical hindu, there has been in Guzerat a spirit of emulation from the most ancient times. Jains do not revere Sakya Muni, but reverence twenty-four Buddhas styled Teerthunkar, who have attained annihilation. The last Teerthunkar was Mahavira who died B. C. 600. The jains have maintained ther ground in Guzerat and in parts of Mysore and followers of their creed hold in their hands a large part of the wealth and trade of India. Their temples are magnificent, the most ancient of them are at Girnar, the most exquisite on mount Aboo, the most extensive and still flourishing at Shutroonjve near Palitana. The last mentioned were beautified and restored by Siladitya and it is the most ancient, and most sacred of the jain shrines of Guzerat. Almost every Indian city has contributed to its advancement. The worship of the sun continues at Somnath and Krishna is worshipped at Dwarka in Kattywar; Siva, the Chiun of the prophet Amos (Ch. 5.), is extensively worshipped in the form of the lingum—the phallus and priapus of the Greeks and Romans.

After the fall of the Balabhi dynasty in the seventh century a period of anarchy seems to have followed. The Chowra clan had long ruled at Deobunder on the coast, not far from Somnath, but they seem to have been driven thence by Arab fleets, on to the borders of the Runn. The Solunkee or Chalookia clan, the greatest of the rajputs, subsequenty endeavoured to obtain possession but finally were expelled by the Chowra race in A. D. 746 and Vun Raj of the Chowra was established. He built Anhilwara. In A. D. 942 the Chowra were superseded by Moolraj of the Solunki who in A. D. 997 abdicated in favour of his son. Between A. D. 1001 and A. D. 1024 Mahomed of Ghazni had made many invasions of India, In 1024, he silently crossed the desert from Mooltan, captured Ajmir, skirted Mount Aboo and surprised Anhilwara, and after severe fighting he took Somnath, the idols of which in the temple of Someshwur he destroyed and plundered, and he retreated by way of Mooltan, followed and severely harassed by Bheem Deo. Bheem Deo,

abdicated in A. D. 1072, in favour of his son, but from the invasion by Mahmood in the early part of the 11th century, up to the middle of the 18th century, mahomedans of Afghan, Hindoo and Moghul descent made incessant efforts to occupy Guzerat.

Between 1174 and 1179, Shahab-ud-din advanced on Guzerat but he was met on the frontier and driven back with loss into the deserts of Sindh. In 1194, Ajmir, Kanouj and Benares fell in rapid succession to Kutub-ud-din who invaded and plundered Guzerat. The Waghela dynasty however ruled in the 12th and 13th Century, but in A. D. 1297, Alif Khan, brother of king Ala-ud-din, suddenly appeared with a large force, defeated Kurun of the Waghela race, took Anhilwara, sacked Cambay, destroyed Sidhpoor and Somnath. Kurun's queen, Cowla Devi, was taken to the emperors harem, and his daughter was subsequently captured and given to the emperor's son. From this time till the close of the 14th century, the mahomedan efforts to subdue Guzerat were continuous, but the first who obtained a hold was Mazafar, a converted hindu. In 1411, Ahmed shah, grandson of Moozaffar shah, changed the seat of Government from Anhalwara to Kuranawati on the left bank of the Saburmuttee and named the new capital Ahmedabad. It was built from the materials of Anhalwara, Chandrawati, also from the sandstones of Ahmednuggur and Dhrangadra and the marbles of the Ajmir district. Thus Anhalwara fell. It had been to the west of India what Venice was to Europe, an entrepot of the products of both the Eastern and Western hemispheres.

Ahmedabad has been the capital of Guzerat since A. D. 1411. It ranks next to Bombay in size and importance among the towns of western India. It is built on the left bank of the Saburmuttee river. It was visited by Mandelsloe in A. D. 1638, and he relates that "there is scarce any nation of the world or any commodity in Asia, but may be seen in this city." About the beginning of the 18th century, the Mahrattas occupied Guzerat, and in A. D. 1755, the mahomedan power was finally extinguished. The Portuguese still hold Diu and Damaun, but the race that is now supreme is the British. In A. D. 1612, they established a factory in Guzerat; Surat and Broach fell into their hands; in A. D. 1780 their army took Ahmedabad, in 1802 they took Kuree, and in 1818, they became the paramount power. Ahmedabad and most of the sea board of the Gulf of Cambay is British territory; a tract of about equal extent is held by the mahratta state of the Gaekwar of Baroda, but the great bulk of the province continues in the hands of its original possessors, styled talookdars, subject to paying a trifling tribute. The images of Siva and Parisnath have been restored; the jains continue powerful, Krishna and the sun are objects of worship, the mahomedans are labourers, artizans and musicians. The aboriginal race are police, and the jain and hindu merchants rule the market of Bombay; under liberal patronage, education is fast spreading through the land and the educated Guzeratee promises to be a great means of inspiring spiritual life among the races in India following brahminism.—*(Architectures of Ahmedabad, London 1866.)*

Broach, Bulsar, Perim, Surat, Cambay, Gopnath and Gundevee till recently were the great shipping places for the products of upper India for cotton, indigo, tobacco, opium, grain, cloth and horses.

The Gaekwar family, sprung in 1720, from Dammaji Gaekwar, Shamsher Bahadur, an officer under Khandi Rao Holkar, and his descendants ruled till the treaty with the British Government in 1802.

The territories of the Gaekwar have an area of 4,399 square miles, with a population of 1,710 404 and an annual revenue of £600,000. —*Thomas Prinsep's Antiquities, p.* 286 *and* 287.)

Kattyawar may be arranged into ten districts viz: five northern, Jhalawar, Muchu-Kanta, Hallar, Burda and Okhamandil; and five southern, viz. Soreth, Babriawar, Sarweya, Gohelwar, and Kattyawar proper.

The district of Geer, in Kattyawar, is full of almost inaccessible fastnesses, which for ages have given shelter to outlaws and robbers. In A. D. 770, Wullubhipur, the present Wulleh, fell before an in-road from the north of a race whom Mount Stuart Elphinstone supposes to have been Persians under Nowsherwan the great, supposed by Colonel Tod, to have been Scythians, and by another authority, to have been Indo-Bactrians. In A. D. 1024, it was overrun by Mahmood of Ghazni whose army consisted of the flower of Turkistan, and Somanath in Deo Pattan then fell before him. The mahomedans from the north long held a feeble sway. The district of Diu is Portuguese, and though the town has been repeatedly besieged by rulers of Guzerat and the Dekhan, it continues in their power. The mahomedans who had only gained a partial authority over the rajputs of Kattiawar, were succeeded by the Peshwa and Gaekwar in 1755, who could only collect the revenue by means of troops, in Mulk giri or circuits. But, in 1808, Colonel Alexander Walker the Resident at the Gaikwar's court, was able to arrange for payment to the Gaikwar from the rajput chiefs, of a certain fixed sum as suzarainty. When the Peshwa was overthrown in 1817, the British succeeded that power in the chief control: The tributaries are called talukdars, of whom there are 224

and each of whom possesses exclusive jurisdiction in his own districts, only the Grassia and Mul Grussia being allowed to litigate with their ruling chiefs. These are sprung either from cadets of the ruling tribe or from proprietors of lands which they had originally seized and now defend with all the proverbial tenacity of the rajput, who freely gives and takes life for acres. The principal talukdars are their Highnesses the nawab of Junagarh,—the Jam of Navanaggar, and the Rawal of Bhownaggar, the Rana of Porebunder, the Raj of Drangdra and the Thakur of Murvi. Junagarh, the most important, is held by a descendent of Sheer Khan, Babi, a soldier of fortune who seized it in the general anarchy which preceded the subversion of the Moghuls.

The Jam of Navanaggar is the head of the Kattyawar branch of the great class of Jharija rajputs which surged into the country from Sindh about the middle of the 15th century, and another stem of which is represented by the Rao of Cutch.

The Rawal of Bhownuggur is at the head of the Gohil rajputs, a race driven in from Marwar by the Rathor in A. D. 1,200. He is descended from Mokheraju, a sea rover, who in the 14th century occupied Perim island at the mouth of the Gulf of Cambay and whose shade is to the present day propitiated by the passing mariner. The people are deeply engaged in commerce.

The Rana of Porebunder, styled Puncheria, represents the Jetwa, one of the four ancient races still extant in the peninsula. In the days of Mahmud all the west and north of Kattyawar, belonged to the Jetwa rajputs, but the foray's of the Jhala and Jhareja have confined them to their present district, the shaggy range of hills called Burda.

The Jhala, who own the raj of Hulwud Drangdra, as their chief, are supposed to have sprung from an offshoot of Anhilwara, on the extinction of which dynasty they obtained large territorial aggrandisement.

In the Jhalawar district, the property stolen, or the thief, must be produced, and the paggi who trace the pag or foot-prints, are there the most famous.

The Thakur of Murvi is a Jharija and was the first in Colonel Walker's time to abandon infanticide. He has possessions in Cutch.

Sidi Negroes.—The fortified port of Jafferabad or Muzufferabad is held by the descendant of an African rover, the Sidi of Janjira.

The *Miana* of Mallia in Mucha-Kanta on the banks of the Muchu river, are the real masters of Mullia. They have a Thakur, but own allegiance only to their own Chowhattia or heads of tribes. They are turbulent, take service as soldiers in the neighbourhood, and in every boundary fight, a Miana or two is killed.

The climate is equable and temperate and the coast is balmy with the wet breath of ocean breezes blowing fresh from the southpole.—(*Cal. Rev. No.* 220, *Dec.* 1860.)

Somanath, Puttun Somanath or Somnuth Puttun, or Deo Puttun, is a town with a temple of great sanctity in the south or Guzerat; its gates were carried away by Mahmud of Ghuzni, in 1024, and brought back from Afghanistan in 1843 by the British troops. Somanath or Someswara, is a name of the type of Siva. This idol is related to have been brought to India from the kaaba, on the advent of Mahomed. Brahminical records, however, refer it to the time of Krishna. The Somanath idol, in fact, was one of the twelve great lingums then set up in various parts of India, several of which were destroyed by the early mahomedan conquerors. It seems established that the worship of Siva, under this type prevailed throughout India at least as early as the 5th or 6th century. The temple stood in the country of Soreth; a province of the peninsula of Guzerat, which is now more generally known under the name of Kattywar; and which is celebrated in the Puranas for containing five inestimable blessings. First, the river Goomptee; second, beautiful women; third, good horses; fourth, Somnauth, and fifth, Dwaraka. Among the many places in Soreth that are held sacred by the Hindoos, Somnath or Somnath Pattan, as it more generally termed, has always been one of the most remarkable. It stands one or two miles from the sea, at the junction of three rivers, the Hurna, Kupula, and Sersutty, at a distance of three miles to the east of the port of Belawul. The idol itself, Somnath, is one of the twelve symbols of Mahadeo or Siva, which are said to have descended from heaven to the earth. The holy image was, according to mahomedan authors destroyed by Mahmud, and in late years Ahela Bhaee, the widow of a prince of the Mahratta family of Holkar, erected a new temple on the exact site of that which was demolished. A symbol of Mahadeo has been placed in this temple, which is deemed peculiarly propitious to those who desire offspring. Not far from this, the hindoo pilgrim is shown a solitary peepul-tree on the bank of the Sersutty river, which he is assured stands on the exact spot where shree Krishen received the mortal wound from an arrow that terminated his incarnation.

Mahmud left Ghazni, on his expedition against it, in September A. D. 1024; his numerous army was accompanied by crowds of volunteers, the flower of the south of Turkistan. Ajmir and Anhilwara fell before him. Advancing against Somnath, for two days, his most

devoted followers were beaten headlong back by the valour of the rajpoots, fighting for hearth and altar. On the third day, Mahmud led a furious charge in person, five thousand hindoos lay dead and the day was won. When he entered the shrine of Som-Iswara, he beheld a superb edifice of hewn stone, its lofty roof supported by pillars curiously carved and set with precious stones. In the adytum, to which no external light penetrated and which was illuminated only by a lamp suspended from the centre by a golden chain, appeared the symbol of Som-Iswara, a stone cylinder which rose nine feetin height above the floor of the temple and penetrated six feet below it. Two fragments of this object of idolatrous worship were at the kings order, taken off, that one might be thrown at the threshold of the public mosque and the other at the court gate of his own palace of Ghazni. Other fragments were reserved to grace the holy cities of Mecca and Medina. While Mahmud was thus employed a crowd of brahmans offered an enormous ransom if the king would desist from further mutilation:—Mahmud hesitated: but after a moments pause, he exclaimed that he would be known by posterity not as the idol seller but as the destroyer. The work of destruction then continued and was rewarded by the discovery in the vaults below the adytum of untold treasures. Thus fell Somanah. Its gates were taken to the mosque of Ghazni from which they were removed when the British troops returned from the occupation of the country in 1842. On this occasion, Lord Ellenbrough issued the following notice in the form of a proclamation from the Governor General to all the princes and chiefs, and peoples of India.

"My brothers and my friends.—Our victorious army bears the gates of the temple of Somnauth in triumph from Afghanistan, and the despoiled tomb of sultan Mahmood looks upon the ruins of Ghuznee.

"The insult of 800 years is at last avenged. The gates of the temple of Somnauth, so long the memorial of your humiliation, are become the proudest record of your national glory—the proof of your superiority in arms over the nations beyond the Indus.

To you, princes and chiefs of Sirhind, of Rajwarra, of Malwa, and Guzerat, I shall commit this glorious trophy of successful war.

"You will, yourselves, with all honour, transmit the gates of sandal wood through your respective territories, to the restored temple of Somnauth.

"The chiefs of Sirhind shall be informed at what time our victorious army will first deliver the gates of the temple into their guardianship, at the foot of the bridge of the Sutlej.

"My Brothers and my Friends,—I have ever relied with confidence upon your attachment to the British Government. You see how worthy it proves itself of your love, when, regarding your honour as its own, it exerts the power of its arms to restore to you the gates of the temple of Somnauth, so long the memorial of your subjection to the Afghans.

"For myself, identified with you in interest and in feeling, I regard with all your own enthusiasm the high achievements of that heroic army, reflecting alike immortal honor upon my native and upon my adopted country.

"To preserve and to improve the happy union of our two countries, necessary as it is to the welfare of both, is the constant object of my thoughts. Upon that union depends the security of every ally, as well as of every subject, of the British Government, from the miseries whereby, in former times, India was afflicted; through that alone has our army now waved its triumphant standards over the ruins of Ghuznee, and planted them upon the Bala Hissar of Cabul.

"May that good Providence, which has hitherto so manifestly protected me, still extend to me its favour, that I may so use the power now intrusted to my hands, as to advance your prosperity and secure your happiness, by placing the union of our two countries upon foundations which may render it eternal." "ELLENBOROUGH."

But the gates never reached their destination. Public opinion stopped them en-route.

Of the fragments of the lingum which were conveyed to Ghuzni and placed at the door of the great mosque, one portion brought back by the British Army soldiers, after the Affghan war, in 1842 was offered to the temple by Lord Ellenborough but was not accepted.

When Somnath temple, was plundered by Mahmood in A. D. 1024, Bheem deo, was ruling.—*As. Jl.* 1843. *Vol.* XI. *p.* 167. *Wilson. Townsend's Outram and Havelock's. p.* 49, *Prinsep, p.* 284, *note to Malcolm's History of Persia, Vol. I. ch. ix.*

Miana.—Amongst the tribes of Kattyawar are the Miana of Mallia in Muchakanta on the banks of the Muchu river, the real masters of Mallia. They have a thakur but own allegiance only to their own chawhattia or heads of tribes. They are turbulent, take service as soldiers in the neighbourhood and in every boundary fight, a Miana or two is killed.

Wagher.—Okhamandal, a sterile jungly tract in the extreme west of the peninsula, contains about 13,000 inhabitants. These are the Wagher. Their only important places are the holy hindu site of Dwaraka on the west coast and Beyt, a small island a few miles to the

north with shrines boasting of scarcely inferior holiness. Okhamandel, as also Umreyli in Kattyawar proper and Korinar in south Kattyawar, are under the direct rule of the Gaekwar, and are the Alsatia of Kattyawar. Thrice,—in 1808, 1858, and October 1859, they repulsed British troops, and at length in 1860, were seemingly dispersed or surrendered. On a former occasion, the rapidity and severity of the vengeance, in the escalade of the strong-hold of the Wagher pirates of Dwaraka by the British force under the Hon. Colonel Lincoln Stanhope, induced Singram the chief of the Badhail of Beyt to sue for terms, and he agreed to surrender Beyt, and to live at Aramra on a stipend furnished by his suzerain, the Gaekwar. These Wagher of Dwaraka, who with the Badhail of Aramra, were long the terror of these seas, are a spurious branch of the Jhareja family of Bhooj, one of whom called Abra, with the cognomen of moochwal or the wiskered, from a tremendous pair of these adjuncts to the face, came from Cutch in the time of Rinna Sowah, in whose family he intermarried, and from whom he held in charge the tha'na, or garrison of the castle of Goomtee, or Dwaraka. His son had offspring by a woman of impure caste, and they assumed the name of Wagair, with the distinctive office of Manik, or gem. The last four chieftains of this race were Mahap-Manik, Sadool Manik, Sameah-Manik and Muloo-Manik, who with all his kin and motley company of Wagair, Badhail, Arab, &c, after a desperate defence, was slain in the storm, or attempted retreat.

Throughout the sea-coast of Saurashtra, at Gogo and Mandavie, are seamen who call themselves hindus, but who keep entirely distinct from all other classes. Some of them claim a descent from the mariners of the Arabian hores, but still as hindus.

Portuguese.—The district of Diu is Portuguese. The town has been repeatedly besieged by rulers of Guzerat and the Dekhan, but it continues in the power of the Portuguese.

Jetwa.—The Rana of Purebunder, styled Puncheria, represents the Jetwa, one of the four ancient races still extant in the peninsula. In the days of Mahmud, all the west and north of Kattyawar belonged to the Jetwa rajputs but the foreys of the Jhala and Jhareja have confined them to their present district, the shaggy range of hills called Burda.

Jhareja.—The Jhareja are a rajput race in Guzerat and Cutch with a branch in Kattyawar. The tribes of Rajputana have a political system similar to the feudal practice of Europe. On the demise of a chief, the members of his family would be entitled to a certain appanage of his demesnes, and every district so acquired would constitute a distinct principality subject to a similar subdivision at the decease of each subsequent holder. Each minor tributary thus possesses a body of kinsmen who are collectively termed the Bhaiad or brotherhood. The Jharejha of Guzerat, were till lately addicted to female infanticide. In 1818, Captain McMurdo estimated the members of Jharejha in Cutch at about 12,000 persons of whom only about 30 were women. The Jharejha killed their daughters to avoid paying for them heavy marriage portions. The Jharejha of Cutch are stated by Mrs. Elwood to be a branch of the Sindh Summa stock, of Arabian extraction, descended from a child of a mahomedan zamindar by a daughter of a petty chief in Cutch, whose descendents settled in Powar and Patcham. They marry daughters of the Jhalla, Wagel, Sodha and Gohil rajputs.

Kathi.—The Kathi of Kattyawar proper immigrated into their present site in the eighth century and are supposed to be of Scythian origin. Their religion is a hinduism, mixed with a sun worship. While the rajputs have a modified primogeniture, the Katti inherits by equal division. They are innately turbulent and, of all the tribes, have ever given the greatest trouble. Several people or branches of the same people are known by this name. At present, the peninsula of Guzerat is divided into numerous chieftainships, and although the Kathi hold but a small portion, yet by some conventional process, this Indo-Getic tribe has given its name to the entire peninsula, and Kattyawar has completely superseded Saurashtra. There was, however, an intermediate term used to designate it (before the irruption of the Katti) a term familiar to the author of Almagestum, as well as to the hindu geographers, and this was Lar-des, from the tribe of Lar, whence the Larica or Larice of the Greeks. Col. Tod tells us that the Katti, the ancient foe of Alexander, are not only fairer than those round them but blue eyes are met with amongst them, indicative of their northern origin. (*Travels, p.* 205.) Another writer tells us that the Jun and Kathi, are tall, comely and long haired races, who have vast herds of camels and black cattle, from which the towns are furnished with ghee or clarified butter, and the people themselves provided with libations of milk. Amongst the various branches of this nomadic race, the most celebrated is the Coman-Cathi. Abulgazi describes a famous tribe in Kharezm, the ancient Chorasmia, called Comani, the remains of which were expelled by Chengis Khan: and the royal author adds, "Urgens was not always the capital: and Abulfeda tells us Cath, also spelt Kaht, in 41° 45' N. lat. was formerly the metropolis." What affinity there was between these, the

people of Cat'hay, it were vain to ask: it is sufficient for our purpose to trace them from the Five Rivers, and to observe that the name of their first settlement in Kattyawar, was Cat'h-kot, from which, as stated, they were dislodged by the first Jhareja colony from Sind. It is said of them, that they repeat couplets describing their migration from Mooltan and temporary settlement in the tracts called Pawin, north of the Runn and of Megum Rao their leader conducting the first Cat'hi colony across the gulf into Saurashtra eight hundred years ago; and so predominant was their power that it changed the ancient name of the peninsula to Kat'hi-war.—*Tod's Travels, p. 456-7.*

Jain.—Mount Aboo, in Jain estimation, is the holiest spot on earth, Dilwarra according to tradition has been famous from a remote antiquity. Hindoo temples are said to have existed thereto which, since A. D. 1034, pilgrims assorted, but all traces of them have disappeared; on their traditional site, however, at Dilwarra, Bimul Sah, a rich jain merchant, and others, erected the celebrated jain temples which are now there.

Loke, a mixed race near Mount Aboo. The name is probably a corruption of the hindi word Log, people. It is supposed that the Bhil race were the aborigines of Mount Aboo and the neighbouring hills, but at some remote time became mixed with marauding rajpoots from the plains and with the workmen who were so long engaged in building the Dilwarra temples. This mixed race called themselves Loke and are now in possession of almost all the land under cultivation.

Aghora are ascetics in the neighbourhood of Aboo said to have resided there from the most ancient times and formerly to have been cannibals, hence their other name, Mard-khor.

Vannio, a race of Guzerat seems identical with the banya or banyan; they are of the jain religion. It is the Vani or Wani of the Mahratta and is doubtless from the Sanscrit Vani.

Bhat: Charan.—Peculiar races are the Bard and Charan of Rajputana and Guzerat. The Bhat or bards of India are of three sorts, the Magadha or historians; the Sata or genealogists, and the Bandi or court minstrels, whose duty, in older times, it was to salute the king or chief, in the early morning, wishing him long life and prosperity. These are the bards and minstrels of central India. The bards from their sacred character were often employed as convoys of travellers and their property, in tandahs or caravans. Throughout rajputanah they are regarded as a sacred order, and as the hereditary guardians of history and pedigree. They chant their own verses, or legends from the mythology of India. The Charan like the Bhat, are a sacred race. Formerly it was usual for travellers in Malwah and Guzerat, to hire a Charan to protect them and the sanctity of his name was generally sufficient. If robbers appeared, he stepped forward waving his long white garments and denounced in verse, infamy and disgrace on all who should injure travellers under the protection of the holy members of Siva. If this failed, he stabbed himself with a dagger in the arm declaring that his blood was on their heads; and if all failed, he was bound in honor to stab himself to the heart.—*Hindoos, p.* 75.

Babria.—The Babria tribe of cultivators of Kattiwar have seventy-two sub-divisions. The Babreawar district is named after them.—*Wilson.*

Rebari.—The Rebari of Guzerat are a class of nomade shepherds who real camels, sheeps, goats and subsist by the sale of the wool and milk, not of the animals.—*Wilson.*

Sabalia in Guzerat are a low caste, employed in tending cattle.

Mewas, a koli tribe of free-booters in Guzerat.

Koli.—On the western side of India a numerous race are the Koli: they are the labourers and lower cultivators in Guzerat.

The Olgana and Dher are outcastes of Guzerat.

Ujain lies to the north of the Nerbuddah, and south of the river Mahi.

Lions are still found in the Geer jungles, there are no tigers, and Captain Postans observes that while Kattiwar abounds with the tiger and lion species, Cutch, the neighbouring province, is free from this terrible infliction. The rao of Cutch, at one period, had several dens filled with wild beasts.—*Postan's Western India. Vol.* II. *p.* 158. *Tod's Travels. Malcolm's Persia; Calcutta Review. Hindoos, p.* 75. *Mrs. Elwood's Letters, Vol. II p.* 113. *Tod's Rajasthan, Vol. I. p.* 59. *Tod's Travels, p.* 456, 7, 220, 440-441. *Townsend's Outram and Outram.*

Peninsula of India.—The greater part of the Peninsula of India is occupied by settled races, many of them well educated, with a large literature and earnestly pursuing agriculture, with many gardening races, possessing tribal names. The farmers are styled kunbi in Mahratta; kapalu in Telugu; wakigiru in Canarese, ryot or khet-karni in Hindi, and they are all bold, self-reliant and vigorous; they have horned cattle and carts, some of them have horses, and the institutions of all are essentially democratic.

Mr. Campbell tells us that in Hindustan and Bengal the republic or village system has been

greatly disturbed by the repeated inroads and conquests of foreign races and by the long period of mahomedan rule and the village officers and servants are there less complete. But, even there, the headman and the accountant are almost invariably retained and some of the other officers and servants are also to be found and in most instances the offices are hereditary, are capable of being mortgaged or sold: are paid by recognised fees and perquisites, by allotments of grain at the time of harvest or sometimes by portions of land held rent free or at a low quit rent.

In the Canarese and Maratha countries the village authorities are all still to be found. They vary very much in number and in duties, but office holders are to be met who claim to be descendents of the persons who first settled and at dates long before the oldest of the European dynasties were established. Amongst them Potails will be found in the Mahratta country, who trace their descent from persons who settled, a thousand years ago and more, in the villages they now hold and the same is to be found amongst the Reddi and Gauda of the South and East, and it is this that has preserved the Indian villages from the changes which would otherwise have occurred from the irruptions of the Aryan, Brahui, Jat, Rajput, Arab, Persian, Tartar, Moghul, Afghan, Portuguese, French and British. In the south the office bearers are known amongst the Mahratta as Balute or Alute; among the Canarese as Ayakarru, Ayagarru or Ayaugaudlu. Of the officers to be found the following may be enumerated:

1. Head officer, styled Potail, Reddi, Gauda.
2. Assistant do. or Changala.
3. Accountant, or Kalkarni.
4. District do. or Despandi.
5. Chaudari, or convener of trades,
6. Money-changer, assayer, gold and silversmith, or Potadar.
7. Barber or Nhawi, or Nai.
8. Washerman, Parit, Dhobi.
9. Temple servant, or Gurao.
10. Carpenter or Sutar.
11. Potter or kumbhar.
12. Gate-keeper or watchman, usually a pariah or Mhar, Mhang, Ramusi or Bhil, called eskaar, veskar, tallari.
13. Waterman do. do. do.
14. Astrologer or Josi.
15. Shoemaker or Mhang.
16. Bhat or Bard
17. Maulana or Mulla, a mahomedan priest.
18. Corn meter.
19. Blacksmith.
20. Notary.
21. Sweeper.
22. Tailor.
23. Physician.
24. Musician — *Wilson's Glossary.*

People of the Peninsula.—Dravidian is a term which Dr. Caldwell has recently applied to the vernacular tongues of the great majority of the inhabitants of Southern India. With the exception of Orissa, and of those districts of Western India and the Dekhan where Gajarathi and the Marathi are spoken, the whole of the peninsular portion of India, from the Vindhya mountains and the river Nerbudda to Cape Comorin, appears to have been peopled, from the earliest period, by different branches of one and the same race, speaking different dialects of one and the same language, and scattered off-shoots from the same stem may be traced still further north and west, as far as the Rajmahal hills, and the mountain fastnesses of Beluchistan. The name for this class of languages is not yet definitely settled. Dr. Caldwell excluding the Rajmahal, the Uraon and the Brahui, designates as Dravidian, nine idioms current in Southern India, viz., Tamul, Telugu, Canarese, Malayalam, Tulu, Toda, Kota, Gond or Goand, Khond or Kund or Ku, and says it has been remarked that in the ten cultivated languages of the Dravidian tongue, Sanscrit words are not at all, or but very rarely employed. He tells us that, of all the Dravidian tongues, no two are so nearly related to each other as to be mutually intelligible to the people who speak them except in the simplest and most direct manner.—(*Dr. Caldwell's Comparative Grammar.*)

Mr. Hodgson alludes to this, and remarks that the insulation of the several members of the Tamulian body has led to an extremity of lingual diverseness which, as contrasted with the similarity of their creed and customs, is the enigma of their race. In Hindi and Urdu, though the structure is the same, vocables make a difference which is broad and clear, owing to the evidently foreign elements of the diversity. Not so, however, in the Tamulian tongues, in which there is very little of foreign element: all is homogeneousness in the vocables, and from its sameness of kind is less open to distinct separability.

The nations and races whom Mr. Hodgson designates Tamulian, are styled by Mr. Logan and Dr. Caldwell, Dravidian. They are found in different parts of India, from Himalaya to Cape Comorin, in varying numbers but are about a fifth part of the population of British India and Dr. Caldwell estimates the proportionate numbers of several of the races by whom the Tamulian languages and dialects

are spoken, to be as follows:

Tamul	10,000,000	Buda	500,000
Telugu	14,000,000	Kota	
Canarese	5,900,000	Gond	
Malaylam	2,500,000	Ku	
Tulu	150,000	Total...	32,150,000

About 20,000,000 of these are British subjects, and the remainder are under the native states of Hyderabad, Travancore and Cochin. In this enumeration, however there have not been included the idioms of the fragments of nations the Ramusi, the Korawa, the Lombadi, the Vedar, the Male-Arasar &c., &c., and the various wandering predatory or forest tribes of whom notices will be hereafter given. Their dialects afford another proof that the several peoples speaking them arrived at various periods, at their present sites.

Non-Arian Races. Fragmentary.—According to Mr. W. W. Hunter, India is partly peopled by races distinct from the Arian population. Some of these, he says, have preserved their ethnical identity in sequestered wilds, others have merged as helots or low castes into the lowland hindus and these now fragmentary peoples form the debris of a widely spread primitive race.

In his dictionary of the Non-Aryan languages of India and High Asia, he classes all languages as under :—

1. *Inflecting types.*—Arabic ; Sanscrit.
2. *Compounding types.*—Bask ; Finnic ; Magyar ; Turkish ; Circassian ; Georgian ; Mongolian ; Mantshu ; Javanese ; Ngoko Javanese, Krama ; Malay.
3. *Isolating types.*—Chinese of Nankin ; Amoy, Pekin, Shanghai and Canton ; Japanese. Brahui.
4. *Chinese frontier and Thibet.*—Gyami ; Gyarung ; Takpa ; Manyak ; Thochu ; Sokpa ; Horpa ; Tibetan.
5. *Nepal, (West to East).*—Serpa ; Sunwar ; Gurung ; Murmi ; Magar ; Thakeya ; Pakhya ; Newar ; Limbu.
6. *Kiranti Group, East Nepal.*—Kiranti ; Rodong ; Rungchenbung ; Chhingtangya ; Nachhereng ; Waling ; Yakha ; Chourasya ; Kulungya ; Thulungya ; Balungya ; Lohorong ; Limbichhong ; Balali ; Sang-pang ; Dumi ; Khaling ; Dungmali.

Broken Tribes of Nepal.—Darhi ; Denwar ; Pahri ; Chepang ; Bhramu Vayu ; Kuswar ; Kusunda ; Tharu.

Lepcha (Sikkim).

Bhutani *v.* Lhopa.

8. *N. E. Bengal.*—Bodo ; Dhimal ; Kocch ; Garo, Kachari.
9. *Eastern Frontier of Bengal.*—Munipuri ; Mithan Naga ; Tablung Naga ; Khari Naga ; Angami Naga ; Namsang Naga ; Nowgong Naga ; Tengsa Naga ; Abor Miri ; Sibsagor Miri ; Deoria Chutia ; Singhpo.
10. *Arakan and Burmah.*—Burman written and spoken ; Khyeng *v.* Shou ; Kami ; Kumi ; Mru *v.* Toung ; Sak.
11. *Siam and Tenasserim.*—Talain *v.* Mon ; Sgau Karen ; Pwo-Karen ; Toungh-thu ; Shan ; Annamitic ; Siamese ; Ahom ; Khamti ; Laos.
12. *Central India.*—Ho (Kol) ; Kol (Singhbum) ; Santali ; Bhumij ; Uraon ; Mundala ; Rajmahali ; Gondi ; Gayeti ; Rutluk ; Naikude ; Kolami ; Madi ; Madia ; Kuri ; Keikadi ; Khond ; Savara ; Gadaba ; Yerukala ; Chentsu.
13. *Southern India.*—Tamil ancient and modern ; Malayalma do. do. ; Telugu ; Karnataka, ancient and modern, Tuluva ; Kurgi ; Toduva Toda ; Kota ; Badaga ; Kurumba ; Irula ; Malabar, Sinhalese.

Writing further on the Non-Arian languages of India and High Asia, Mr. W. W. Hunter says (p. 22.) that his book contains primeval roots common to both Arian and non-Arian speech, in a far more definite manner than the similar indications by which scholars have sought to reduce the Semitic and Indo-Germanic families to a cognate source.

Many of the non-Arian peoples of India, he tells us, take their tribal designations from the word for "Man" in their respective dialects, and the very general term mi (man), with some prefixed or suffixed syllable, supplies the bases of the race name to not less than forty ascertained tribes, thus Du-mi, Kami, Kumi ; Angami Naga, Mithan Naga. And if we recognise the non-Arian phonetic displacements of *m* and *l* and of and r, the list can be greatly increased ; thus, in the Sak, *lu* ; Toung, *mru* ; *Murmi*, mi ; Bhaksya, mli ; and the root *li* affords the generic term *homo* man, to a whole series of tribal names. Thus Balali ; Mali, the people of Rajmahal ; Dhima-li ; Santali ; Bangali, meaning the people of Bala, Banga, and so forth ; *Li* is thus often added to specific names for man, to form names for aboriginal tribes. In Santali, *li* furnishes the nomenclature connected with the propagation of our species such as lai, laih, &c., and appears in *li* dib, a child ; *le-duka* or *lad-ko*, children ; *hili*, a generation of men (*ho-li*) and the hitherto unexplained terms, *Che-la Che-li*, (=khi-l =holi) for son and daughter, used by all the semi aboriginal castes of Lower Bengal.

The root *ko*, with the generic affix *li*, is met with in all periods of history and in all India. The Mahabarata and Vishnu Purana, speak of Ko-li tribes in connection with Mikala, Dravida, Kirata and others, and the Aitareya Brahmana, speaks of the Koli as Dasya.

Among a section of the non-Aryan races of India, or aborigines as Mr. Hunter styles them, is the root *ho*, shortening in some to hu and ha, or interchanging into Ko, Ku and Ka. This root Ho furnishes the specific word for Man amongst the Kol tribes of Central India and is one of the oldest and most widely spread roots for Man. In the Sanscrit play, the Mrichha kati, *go-ko* isMan, among the Kur, near Ellichpore, it is *ho ko*. Amongst the Siamese it is *Khon* or *Kun*, which is the same form as it takes amongst the Khond.—*Mr. W. W. Hunter.*

Rama, now a deified warrior, was the leader of one invasion of the southern part of the Peninsula of India and of Ceylon, and his inroad seems to have been a great occasion of breaking up and scattering the races in the east of the peninsula. He advanced into the forests of Dandacaranya, scattering the prior inhabitants, as he advanced, whom he described as rakshasha or demons, driving some of them into the forests and mountain retreats where they still reside in a barbarous freedom, and reducing others to the state of predial slavery, in which, the Pariah, the Pallar, Cherumar and other humbled races are now dwelling in the plains. To such invasions is owing the circumstance that each province in India has its own peculiar helot races; and each range of mountains and each forest tract its own tribes of wild savages either wholly independent or partially subject to their more civilized neighbours in the open country. There may be instanced the Pahari of the Rajmahal hills on the banks of the Ganges, and from their locality westwards through all the races in the Vindhya hills, the Meena, the Mair, the Bheel, and the Koli, southwards through the races in Bustar, and Gondwana, amongst the Sonthal, the Gond, the Kond; Chenchwar; Souriah, the Yanadi, the Irular; the Kurumbar the Beder, the Kallar, to theMalayali ormountaineers in the south,an infinite succession of races and tribes, with customs, and speaking languages, differing greatly from the inhabitants in the plains,—besides whom are numerous migratory races, without country, town, or house, as the Korava, Wadawar, Yerkalwar and Pardi.

The ancient Sanscrit writers give names of ancient races with whom the Arians came in contact in their advance to the Ganges, some of which cannot now be traced. But, amongst others, according to Mr. Hunter, the *Chandala*, were of the same stock and formed their name from the same root as the aboriginal races of northern India at the present day. The Chandala, as their personal appearance, habits and occupations are described by ancient writers, were evidently a prior race, who before the advance of the Aryans had been reduced by other non-Aryans into a helot race and have long since merged as serfs into the hindu population. The whole nomenclature of the helot castes among the mixed hindus, both in ancient and modern times is derived, he says, from the aborigines: thus, he indicates the Mali, gardeners and landless husbandmen, who take their name from the tribal term *Male*, man. The Dom, Dam and Dumi; the Kharwar, the Kheroar or ancient Santal, and the present Kheria of Central India. The Chaura serfs of the Panjab, descendents of the Chaura military outcastes of the Mahabarata. The Coolee or Kuli all over India, and the Hadi a helot race of Bengal.—

Kirata or Keranti, are a warlike, aboriginal tribe spoken of by ancient Sanscrit writers, and classed by Manu and by the Mahabharata as outcaste military peoples, along with the Khasa, China, Dravida and other recognised non-Aryan races, and occupy at this day the exact position assigned to them by the Vishnu Purana, to wit the eastern border of Bharata-varsha.

Savara Saka according to Manu was one of the outcaste military tribes.

China is a race alluded to by ancient Sanscrit writers, as dwelling on the extreme East but further into India than at present, and Mr. Hunter, (p. 28) considers that the aboriginal races of the Eastern peninsula, Burmah and India north of the Vindhya range derived their speech from a source common to themselves and the Chinese.

Dasya.—The Aitareya Brahmana says most of the Dasya, are sprung from Visvamitra, and Sanscrit writers applied the term Dasya, to all the aborigines from the Naga of North Eastern Bengal, throughout all India, to the indigenous castes of Ceylon, to wit, the Koli-Sarpa, Serpent Kol or snake races.

Tamul.—In the peninsula of India, where the Tamul is spoken, in the extreme south-east, by about ten millions of men, the people are, generally speaking, a dark colored and short statured race, energetic, fiery, and quarrelsome, but not vindictive. Most of them have embraced brahminism, but the outcastes and fragmentary tribes have a spirit and a devil worship and the worship of the local deities called Ammun.

Telugu.—On the eastern borders of the peninsula, where the Telugu is spoken by about 14 millions of people, the people are a taller and fairer race than the Tamul, many of the more northern of them being equal in stature to the Arian hindus of the north. They are more brahminical than the Tamulian, races, and are as energetic as the latter though less restless.

Canarese.—The people who speak Canarese are about five millions in number, chiefly in the centre of the peninsula; they are a tall and

singularly graceful race with whom, as amongst the Kandians in Ceylon, a community something akin to polyandry is very prevalent. In this they somewhat resemble the Koorg race and the Nair of Travancore.

The *Malayalim* language, is spoken in the south-west of the peninsula by about 2½ millions, and the *Tulu*, on the sea-board somewhat to the north, by about 100,000 or 150,000.

Kodaga.—The people of Coorg and Mysore speak a Canarese dialect; and on the Neilgherry hill are the Kota about a thousand in number, the Toda about 300 in number, the Budaga another small tribe and the Kurumbar and Irular.

In the interior of the peninsula are Gond or Goand tribes, and the Khond, Kund or Ku, also Dravidian, who are estimated at half a million of souls, and the Bhil of Khandesh and of the Nerbudda of whose numbers we have not seen an estimate. In addition to these larger nations, there are smaller tribes intermixed, some of them living in forests or migratory.

Mr. Elliot remarks that "all the southern dialects become considerably intermixed as they approach each other's limits. Thus the three words for egg used indifferently by the people speaking Canarese, (matte, tetti, gadda) are evidently obtained, the first Tamulian matta; the last, from the Telugu, gadda. This intermixture, which is of ordinary occurrence in all cognate tongues, is here promoted specially by extensive colonization of different races, as of the Telugu race into Southern India under the Bijanagar dynasty, where they still exist as distinct communities—and of the followers of Ramanuja Achary into Mysore, where they still are to be seen as a separate class speaking Tamul in their families, and Carnataca in public. The Reddi also, an enterprizing race of agriculturists, have migrated from their original seats near Rajamundry, over the whole of Southern India, and even into the Maharata country, where they are considered the most thriving ryots, and are met with as far north as Poona." The Lombadi, speak a dialect of the Hindustani. The Ramusi and the majority of the Korawa speak a patois of the Telugu. The tribes inhabiting the hills and forests speak corrupted dialects of the languages of the contiguous plains. The 'Hill Kings' called in Malayalum Male-Arasar, the hill tribes inhabiting the Southern Ghauts, speak corrupt Malayalum in the northern part of the range, where the Malayalum is the prevailing language, and corrupt Tamul in the southern, in the vicinity of Tamul speaking districts. (See Ellis' Dissertation and Wilsons' Mackenzie Manuscripts.)

Tamul country and its peoples.—Tamul was the language of three ancient dynasties of whom we have record: The Chola of Tanjore and Combaconum, who were settled on or near the Caveri and Coleroon rivers, and who, as some suppose, gave their names to the Coromandel or Cholamandel Coast: the Pandya, whose capital is now occupied by the inhabitants of Madura; and the Chera, who ruled at Kerala on the Malabar coast.

Pandiya, probably a word of Sanscrit origin, is the Pandion, the Oi Pandiones, of the Greeks, and was the titular name of the dynasty of Madura: the race were styled Pandyi, Pandiyas, the king, the Pandyan or Pandiya Deva. Two embassies were sent by the Pandyan king to Augustus, the first of which he received at Tarragona, the second is mentioned by Strabo. The friendship of the Romans was sought by only one other hindu prince, O Kerobothros, the king of Chera or Kerala, who was also a Dravidian. Mr. Taylor is of opinion that Tamul was cultivated in its purity in the ancient Pandiya kingdom.

The Tamul language is spoken throughout the vast plain of the Carnatic or country below the ghauts, termed the Carnatic Paen Ghat by the mahomedan sovereigns and by the British who have succeeded them, The Tamul speaking country extends from Cape Comorin to Pulicat 30 miles north of Madras, and inland from the Bay of Bengal, to the Eastern Ghauts, The Tamul skirts Mysore on all its eastern frontier, is also spoken over the Bara Mahal, Salem, and Combaconum, meeting with the Malayalam at the great gap of Palghat, It is spoken also in the southern part of the Travancore country, on the western side of the Ghauts, from Cape Comorin to the neighbourhood of Trevandrum; also in the northern and north-western parts of Ceylon, where Tamulians formed settlements prior to the Christian era, and from whence they have gradually thrust out the Singhalese.

The Tamul was, until recently, called by Europeans the Malabar language, and this term is even still used amongst the illiterate, but even the educated classes write it erroneously, as Tamil. It was the earliest developed of all the Dravidian idioms, is the most copious and contains the largest portion of indubitably ancient forms. It includes two dialects, the classical and colloquial, the ancient and the modern, called respectively the Shen Tamil and the Kodun-Tamil, which so widely differ that they may almost be regarded as different languages. The people at present speaking Tamul, are the least scrupulous or superstitious, and the most enterprising and persevering race of hindus, and swarm wherever money is to be made, or wherever a more apathetic or a more aristocratic people is waiting

to be pushed aside. The majority of the hindu religionists found in Pegu, Penang, Singapore and other places in the east, where they are known as Klings, are Tamulians. All throughout Ceylon, the coolies in the coffee plantations are Tamulians; the majority of the money-making classes, even in Colombo, are Tamulians, and ere long the Tamulians will have excluded the Singhalese from almost every office of profit and trust in their own island. The majority of the domestic servants, and of the camp followers; in the Madras Presidency and the half of its army, are Tamulians, and the coolies who emigrate so largely to the Mauritius and the West India Islands, are mostly of the Tamul people. Including the Tamul people who are residing in the military cantonments and distant colonies, and those in South Travancore, Northern Ceylon, and excluding all mahomedan, Tiling, and brahmin residents of the Tamul country, who amount to at least ten per cent. of the whole population, the people who speak the Tamul language are estimated by Dr. Caldwell at about ten millions.

Vellala.—Amongst the Tamul races who have adopted brahminism, the Vellala, alike in numbers and in social rank, take the chief place. They are very largely agricultural, and take the honorific appellation of Mudali or first man, which seems to be from the same root as the word Mandal, the village headman of Bengal:—the designation Vellala means charitable, but they claim to be Vaisya, of the Bu-vansa or agricultural section. They believe that they came from the north. They are shorter and darker than brahmins, darker even than the Tiling people, but they have in general well formed countenances and graceful forms, though amongst them also occur the decidedly African lip and nose and forehead of which Mr. Logan makes mention.

Pillay.—The Tamul race styled Pillai, call themselves Yadava or Idaan, also Go-vansa, or shepherd race. They are darker and more slender and are less engaged in cultivation. These also are of the brahminist religion, they are intelligent men.

The *Naek* is another Tamul race who have adopted brahminism, they have few lands and are largely employed as farm servants.

Nata-Kothiar.—The Nata-Kothiar race from the south of the peninsula all speak Tamul and follow brahminism, are large spice merchants, and all of them have the marked African protruding lips and nose sharply cut at the forehead.

Fragmentary races.—Amongst these are scattered other tribes and fragments of nations, of whom a mere mention must here suffice. Professor Huxley, writing on Indian ethnology, says the inhabitants of Hindostan are broadly distinguishable into two groups: first, the people of the Dekhan; secondly, the people who inhabit the river plains and northern heights, and have thence overflowed the strips of plain which lie between the ghats and the sea, and penetrated more or less deeply into the Dekhan itself. He is of opinion that proper population of the Dekhan has no analogue in north-eastern or north-western Asia. They are long-headed, dark-skinned and dark-eyed men, with black wavy hair, devoid of any inclination to woolliness; not unfrequently they exhibit prominent brow ridges. Any one who has ever seen an Australian native will be struck with the resemblance between the two. They speak languages known as Dravidian, and where they have been left in their primitive condition are thorough savages. The rest of the population of Hindostan is, he says, allied in physical character and language either to the adjacent peoples in the north-west and the north-east, or exhibits evidence of being the result of the intermixing of such peoples with the Dravidians. Thus, on the north and east, the semi-civilized people assume more or less completely the physiognomy and the linguistic peculiarities of the Mongoloid tribes of Tibet and Ultra-Gangetic Asia. The population of all the rest of Hindostan, on the other hand, exhibits, in physique and in language, obvious signs of the influence of the pale-faced Aryan, who lie to the north-west, and stretch from the waters of the Indus to those of the North Sea, everywhere speaking a language allied to the Sanscrit, which forms the basis of all the dialects of civilized India. In Europe two distinct types of these pale-faced people are to be observed; the one having black eyes and hair, and sallow skins; the other with yellow hair, blue eyes and white ruddy skins. Both these types are traceable to the frontiers of Hindostan, the dark among the Siah'posh, who live in the inaccessible valleys of the Hindoo Kush. Professor Huxley says there can be no reasonable doubt that the population which the Aryans found in India were Dravidian, though whether it was already mixed with a Mongoloid element from the north-east or not does not appear.

Mr. Campbell arranges the Turanian aborigines into two sections, as under:

Dravidian or Southern.	*Northern or Kolarian.*	
Tamil.....Kurumbar.	Lurka-kol.	Languages, according to Max Muller, unconnected with any others.
Canara...Burghar.	Ho.	
Do.....Kota.	Bhumi.	
Gond.	Mundah.	
Khond.	Sontal.	
Oraon.		
Rajmahali.		
Malealam...Male Arisar.		
Telugu...Ramusi.		

Dravidian aborigines deal in demonology, fetishism, frantic dances, bloody and even human sacrifices; they are, however, superior to the Arian hindus in freedom from disqualifying prejudices, but inferior to them in knowledge and all its train of appliances.

These prior tribes are most numerous, are, indeed the mass of the inhabitants, in the hilly country from the western and southern borders of Bengal, Behar and Benares to the frontiers of the Hyderabad and Madras territories, and from the Eastern ghats inland to the civilized portions of the Nagpore territory, but even, in this tract, are evident monuments of old hindu civilization and of the saiva persuasion.

The aborigines of India, both in physique and in the structure of their language, present a type analagous to the Negrito of the South seas, Papuans, Tasmanians and others, as well as to the nearer Negrito of Malacca and the Andamans.—(*Journal of the Asiatic Society of Bengal, Vol.* 35, *Part ii.* 1866. *Mr. Campbell, p.* 21. *Lt. Col. E. T. Dalton.*)

Kollar or Colleri are a tribe in the Tondaman country, in the Vasanga district, in the eighteen palliams or districts, and throughout the Madura district. Until late years they were so predatory that in the south of the Peninsula of India, Colleri became the designation of a thief and their name is derived from "Kallara," thieves, plunderers. In ancient times they seem to have inhabited the woods from Trichinopoly to Cape Comorin. Orme writing of them, describes them in the middle of the 18th century as expert thieves and plunderers, and the Jesuit, Father Martin, says they were very cruel. Pennant writing of them in the 18th century says the adjacent countries are covered with thick forests and little cultivated by reason of the savage inhabitants, the Polygars and Colleri, who may be truly styled "sylvestres homines." The Colleri, he adds, were predatory and their government, as also that of the polygars, feudal. They are thirty or forty thousand in number. Their country is hilly; they generally sided with the mahomedans and the British in the wars against the French in the times of Clive and Dupleix. They have a first and second marriage, like the Maravar of Ramnad. The titular sirname of all Kollar is Ambalakaren. Calicoil was the stronghold of the lord paramount, the rajah of Tondaimandalam, the country of the Tondiman, which was an ancient division of the Peninsula of India, of the part now occupied by the Arcot and Chingleput collectorates. The country of the Tondiman, H. E. the rajah of Poodoocotta, a petty chief is now only a small tract near Trichinopoly.—(*Pennant's Hindustan, Vol. ii. p.* 11. *Orme's Hindustan.*)

Vellaler. A fragmentary tribe bearing this name are said to wander about in the jungles of the Poodoocottah estate. They are scantily clothed and subsist on the produce of the jungles.

The *Maravar* are a race in the extreme south of India, in the Ramnad and Siva Ganga districts, differ from other races. Their language and customs differ. They worship local deities to whom they offer liquor, flesh and fruits, and practice divination. The men do not wear turbands. They possess lands. They are a robust, hardy, dark-skinned stalwart race, athletic, with well developed muscles, active, of moderate height, the cranium rounded, narrow in front, forehead low; eyes large and full. They occupy parts of the Madura and Tinnevelly districts, are employed as village watchmen and are honest to their employers, but have been largely given to thieving and gang robberry. They use as food the flesh of all animals except that of the cow. They wear their hair long and arranged like the women of the Dekhan. In their marriages, disparity of ages is not considered, nor is the presence or assent of the bridegroom necessary,—a blade of wood in his absence serving as proxy. They worship evil spirits, to whom they sacrifice, and, on the occurrence of a small pox or cholera epidemic, the whole village is excited and devil dances are common. The Maravar women of Ramnad and Sivaganga, wear cloths of 25 or 30 cubits in length, folded in plats which they fasten behind. This is unlike other hindu women, whose cloths do not exceed twenty cubits and are fastened on the right side in front. They intermarry, some of the sub-divisions not marrying into the father's family,—but hindus in general intermarry with the mothers relations. In Ramnad and Tinnevelly, the titular surname of all Maravar is Dever.—(*Pro. Mad. Govt.* 1867, *p.* 4.)

The Ramayana describes the forest (or wilderness) of Dandaca as covering the whole extremity of the southern peninsula, and the rude inhabitants are designated rakshasha (monsters) or vanara (monkeys) the former meaning races or tribes hostile to the Arians. But vanara is from vana a wilderness and nara a man, that is a wild or uncivilized man, and to this sense as to the wild races in the extreme south, Mr. Taylor thinks may be reduced, the fable of Hanuman, the chief monkey and that of his army. He says that those who have seen the Collyri and Marava wil readily consider them to differ from all family likeness of the Arian Hindus, and as their visages often resemble baboons more than men, it would require even less than the ardent poetical imagination of a Valmiki to induce the employment of an equivalent word which would so aptly seem to convey the idea imparted by their appearance.—*Rev. Mr. Taylor in Madras.—As. Soc. Journ.*

Shanar or *Sanan*, are a tribe in the south of India, about Tinnevelly and Travancore, who are toddy drawers. They are a dark skinned race, with low foreheads, sunken eyes and prominent cheek bones, timid and superstitious. They occupy, in considerable numbers, the districts of Madura and Tinnevelly, but are not so good looking as the Maravar, either as to phy-

nique or features. They are only second to the Maravar in numbers, and more than one-half of them profess christianity of the protestant or Romish churches. The other half follow demonology, the usual bloody sacrifices and devil dances. They are of the Tamulian branch of the human race and came from the north of Ceylon. In the sandy sea coast wastes of the south of the peninsula they have widely extended the cultivation of the palmyra tree, and claim a siegnorage over these tracts; but they are largely occupied in extracting the palm wine. A man will attend to about 50 palm trees. Shanar women lately wished to cover their bosoms, and their attempt to do so was interfered with by the nair race.

Paravar are a dark skinned, almost black race in the extreme south of the Indian peninsula, living in villages along the sea coast and earning their bread as fishermen, with nets, lines and hooks. They own canoes, which they take to sea before daylight and return about noon. Their ancestors are said to have been converted by Xavier, and they still profess the Romish religion but they are drunkensome and dissolute.—*Madras Government Proceedings.*

Mukwa, are fishermen in Malabar; those of north Malabar follow the rule of descent a matrice but those in the south, permit of descent of property to sons.

Shembadawar are fishermen of Southern India.

HILL RACES.—The Kardar race occupy the Animallai hills in the collectorate of Coimbatore. They are open, independent, straightforward, men, simple and obeying their Mopens or chiefs. They are strong-built and active, with woolly hair and something of the African features and file their front teeth to a point. The women wear enormous circles of pith in the lobes of their ears, which they distend down to their shoulders. A black monkey is the Kardars' greatest dainty.—*Lt. Col. Hamilton, in literis.*

A *Negro* race occupy the hills at Dandilli in North Canara.

Chensu Karrir are a migratory race mentioned by Buchanan as residing in the hilly tracts near Coimbatore. They are described as without houses or cultivation, but by snares or with the bow, catch birds and game which they dispose of for rice; the white-ant is said to be used by them for food. They approach their game under the shelter of a cow or buffalo which they have instructed to stalk. Their language is a dialect of the Tamul with a few Canarese words intermixed; those near towns learn the use of Telugu words. A Tamulian is unable to understand their language. A few reside in little huts on the outskirts of villages and have a little blanket. But their ordinary clothing is a loin cloth, and in the denser forests, they use only a few leaves and dwell in caves or hollows of trees or under the shelter of a hut made of branches of trees. They describe the Anamallai as their original country.

Malayali, a race in the Shevaroy hills in southern India.

The Male Arasar, or Hill Kings, are small tribes of mountaineers on the hills in the extreme south of the Peninsula. They inhabit the range of ghats between Tinnevelly and Travancore, in small communities of five or six families, and probably do not exceed 500 in all. Their huts consist of a few sticks covered with bark and thatch. They live on wild forest products, but, since A. D. 1850, they have been cultivating potatoes for their own family use. They have a few fowls and dogs. As a race they are diminutive and pot-bellied, their crania small, and pear-shaped, rising to a point about the junction of the occipital bone and the sagittal suture; a low retreating forehead; long, tangled black hair, flat nose, and small eyes. They are averse to intercourse with strangers. They catch wild animals with pits and traps and use bows and arrows. They are a miserable body, low in the scale of civilization.

The *Neilgherry mountains* are in the southern part of peninsular India. The mountain tract called the eastern ghauts, commences 11° 20' N. south of the Cauvery, extending to the base of the peninsula. The western ghauts commence at Cape Comorin and extend to the Tapti or Surat river, whence they diverge to the N. E. and are lost among the hills near Boorhampore. The Neilgherry hills are situated between 10° and 12' N. L. and 76° and 77° E. long. bounded on the north by the table land of Davarajputnam, S. and E. by the open country of Coimbatur, S. W. by the Manaar river, a branch of the Bhowani; W. by the chain of ghauts and N. W. by the district of Wynaad. The base of these mountains, including that of the Koondah hills, covers a circumference of 200 miles. Their greatest length is from E. to W. 46 miles, and medium breadth 15 miles: the surface is composed of ridges of different elevations. The country is divided into three Naad, viz: Perinya Naad, Malka Naad and Thodawar Naad. The first two are mountainous, but the third is of sloping hills and gently undulating surface of table land. Dodabetta is 8,700 feet above the level of the sea. The races occupying these Naad, are the Thodawar,—Buddaga,—Kothur, Koorumbur and Erular.

The Toda, properly Tuda or Tudavara, are a primitive and peculiarly interesting tribe; practising quasi druidical rites, and commonly believed to be the aboriginal inhabitants of these hills. They do not, at present, number more than from 300 to 500 souls. It is supposed that they never could have exceeded a few thousand, but

have diminished through opium eating and polyandria, and, at a former period, the prevalence among them of female infanticide.

The Toda are polyandrists; one wife or if there be more than one, all the wives, in a family of brothers are common to all the brothers.

One of the most remarkable varieties of the South Indian type, is that of the Toda, of the Neilgherry hills, whose physical appearance Mr. Logan styles Indo-Semitic. The Semitic character is seen in the breadth and massiveness of the head, the great orbits and eyes, the receding forehead, and Jewish expression which is observable in some families. They are tall, handsome and athletic, with bold noses and expressive eyes. They are strongly distinguished from the more normal type, but he considers them as evidently referable to the archaic Semitico-Turanian era of S. India.

Mr. Campbell, however, says (p. 24, 25) the Toda are Caucasians of a very high type, resemble Greeks.

The *Todawar* say that they are the aborigines and the other classes regard them as the lords of the hills. They occupy the Todawar-naad and Mulka-naad. Their villages are in the depths and on the skirts of the forests. Their houses are built in the form of a paralellogram, 10 feet by 6, roof semicircular and door 1¾ to 2 feet high, and 14 inches to 1½ feet wide, and it is the only aperture. Their appearance is noble, some of them being upwards of 6 ft. high. They marry, but practice polyandria and the women can choose a gallant. Infanticide was prevalent, but it is said that no girl has been destroyed since 1819. In their habits of polyandria, they assimilate to the Coorg, Nair, and people of the Himalaya, and, in infanticide, with the Rajpoots.

Their numbers in 1825, were men 145; women 100, boys, 45 and girls, 36= 326 Their colour is a deep copper hue, tall, well proportioned with features of the Caucasian type and graceful carriage.

Their men average in height 5 ft. 3⅔ and average weight lb. 121¼. Nose long, large, and well formed, generally aquiline.

The women average in height 60·25 inches, in weight lbs. 110·80. They are tall and stalwart, with a robustness of form, and are handsome and comely in feature.

The Toda have five sections (*a*) Peiki, (*b*) Pekkan, (*c*) Kuttan, (*d*) Kenna, and (*e*) Todi which eat together but do not intermarry, *Todawar or Torawar*, in Tamil, means herdsman. They claim and are recognized to be the first residents on the hills and the other tribes pay to them in kind, as tribute, one-sixth of the produce.

The *Todawar* are said to have once been clad in leaves, and to have followed the nomade life they still pursue. Motta, and Mund, are words meaning a Toda hamlet. The Toda men carry a small axe and their cowherd staff. Toda women tatteo their arms, legs and chest with dots. The men wear a piece of stout cotton cloth about lbs. 5 in weight thrown around them as a toga or mantle descending to the knee, and their feet and head are always bare The women have a similar mantle, but falling to the ankles, with the loin cloth (Mūndu, Tam) of hindu women below it. The Toda, do not bathe, but anoint their bodies with ghee, which soon becomes rancid. They are dirty. The Toda women have metal and shell ornaments, with brass amlets weighing lbs. 6. The Toda lead a quiet, peaceful life. They are fond of feasting and dancing, on festive occasions; all use tobacco, many use opium and in latter years the use of arrack has largely increased. The following are a few Thodawar words.

Polsh-ti...Temple.	Tilum.....Pleasure.
Eshu.....Morning.	Ter .....Deity.
Kukh.....Daughter.	Uhk.....Fire.
Mukh.....Son.	Urkom.....A servant.
Pur.... . . River.	Konnum....Face.
Pest .....Cold.	Phultan.....Flea.
Mittuv.....Nose.	Kust.....Ass.
Hushk.. . Paddy.	Ez Pom....Raspberry.
Pizhakaza.To-morrow.	Murss.....Straw.
Ponzh.....The sky.	Oom un- } Future
Modj.....A cloud.	noor. } world.
Porbz.....The sun.	Ath..... ..That.
Tiggal.....The moon.	Adherz.....Afterwards,
Oldor.....A road.	Ewas.....Whether.
Pom.....A fruit.	Kursarim. Some.
Est.....A bullock.	Ettud... .. Large.
Elph.....Bones.	Kiu... .. ...Small.
Drigattaz..Afternoon.	Sah... .. ...And so.
Tuni.....A feather.	Athund ...Therefor.
Ipi.....Fly.	Duijan. ...Wife.
Turuvi.....Monkey.	Put .. ..Fowl.
Ishk .....People.	Err.....Buffaloe.
Mort ..... Home.	Aras.....House.
Cubbon..'...Iron.	Uschus...Mid-day.

Their cemetery and place of funeral sacrifice is a pretty green spot, partially enclosed by a stone wall, and rendered very gloomy by a thick wood on one side and lofty hills on the other. It is their practice to sacrifice buffaloes on the demise of a Toda, and a strongly walled area is set apart for the reception of these animals whose bones and horns are strewed on the ground. At the demise of a Toda chief, the funeral procession entered the green and moved towards the centre. The deceased was dressed in a new garment and mantle, and arrayed in all the ornaments which he had worn during life. He was carried on a bier formed of branches and herbs, and followed by a number of mourners, male and female, who chanted the lament whilst others carried wood for the funeral pile, and provisions for the evening meal. The herd of buffaloes was driven into the wall-

ed area, and the men armed with clubs entered with exulting shouts and performed a wild dance amongst the buffaloes. These soon became excited to the highest pitch, and at a signal, a bell was attached to the neck of each infuriated animal. Two young men would throw themselves on the animal's neck, seize it by its horns, and others would run to their assistance, and eight or ten men would be seen hanging on the neck of one animal, whilst others increased its rage by blows of their clubs, and goaded it on with hideous yells and gestures. Three or four animals were thus attacked at one time and the bell attached to the neck of each. But meanwhile, the general assemblage which lined the walls were weeping, exulting or sending forth shrieks of horror whenever a man was wounded, a buffalo overpowered, or a lover or a husband in imminent danger. On the next day, the victims were finally sacrificed. The men struck the animals behind the horns, with a wood-cutter's axe. But sometimes the blow was undecisive, and an infuriated animal escaped and drove madly amongst the multitude. After the sacrifice, several wild dances followed, during which the men feigned to cut and lacerate themselves. On the third day, the deceased was burned on the funeral pile.

Kotar.—The Kotar tribe ranks next to the Toda in priority of occupation of the hills. They have no caste, and as a body, are the most industrious of the hill tribes, giving much of their time and attention to agriculture and handicraft, &c. When not required at agricultural operations they employ themselves as carpenters, smiths, basket-makers, &c., making and repairing their ploughs, bill-hooks, hoes, &c. They also employ themselves as curriers, and are highly esteemed in the plains for the excellent leather they make. They perform all the menial offices required by the Toda and Badaga, supplying them with barbers, washermen, &c. They acknowledge the Toda as lords of the soil, and accordingly pay the tribute demanded by them as "Goodoo." At the same time they exact from each hamlet of the Badaga within a certain distance of their own village, certain annual fees, which they receive in kind for services rendered as handicraftsmen, &c., in addition to that of ceremonial or festive occasions for menial services performed. As cultivators of the soil, they only produce as much as will satisfy their own requirements, and any surplus they may obtain is bartered for iron and other produce of the plains. In confirmation of their having followed the Toda as settlers on these hills, they hold the best lands, and have the privilege of selecting the best whenever they wish to extend their holdings. They are well made and of tolerable height, rather good featured and light skinned, having a copper color, and some of them are the fairest skinned among the hill tribes. They have well formed heads, covered with long black hair, grown long and let loose, or tied up carelessly at the back of the head. An average of 25 men gives the following measurements &c. :—

Age 27·68 years.	Length of arms 30.
Height 62·61 inches.	Hands 7.
Circumference of head, 20·95.	Breadth of hands 3·25.
Neck 11 95.	Length of feet 10.
Chest 30·68.	Breadth of feet 3·50 inches.
Arms 8·76.	Weight (avoirdupois) 105·20 lbs.
Thighs 15·52.	

They have a slightly elongated face with sharply defined features; the forehead narrow but prominent, and occasionally protuberant; ears flat, and lying close to the skull. The growth of hair from the verge of scalp to eyebrows, 2½ inches distant; eyes, dark brown, of moderate size and deep set, varying in color from Nos. 1 to 5, in Paul Brocas' tables, eyebrows, dark and bushy, with a tendency to approach, frequently united to each other; nose, as a rule, smaller and more sharply defined than in the Toda; ridged and slightly rounded, and pointed at the extremity, two inches in length; alæ of nostrils expanded, measuring 1¼ inches in breadth; mouth of moderate size and well formed; teeth, well grown and regular lips, of fair size and well compressed; chin, well set and small. Altogether they may be pronounced tolerably good looking, and the general aspect of the countenance indicating energy and decision. The women are of moderate height, of fair build of body, and not nearly so good looking as the men. An average of 25 women gives the following results :—

Age 32·44 years.	Length of arms 26·52.
Circumference of head 20·36.	Length of hands 6·50.
Height 57·98.	Breadth of hands 3.
Circumference of neck 10·70.	Length of legs 35.
Chest 29·30.	Length of feet 9.25.
Arms 8·20.	Breadth of feet 2.25 inches.
Thighs 14·63.	Weight (avoirdupois) 96.24 lbs.

Most of them have prominent foreheads, with more of a snub nose, and a somewhat vacant expression about their features. They are rather timid when approached, frequently running into their huts and shutting themselves up. They seem to enjoy robust health, and have large families. Their arms are tattooed, having nine streaks, with four dots on each arm and four circular marks on each forearm. The women assist the men at their work in the fields, and make baskets and earthen pots, &c. There are some seven villages altogether: six of these are located on the Hills, and the seventh is at Goodaloor. They form large communities, each village containing from 30 to 60 or more huts, of tolerable size, built of mud walls, and covered with the usual

thatch grass, somewhat after the style of native huts in the plains; but in some villages the arrangement of the dwellings is far from the floors, are well raised from 2 to 3 feet above the soil, with eaves or a short verandah in front, and a pial or seat on either side of the door, under the eaves, on which, the people squat themselves when idle. The doors of their huts, measures 46 x 26 inches. The station of Kotagherry takes its name from the Kotar villages in its vicinity. The Kotar, as a body, are dirty. All the dead cattle and carrion in the vicinity, of every kind, find acceptance among them as food. The whole Kotar population of the seven villages is supposed to count a little above a thousand souls. Some rude image of wood or stone, a rock or tree in a secluded locality, form their objects of worship, and to these sacrificial offerings are made; but the recognized place of worship at each village consists of a large square piece of ground, walled round with loose stones, three feet high, and containing in its centre two pent-shaped sheds of thatch open before and behind, and on the posts that support them some rude circles and other figures are drawn. No image of any sort is visible here, and these buildings, which are a little apart, are supposed to be dedicated to Siva and his wife. They have crude and indistinct ideas of these deities. They hold an annual feast in honor of their gods, which comprises a continuous course of debauchery and licentiousness, extending over two or three days. On these occasions, they clothe and ornament themselves in their best, and make as grand a show as they can, and to witness which the other tribes are invited. Perhaps this is the only occasion, if at all, that they have recourse to water for the purposes of ablution. Much indecent dancing takes place on these occasions between the men and women, and frequently the spirit of their deity is supposed to descend on some of them, when their frantic deeds seem to form but a branch of demonology. Their marriage rite, is simple and has much in conformity with that of the Pariah of the plains. As a rule, they marry and live with one wife, and have a number of children. The Kotar possess a small breed of cows, but have no buffaloes. It is believed that the Toda will object to their having buffaloes on account of their uncleanly habits; consequently they make no effort to procure them. They never, as a rule, milk their cattle, but leave it all to the calves. The Kotar keep up an annual feast in memory of their dead, when a few cattle are slain on a rude kind of altar constructed for the purpose, and on it a portion of the flesh of the animal is laid, with a little of each of the different kinds of grain they cultivate, and is consumed as a burnt offering to their gods, in memory of their dead relatives and friends. During this ceremony, the young men and maidens dance around the altar together. Whilst the younger members are thus engaged, the elders busy themselves in preparing a grand repast for their friends, whom they invite from the adjacent villages on the occasion of this annual festival. More cattle are now slain, and the flesh mixed with small portions of every kind of grain grown in their fields; a great fire is raised, and the scene becomes one of confused riot and mirth, with blowing of the kollera horn, mingled with yells and shrieks and beating of tom-toms, the confusion continuing from morning till night.

The Kotar language is a very old and rude dialect of Canarese, having the same Tamil roots, but differently pronounced, without the guttural or pectoral expression of the Toda. They are believed to be descended from some of the low caste tribes of the plains, who, in former times sought refuge on these Hills from persecution practised on them by the invaders of India: they were the first among the other tribes who followed the Toda. They are not held in much estimation by the other hill tribes and European colonists, in consequence of their partiality to carrion, in which respect they resemble the Pariah of the plains, who eat not only animals killed for food, but also such as die naturally. Oxen and buffaloes which perish from old age or disease belong to them of right, and they carry home and greedily devour the tainted carrion which they find on the highways and on the fields.—90, *Abbe Dubois.*

In cases of sickness they make use of such roots and herbs as their old women commend. The sick are carefully attended to; but in some of the villages, as Kotagherry and Goodaloor, they resort largely to Europeans for medical treatment.

The Kotar are industrious, and possess an extensive knowledge of handicraft. Rude as their work may be, there is scarcely a useful implement connected with the mechanical arts, trade, agriculture, or husbandry, that they are not conversant with; and had they only received the encouragement and patronage bestowed by Europeans on the nomade Toda they might have advanced in the several arts they practise, and might have got rid of some of their filthy habits.

Like the Pariah of the plains, the Kotar are addicted to drinking, and, in the absence of liquor, resort to opium-eating. There can be no doubt, that, like the Toda, these people also belong to the great Dravidian family who were driven to these mountain tops by conquest and persecution.

Every Kotar village has belonging to it a circle of Budaga hamlets or villages, from which they claim at periodical seasons the payment in kind of certain fees or dues; and for which they in return furnish the Budaga

with, or rather make for them (the latter supplying the material) their implements of woodcraft and husbandry. These fees are generally paid in a certain quantity of whatever grain the Budaga has cultivated, for each plough of land, besides incidental dues on marriages, &c. The Kotar always attend the funerals and obsequies of the Toda, &c., receive from them the carcases of the buffaloes that are offered in sacrifice, allowing from a half to a quarter of a rupee for some; and others they receive in return for the assistance they afford on these occasions or for services which may have been performed for the family of the deceased. If they cannot supply themselves with flesh by any of these means, they kill some of their own herd, or purchase for that purpose from the other tribes. The Kohtar burn their dead, collect the bones on the following day, and bury them in a hole, marking the spot where they have done so. This they do in order to the performance of the obsequies. On the night of the first Monday after the first new moon in the month of March, all the friends of the deceased assemble, and preceded by music, go to the place of burning.—*Harkness' Neilgherry Hills, p.* 81. *Dr. Short*, in Proceedings of Madras Government.

Budaga, are the most numerous tribe on the Neilgherry hills, are also called Burgher and Badakar and Vadakar, but their Toda name is Marves, the term for a labourer. They state that about 400 years ago, their ancestors came from the Malusal hills, sixty miles South East of the town of Mysore Their name is supposed to be a modification, of the Canarese word, Vuddaca, or North and they undoubtedly speak an ancient but organized dialect of the Canarese, but whether famine or persecution drove them from their own country is not known. They are of fair complexion and handsome.

In 1825, the men were 1,665, women 1,696, boys 1,151, girls 632=5,147, inhabited villages 85, houses 1,651.

In 1847, the population of the Badaga was 6,589, distributed over 227 villages.

In 1867, it was said to comprise 17,778 souls, distributed over 4,071 houses.

They have the usual elongated head of the peninsular hindu races. The average of 25 men, of 33·8 years of age, was 66·7 inches, and their weight lbs. 110·76.

The averages of 25 women, of 27·68 years, were of height 58·51 inches, and weight lbs. 92. They have the usual Asiatic features with a feminine caste. They are agricultural, and when they arrived they acknowledged the proprietorship of the Toda as prior occupant races to whom they promised a land-tax of one-sixth of the produce and this they still continue to pay though with occasional demurring. The Toda race call them also "Mav" or father-in-law. Both men and women work in the fields, but of late years, a large number of men find employment as labourers and artizans. The other hill tribes on the hills live in isolated communities but the Budaga dwell in villages on a rising ground, in streets running in parallel lines, in thatched houses built of stone and mud, and divided into separate compartments with a double tier of lofts and with a wide terrace in front as a drying, threshing and winnowing floor. The door way, 43 inches high and 26½ broad is their only opening.

The cattle are penned in an adjoining cow house or shed. One writer says they arrange themselves as Aravar, Lingaet, Odykary and Torayen. Dr. Shortt says they have eighteen sects or castes, of whom he names the Woodearu and Haruvaru as priestly castes, the Hattara, Anearu, Mari, Kasturi, Dumah, Gonaja and Manika as ryots and labourers; the Vellaler, a race from the plains, the Kumbararu or pot-maker; Kongaru and Lingadhari who are of the Lingaet sect; the Adikari; the Kanakaru or accountant; the Chittre, outcastes from the Woodearu; Belli, descendants of silversmiths; Koonde dwelling amongst the Koonda hills, and the Torea, the lowest of all the 18 castes. The arrangements on betrothal are made by the parents, but the marriage only takes place when grown up, Polyandry does not prevail but divorce is easily obtained. The men dress like the people of the plains. The women look like mummies. They wrap a cloth round their bodies from below their arms to their hips, and fasten it with a cord below their arms and around their hips, the arms and shoulders and their legs below the knees are bare. A scarf goes round the head and is let fall behind. The women are of domestic habits, and kind and affectionate mothers. They are simple, modest and retiring. They seem now to be following three forms of the hindu religions, the saiva, the vira saiva and the vaishnava. But the increased intercourse with the plains may have taught them this, as formerly they claimed as their deity, Hettee-du, an old man, and Herear-du, who, they said, conducted them to the mountains. But they have numerous deities. A chief deity is in Rungasawmy peak, where men of the Irular tribe officiate as priests and offerings of ghi and fruits are made; another deity is on a droog near the village of Hollikul where a Badaga priest officiates, and there are other male and female gods. Many are comparatively wealthy. They can neither read nor write—they are timid and superstitious, haunted with a dread of evil spirits, and are deceitful, ungrateful and false. They are in perpetual fear of the Korumbar, to whose sorcery and witchcraft they attribute all accidents and ailments which befal themselves, their cattle and crops, and in their delusions

they have killed Korumbars and suffered from it: Nevertheless they get the Korumbar to officiate as priests at all social ceremonial occasions. They both burn and bury their dead.

They are divided into two branches, or what may be considered two grand families. One called Peiki, or Teralli, who are competent to hold all sacred offices, the other Kuta, or Tarda who are competent only to hold minor ones within their own particular families, and who may be considered as the lay class.

The Budaga is less in stature than the Toda, of a more slender form, and though straight and well made, under-sized in limb. In complexion, both male and female are some shades lighter than the Toda; but their features are quite of another caste. Both Toda and Budaga puncture the skin about the neck and arms, and males and females wear much the same kind of ornaments, such as rings for the ears and fingers, necklaces, armlets, and girdle. The difference is still so great, however, as immediately to strike the eye, even of a stranger. The Budaga possesses much of the manner and appearance of the hindu cultivator of Mysore, and his wife, who seldom or never stirs from home, seems rather a domestic slave than the mistress of a family. The fidelity of their women appears of but little estimation among them. Although the Budaga, generally may be considered much more cleanly, both in their houses and persons, than any of the other hill tribes, they are still, in this respect, far behind the natives of the plains.—*Harkness' Neilgherry Hills, p.* 117. *Drs. Baikie, Latham, Shortt.*

Kurumbar.—Above the Erular, at heights varying from one to two thousand feet, in the clefts of the mountains and in little openings in the woods, with which at this elevation they are girt, live a race, calling themselves Kurumbars. They occupy the highest range bordering on the Neilgherries and are probably the aborigines. They are arranged into Erular and Mulcer, (qu. Mali arisar.) Kurumbar is said to mean the wilful or self-willed. Their neighbours, when speaking of them, usually prefix to their name the term Mullu, a thorn. They are computed to be about a thousand in number, of all ages. The Toda do not consider the Erular as forming a part of the inhabitants of the hills, but they allow this designation to the Kurumbar, whom they call Curb, their term for a cleft or glen, and from them they receive certain services.

The Arkatou Basileon of the Greeks, was supposed, by one of the editors of Ptolemy, to be Bijnugur, but as the Greeks represent it as the capital of the nomadic Sora (Σωραι), and the local traditions indicate that for several centuries after the Christian era, the occupants of the tract lying between Madras and the Ghats, were Kurumbar or wandering shepherds, nomades, it is doubtless the present Arcot, which was then, as now, included in the ancient Sora or Chola kingdom. Arcot, properly Ara Kadu means the jungle on the river. It is probable that the Kurumbar of the hills are the descendants of these nomades. Captain Harkness did not find any temple, but their religion seems to be the same as that of the Erular, except that they are not particular as to the mode of disposing of their dead, either burning or burying, whichever may be most convenient. Swarthy and unhealthy looking in countenance, small of stature, the head but thinly covered with sickly-looking hair, the only covering it has,—little or no eyelash, small eyes, always blood-shot and apparently much inflamed, pot-bellied, and with water running from their mouths, they have in most respects more the semblance of savage than of civilized man. Their women and children have much the same squalid appearance, though on their necks and wrists they wear ornaments made of the different kinds of wild seeds and of berries. Many of the men also wear ornaments in their ears, of yellow straw, plaited with some degree of ingenuity; but, in their general appearance, they are much like the Erular, pictures of wretchedness and misery. They gave his party an abundant supply of honey, plantains, and such fruits as, on the higher parts of the mountains, or in the vicinity of Ootacamund, are considered delicacies. They have no marriage ceremony; but occasionally, when two have been living together for some time, they will enter into an agreement, in the presence of friends to remain united for life; and in a family where a succession of such unions has taken place, they will, once in two or three generations, perform a ceremony, and hold a festival in celebration of them. This is done by pouring pots of water over one another, the pairs seating themselves together for this purpose; the ablution, probably the first voluntary one they have had in their lives, commencing with the seniors. They then put on new clothes, and end the day in feasting and merriment. The Kurumbar, and all the classes occupying the lower regions of the Neilgherry mountains, are many stages behind the Budaga, in civilization, but possessing all the cunning natural to this unenlightened state.

The Koorumbar of the Wynaad forests have two sections, the Jani and the Mulli, and the Gurchea, Panniar and Pulliar races live along with them. The Jani Coorumbar live entirely in the forest, they are the only axemen, and, without them, it would be difficult to work a forest, and the wood contractor and planter alike employ them. The are very docile, quick of imitation, and slavishly submissive to their Moodeli or Head. This individual, like a

patriarch of old, exercises undisputed power over his own family, numerically containing about twenty or thirty beings. Those employed by the coffee planters are a little civilized, appreciating the comforts of life in a slight degree higher than their more savage brethren. They erect rude huts for the habitation of themselves and family, which are built on elevated ground, surrounded by jungles, and about six in number; they touch one another, and the whole present the form of a crescent. One larger than the rest, styled the cutcherry, is erected in the middle in the shape of a hall, for the sojourn of casual strangers: it is dedicated to their household deity, and the place cannot be contaminated by a shoed foot. They may be said to be ephemeral residents in these habitations; the presence of a suspected stranger in their vicinity, sickness, or other trifling but natural cause, will make them emigrate from one place to another, generally within the same district. According to Mr. Campbell (p. 31) the Koorumbar, Irular, Puliar and Veder, are in the lowest stage of life, mere men of the woods, of very diminutive stature, with thickly matted locks, and supple limbs, living under trees, in caverns, or in the rudest wigwams, keeping sheep, or collecting forest produce, very stupid, but also very mild and inoffensive, are reputed sorcerers, and believe in demons.

Kuruba a wandering race in the south of India are divided into Betla and Genu. Both of them have a Mongolian caste of head, high cheek bones, short and somewhat flat nose, and prominent lips. Eyes, small, dark and deep set. Hair, curly, but woolly and matted from neglect. Of middle size in stature, well proportioned body, nimble with powers of endurance, and daring. Colour, dark. Hair on upper lip and chin but no whiskers. They are labourers, basket makers and gather honey and other forest products. They are supposed to have come from Mysore. They profess to worship Kali.

Erular.—Are a low type of the Dravidian race occupying the lower skirts of the forests at the base of the Neilgherry hills. They arrange themselves into two clans, the Urali and the Kurutalei, meaning "rulers" and serfs. They dwell in the clefts of the mountains and in the little openings of the woods. The word Eruli means unenlightened or barbarous, from the Tamul word "Erul" darkness and is the term applied to them by their neighbours, and they speak a rude Tamul dialect. They sacrifice he-goats and cocks to their deity Mahri, which is a winnowing fan, and they have minor deities, mere stones, that they call Moshani and Konadi Mahri. They inter their dead in great pits, 30 or 40 feet square, thatched over, and planked across, with an opening about a cubit square in the centre of the planking, across this opening are laid pieces of wood, on which the dead are placed, and covered with earth, and are left so till another person die when the former remains and the earth are turned into the pit and replaced by the newly dead. They are scattered into small communities, practising a rude system of agriculture which scarcely furnishes them with sufficient food, so that, when pressed for sustenance, they resort to the jungles and live on such products as they can collect. They make use of animal food of every description, not even excepting vermin, and reptiles. They collect for their immediate wants the wild fruits, herbs, and roots, to appease hunger; also honey, beeswax, gums, and dyes of various sorts, and medicinal herbs and drugs, which they barter with the people of the plains in exchange for food and clothes. They are intrepid as regards the wild beasts they meet in the jungles, and in their search of honey they sometimes suffer severely from contact with wild bears. They hunt and take game of every description with great cunning and expertness.

There are two classes of *Irular*, recognized by the terms Urali and Kurutali. The general term Irula is derived from the Tamil word "Irul," or dark, implying that there was no light in them, and that they were wild and uncivilized. The term Urali means rulers of the country, and Kurutali serfs or common people. The other Neilgherry hill tribes do not recognize the Irular as inhabitants of the Blue Mountains, and do not hold much converse with them.

The following is the result of the weight and measurements of an average of 25 men:

Age, 26·68 yrs.	Length of arms, 30.
Height 61·78 inches.	Hands, 6·50.
Head, Circumference 19·83.	Breadth of hands, 3·25.
Neck, 11·59.	Length of legs, 34·50.
Chest, 29·91.	Feet, 9.
Arms, 8·42.	Breadth of feet, 3·25.
Thighs, 15.17.	Weight (avoir) 96·20 pounds.

They are tolerably good looking, very much superior in physique to the Kurumbar, and in some respects even to that of the Kotar; but they are an idle, dissolute set—the majority being vagrants, living on what they can obtain from the jungles and natural resources of the forest through which they wander, rather than labor and cultivate. They pay a trifling kist to Government according to the nature and extent of their holdings; but their tenure is very loose, simply holding lands at pleasure by paying assessment, but they cultivate little. They do not recognize the Toda as lords, nor do they pay them "Goodoo."

The women are strong and stoutly built, anything but prepossessing in appearance, and very dark skinned. Their feet, of those all

the S. Indian races, are the most beautifully formed. They are fond of ornaments, and wear heaps of red and white beads about their necks, thin wire bracelets and armlets, with ear and nose rings.

The men wear no clothing but the langooty in their habitats; but, when working on plantations, they wear cloths like other natives. The women wear a double fold of a wrapper cloth, which extends from the waist to the knees; the upper part of their bodies with their bosoms are nude. The men wear their hair anyhow—sometimes it is long and tied over the head, at others short and scraggy, playing to the breeze. The women are much the same; but those seen at the Fair at Mettapolliem had the hair well oiled, combed, and parted in the centre, thrown back, gathered and shelved on the left at the back of the head, like most of the women on the plains.

At one time the Irular rarely held communication with the other natives, living isolated lives in secluded places and unhealthy localities, and eking out a precarious existence. Their villages are small, seldom exceeding five or six huts and cattle pens, scattered far apart, mostly located in groves of plantain and other fruit trees, and built somewhat after the Kurumbar huts, surrounded by the usual filth and dirt. They are more numerous in the southern than in the eastern parts. But of late years they have improved wonderfully by mixing with others and taking employ as coolies on plantations and working side by side with other natives. They give satisfaction to their employers. They have also gained another advantage by attending the large fair or shandy held at Mettapolliem every Saturday. There were gradually attracted thither, and by freely mixing with the people on these occasions, they have lost their timidity and become somewhat self-reliant, to a small extent only as yet, but the civilizing influence of intercourse is not lost, and is slowly gaining ground among them.

MALEALAM DISTRICT.—The Malealam language is spoken in the low country and along the western ghats from Cape Comorin to the Chandagiri river. The people occupying that tract are mostly settled, but it has had several dynastic races, the Zamorin of Calicut, the Bibi of Cananore, the rajah of Cochin, the rajah of Travancore, the Dutch have held sway there, and the present paramount power is the British. Adjoining the Malealam district on the north, is the S. Canara district, in part of which, around Mangalore, the Tulu language is spoken, Canarese being the tongue in general use.

In this tract, the Nair race occupy large holdings, the rajah of Travancore is a Nair, and there are many mahomedans styled Mopla.

Tulu writer Mr. Burnell, is the or wandering guage of the Canara Collectorate, the present largely displaced by Canarese the included in the conquering power about four d, Arcot, pro- It now prevails (though not *exc* on the river. the north border of Malabar (Ka of the hills are is much mixed with Malayalam, les. Captain the north. Mangalore, Mulki and Ubut their re- chief places where it is spoken. of the Era- people belong to the same race as the Tamil and Telugu Family, now conventionally called the *Dravidian race*. The Tulu language has not been examined carefully, but there is no doubt that it is a dialect of the Canarese and closely allied to the Toda, Badaga and Coorg dialects. There do not seem to be any dialects of Telugu. Malayalam is a dialect of Tamil. By dialect is meant that these languages were, many centuries ago, the same as the Canarese and (in case of Malayalam) as Tamil, but that long separation and different influences have caused the variations we now see. Tulu, Toda, &c., are far more closely allied to Canarese and Malayalam to Tamil, than Canarese, Tamil and Telugu are to one another. The Tulu have no literature except a few translations by German Missionaries; but the people are remarkable for the law of succession called Aliya Santana. This is the law of the so-called sudra tribes, and a tribe that practices it is probably Tulu. But the race does not include brahmans or low castes who are mostly settlers from other parts of S. India, though in some cases they have adopted the custom. In south Malabar, descent is to sons-in-law, but in N. Malabar amongst the Nair, the artizan, carpenter, brass-smith, black-smith and gold-smith, also the Tear, who are toddy drawers, and the Mookwa fishermen, all polyandrists, the descent of property goes in the female line. In north Malabar this law of descent is called Marumakatayam, and the mahomedan Mopla has conformed to this usage. In Canara, a similar law called Alya Santana, or nephew of inheritance prevails, and is in practice more strictly carried out than in N. Malabar. In N. Malabar, the adherents to Marumakatayam form united family communities, termed Tarwaad. The senior member of whatsoever branch is the head of the family and is termed Karnaven; the other members are styled Anandraver; the remotest member is acknowledged as one of the family and entitled to maintenance if living under subordination to the head of the family and taking part in their religious observances. For the women there is nothing analogous to the state of widow-hood as existing elsewhere. Whether in alliance with men or not, they reside in their own families. The Nair marries before he is ten years of age, but though he supports, he never associates with his wife, who receives at her pleasure, any men

patriarch of be not of lower birth. Conse-
over his ow form of descent, a Nair does not
about twent s father is. In law, property is
ed by the co n the females only: practically
appreciating o-sharers with the females. In
degree highe , females succeed to the manage-
They erect mily property. In some families,
themselves nt devolves on them preferably
vated grou and the senior female takes it.
There is, however, a growing tendency to convey property from father to son, arising from the gradual abandonment of polyandryism. The connubial connection in question is called in Malabar "goona-dosham," "goona" good, "dosham," evil (for better for worse.) In Travancore, it is styled "mundu-vanga," viz.: "mundu" cloth "vanga" receiving, and the girl taken is of ripe age and her consent must be obtained. Personal acquaintance thus precedes the union. The hour selected for the ceremony is 8 P. M. There is an assemblage of friends; the man presents the woman with a "moondoo" or white muslin cloth, in a corner of which, in North Malabar, a small sum of money is tied. The girl either goes to the man's house, or remains in her own, and is visited by him there. Each party is unrestricted as to the number of such connections that may be formed, but these ordinarily do not exceed two or three. The descent being in the female line, the parentage of the father is immaterial. The marumakatayam law is not followed in North Malabar by the Aka-Podwal, a class of pagoda servants, nor by the brahmins of North Malabar or of Canara. But in Travancore law, only the oldest brother of a brahmin family is allowed to marry with his equal, and the other brothers form other connexions and their children, therefore, do not inherit. In the Tuluva country, the brahmin widow can devote herself to the temple, and reside outside or inside its walls. If within the walls, she is a servant of the idol and receives the visits of men of her own caste only: the offspring of such, if boys, are called Moylar, and the girls are married to them. But, if she elect to reside outside the walls she must pay a monthly sum to the pagoda and may cohabit with any man of pure descent.

The *Mopla*, written also Mapillai, from "ma" mother, "pilla," a son, are all mahomedans, and are descendants of Arabs who visited or settled in Malabar, Wilson supposes that the Malabar women who bore children to them, ignorant of the race of foreigners who were the fathers, styled the children "sons of mothers:" but the probability is that the law of descensus ab utero, marumakatayam, was prevailing from prior ages and was followed by the mothers of the children born of such casual or permanent intercourse. The Mopla are all large men, active and enterprising, and possess much landed property. They have been restless under British rule, and have repeatedly risen in insurrection but these have been very local, and seem to have sprung from agrarian grievances the result of the British being unacquainted with their proprietary rights in the lands. They are a devout, God-fearing, race, inclined to puritanism, are occasionally fanatical—but they have never been rulers in India, and have no dynastic recollections or longings; and are well worthy of being encouraged by their British rulers.

Coorg (Codagu) is a British district—administered by a Superintendent under the Chief Commissioner of Mysore. It is sitnated in L. 12° 26′ 21′, and L. 74° 30′ 46″. It is bounded on the north by the Hemavati river; on the south by the Tambacheri pass; on the west by South Canara and North Malabar, and on the east by the Mysore country. It is 60 miles long and 40 broad. Coorg was surveyed by Lieutenant Connor of the Royal Engineers in 1817, who has written a very interesting memoir of the survey. Of 2,400 square miles, 547 are cultivated, 1,705 culturable and 148 unculturable. In 1833, cruelties carried on for a long series of years, by the rajah, brought on him a war by the Indian Government, and after a series of operations, Coorg was captured after a battle on the 8th April 1834. He was of the lingaet hindu sect. The rain-fall varied in 1868-69 from 68·09 inches at Kembu Kolli in the south east to 95·25 at Mercara, the capital, most beautifully situated in almost the very centre of the country, and 4,500 feet above the sea-level. In its area of 2,400 square miles, Coorg has a population of 115,357.

The prevailing languages are Coorg, Canarese. Malayalum, Tamil, Tuju, or Tulu Hindustani and English. There are about 40,000 native Coorgs scattered throughout the country, and the number is believed to be decreasing. The Coorg race are called Koodaga. They are a tall, muscular, broad-chested well favoured race of mountaineers. They are a handsome and well-made race, and are far superior in physique to the inhabitants of the plains, whom they greatly despise. They are also far advanced in civilization and are very intelligent. The morals of the Coorgs are scarcely any better than those of most other races, and the vice of drinking has a deep and widely-spread hold upon them. They are divided into thirteen castes. They marry at a ripe age, but the wives of brothers are considered as common property. They generally retain the old devil-worship of the Scythian Dravidian race, from which they are descended.

The Coorg race arrange themselves into Coorg and Amma Coorg. They have a fair complexion, wear whiskers and mustaches, but no beard, they have intelligent countenances, and a bold independent bearing.

Demon and ancestor worship is common.

The non-Hindu races of British India are estimated at 12,000,000 souls, but, of the Non-Arian races, except the great Tamul, Teling, Canarese, Kol, Bhil, and Gond nations, many of them are in fragments and in small tribes scattered amongst the communities, occupying forests and mountain fastnesses, or dwelling as unclean races on the outskirts of towns. They, in general, bury their dead.

The deities to whom their worship is more specially directed are those of beings whose anger is to be feared. Pieces of wood or stone are made to represent these deities, a shapeless stone from a river bed or a piece of the Erythrina tree or margosa wood; but the institution of an idol seems invariably to be accompanied by some sacrificial rite, sometimes a goat in kid, but more frequently the buffalo or bullock, is the victim. A cart is made, on which, after sacrifice, the stone is placed, daubed with vermilion, and taken to the site appointed for it. Poch Amma or Kokli Amma is the goddess who sends small pox, and Marri, or Marrai, Amma, the goddess from whom cholera comes, the epithet, Marri or Marrai, being brought seemingly from the root relating to death, words from which have branched into so many of the old world languages. Of all these people there are not many who admit having ever seen a devil or spirit, but they offer worship at places which are pointed out by others who lay claim to have seen devils or spirits there. Bal Amma whose image is a shapeless mass of wood, is a goddess much dreaded, as all are all who keep such an idol in their houses ante old they are obliged to intermarry amongst themselves. Marri Amma seems the same as the Ai of the non-Arian races in the Mahratta country and the Ammun of the Tamul races.

Mang-kali, Ujla Mang-kali, Jakai-Amma, Peli-Amma, Poch-Amma and Madri Heri of the central Dekhan, are all supposed to be related, to be, some elder, some younger, sisters of the same brood. To all of them are offered the sacrifice of blood, of sheep or goats or of horned cattle, and when the people are moved by an outbreak of a pestilence, the number of sheep and buffaloes sacrificed before an Ammun idol are numerous, so many as forty in a night. The worshippers move in procession under loud cries, accompanied by the Murli women who frequently become hysterical, who are then believed to be possessed by the god, deo ka ch'haya aya ; ang'h b'har lia, the shade of the god has come, and filled the body.

Slave races,—Das, dasa, Hind, Pullukai, Tam., mean a slave. Wilson tells us that the hindu law recognises 15 kinds:—1. Grihajata, the child of a female slave ; 2. Krita or purchased ; 3. Labdha or gifted ; 4. Dayadupagata or inherited ; 5. Anakalabhrita, taken in time of famine ; 6. Ahita, pledged ; 7. Rinadasa, voluntarily a slave in payment of a debt. 8. Yuddprapta, taken in a war; 9. Panejita, won in a wager ; 10. Tavavaham, voluntarily ; 11. Pravarajyavasita, an apostate ; 12. Krito voluntarily for a time ; 13. Bhakta-dasa, a slave for his food ; 14. Varavahrita, one who by marrying a female slave, becomes a slave ; 15. Atmani krayi, one who sells himself as a slave.—*Wilson*.

The Puller are a race in the south of India, supposed to have formerly been in a state of slavery but their position is now solely dependent on their wealth. Both men and women work well, take part in all agricultural labour, the women, in this particular, vying with the men. The Puller women go about with their chests exposed, and, as a rule, cannot be induced to cover their breasts. Previous to British rule, the Puller who inhabited the forests and mountainous districts of the Malabar coast were regarded by the settled inhabitants as inferior to the beasts of prey and were not even permitted to erect houses for themselves. A shed supported on four bamboos and open on all sides, sheltered them from the rain, but not from the inclemency of the weather. They did not venture on the public road lest their steps should defile it ; and when they perceived any person approaching them from a distance, they were required to utter a loud cry and make a wide circuit to let him pass.

The *Vedan*, *Vedar*, *Veddar* or *Bedan* are forest tribes in the South of India. Those of the Malabar forests are predial slaves, who cut timber and do not cultivate.

The *Vetuvar* are a forest and hunter tribe in Malabar, and the *Konakan*, predial slaves, are a subdivision of the Vetuvar employed in agriculture, as boatmen and as salt-makers.

The *Malayan* of Malabar are a slave race.

Cherumar are predial slaves in Malabar, whose name Wilson derives from Chera, Malealam, the soil. They follow the rule of Marumakatayam. They are very diminutive with a very black complexion and not unfrequently have woolly hair.

Teer, *Teyar*, *Tiar*, *Eeyoover*, or *Juver*, the toddy drawers of Malabar, are a servile class who follow the rule of descent a matrice. The women are polyandrous and admit all comers. On the Malabar Coast, they form a great part

of the people; they are a fair, good looking race, till recently treated as outcastes, and compelled to move from the road when a Nair approached. The Teer are being educated in the Government schools, obtain service, are acquiring land and are very well to do. They are fairer and more refined looking than the Nair. Teer is said to mean island, and the Maldives and Ceylon are named as their original country. Dr. Caldwell thinks they came from Ceylon.

Nayade,—slaves of Malabar.

The *Adiyan* slave, serf, or vassal, of Malabar, lives under the protection of a rajah or religious establishment.

Adima,—Amongst the Tamul people, the Adima or Adimai are predial slaves attached hereditarily to the land and only transferable with it.

Alandadey.—In the Tamil countries, about Chingleput the Alandadey are a class of slaves. —(*Wilson's Glossary*.)

Chego are a race in Malabar, who seem to be noticed by Wilson as the Chegavan or Chekavan, whom he describes as a man of low caste, commonly a Teir, one whose occupation is drawing toddy. The tradition is that the Chego came originally from Ceylon, where they belonged to the military caste. In civil war or rebellion, the Chego were bound to take up arms for the sovereign; and some princes employed them as soldiers, if they had not a sufficient force of Nairs. Their principal occupation is that of drawing *Toddy*, which is compulsory on their caste. The Chego are sub-divided into two sections: the Chego and the Twen Chego.

Pariah.—The Pariah race, rare in the Northwest provinces, are found in every village and town in the Peninsula.

Their history is altogether unknown; they are wholly landless, they are generally, in the villages, predial slaves, and escape from this position only in the largest towns where labour is available. Amongst the S. Dravidian races they are called Paraiyan, Pariah and Pariar; and Professor Wilson derives that name from Parai the village drum. This race receive the following designations,

Holliaru .....CAN.	Mhar.....MAHR.
Hollére..... ,,	Paraiyan.....TAM.
Hollera Holgeri.... ,,	Paraiyar..... ,,
Eskar..... ,,	Paraiyadi Kiravan. TAM.
Pariah or Pariar.....ENG.	Mullavadu..... TEL.
Wullaru.....CAN.	Malla Wanloo ...TEL.
Dher.....HIND.	Mala-war .....TEL.
Paravan.....MALEAL.	

They are laborers, grooms, never are scavengers, eat dead cattle, dedicate their girls to the gods, are shamanists, fetichists and polytheists. As the Mhair, they, are supposed to have given their name to Mhairwara. This is the opinion of General Briggs, but it is not repeated by Professor Wilson who writes this term Mahar also Mhar, Mher, Mhao and Mar. The Mhar are regarded by hindus as lower than the Dher: the Mhar are not numerous, but are to be met with throughout the Mahratta country, dwelling apart, outside the village, and are often part of the Baloth, being the village messenger and watchman. The mark for their signature is a staff. They are wholly different in race and appearance from the leather working chuckler, dhor, chamar, or Mhang race whose mark signature is a knife. The Pariah are a willing, ready people, obliging, grateful for any little kindness, and, for the traveller, whether at midnight or midday, in sun or rain, or cold or heat, they take up their staff and move cheerfully along to show the road to the next village. Indeed, in the great tract of country of the peninsula, the Pariah and the Mhang are the only free labourers, the hindu farmers rigidly prevent their holding land and with equal tenacity prevent those of the hamlet leaving it, lest the village lose its labouring hands. They are really village slaves throughout the Hyderabad country. The Pariah or Pariar amongst the Tamul people arrange themselves into many tribes, amongst others,—

Valluva.	Kuli.	Ambu.	Vali.
Tada.	Tipparai.	Vaduga.	Vettyar.
Tangalai.	Murasa.	Aliya.	Koliya.
Durchali.			

Theyare permitted to marry into each others families. They are regarded by caste hindus, as unclean but they are not outcastes or men who have been expelled from other castes. They are usually the serfs of the sudr agriculturists. Those in the large towns, in the employ of the Europeans in Southern India, are quick, intelligent, and active. They are emigrating with great rapidity, to the West Indies, Mauritius, Cape Colony and the Burmese provinces, &c., where all sectarian or social distinctions are unknown, there are ten castes who are lower in the social scale than the Pariah, and from these are excluded the Pallar, who dispute precedence with the Pariar. The Pariar constitute a well defined, distinct ancient race, independent of all others, and has its own sub-divisions, its own peculiar usages, its own traditions, and its own jealousy of the encroachments of the races which are above it and below it. And the Pariar, whom St. Pierre's romance has fabled as a mild, benevolent, subdued being, whenever he has an opportunity, is as severe on other sects as from the custom of the world we would surely expect. Many of them devote their young women to the gods but the practice is generally regarded as vile, and as followed for money. The dher of Hy-

derabad worship all the deities; they are eminently polytheists, but they also worship the elemental rain water, as the *Meghoba*, (probably Mrigh) as a deity; and at stated times make a lamp-stand of dough, on the top of which they place the ghi pipkin as a lamp with ghi or clarified butter and a cotton wick which they light and worship, putting cakes before it. Many of them worship departed spirits, some of them evil, some of them good spirits, and others which they designate devils, and which appear only at night, as shades, all believe in transmigration, and one man mentioned his hope to be re-born as a mahomedan.

The Holiyar of the centre of the peninsula where Canarese is spoken and in Canara seem to be identical with the Pariah or dher race of the other districts, and like the latter are predial slaves. In Coorg the Holiyar has three branches, the Holeyaroo, Yewaroo and Paleroo. Both in Canara and Coorg, however, they have other designations prefixed such as Mauri Holeyaroo; Byr Holeyaroo; Murtha, Bulgi Holeyaroo, Rookha Holeyaroo, Badaya Holeyaroo, and in Coorg, Kembatta Holeyaroo. Amongst the Mauri Holeyaroo, property descends through the female line. The Pariah aid in cultivation and reaping, yet if they touch food it becomes unclean.

Bale shahi is given as a name to outcaste people of Sindh, who are large men.

The Pariah of the Punjab are fine powerful men and tolerably good looking: native governments recognised in them a material for soldiers useful in desperate enterprises. The early Sikh reformers tried to proselyte these men, but with very partial success, though a few, as Sikhs, obtained a respectable position. Christians also have almost failed in converting them. Mr. Campbell regards those of the Punjab as Arians.

In the Panjab, every Jat village has a Pariah quarter where the low caste people reside along with the Choorah. They are the ordinary labourers, who do the inferior cooly work and, according to Mr. Campbell, (p. 121) at the same time are the outcaste scavengers of the community,—but this seems to need some re-examination. In East Berar, the Dher divide themselves into the Somassi and the Laryan Dher, who eat together but do not intermarry. The Somassi dher rides on horseback in their marriage, the Laryan on a bullock. The Dher are few north of the Satpura range, south of the Nagpore road. The Dher class themselves as Andhwan, Somassi, Wad, Larwan or Larron and Tirwan. The Somassi and Wad intermarry.

In the Mahrattah country, as dher or Mhar, and in the Canarese country, as Holleru, the pariah in the small villages are watchmen, labourers, help in the fields, have balotta, some have fields with 8 or 10 bullocks and do the "begar" or forced labour work as also do the Mang. A potail Dher is occasional. The Dher is superior to the Mang. The Dher of Central India are said to spin and clean cotton.

The Hulaswar, or Holeyar of Mysore are often employed there as peons and horsemen.

Hollayer formerly came to the western coast nearly quite naked but are said to correspond to the Dher, and to the Palli or Paller in the south.

Halaya Paika or old Paik are a Mysore race.

Billiaru or Bow-men, a low race in Canara.

The *Kalladi* or Kallari of Malabar are predial slaves.

Milkmen.—The milk sellers in India are settled in towns, the chief tribes are the Ahir, Gaola, and Dhangar. The Gaola take their name from the Sanscrit "Go" a cow, or from Gala milk, from which many tribal names and other terms have sprung. Amongst others is the Gop a cowherd race of northern India who breed and attend on horned cattle, and sell their milk, butter, &c. a Gopi is a women of that caste. The Gwalla, Golla or Gopala, is a cowherd by caste and occupation. Gorakh is a cow-keeper, Gobar, is cowdung and Gaola, is a milk man. The Gaola race are tall, robust and fair. Those of the Peninsula of India have no resemblance to any other race in the Dekhan. They are pastoral and migratory.

The Gauliga of Mysore, rear buffaloes, sell milk and ghee and accompany camps. In the south of India, about Bellary, the shepherds, milkmen, woolshearers, cowherds, cowkeepers are regarded as Oree golla wanloo, Coraba golla wanloo, Hundee Coraba wanloo, all of them divisions of the Shepherd race or Cowkeeper who are all of the same people or race and intermarry. There are several other sections of this tribe.

There are 3,050 Gaoli in the Oomraeti district and a sa race in the Dekhan they are a large made fair people, who are solely dairymen. Wilson mentions that they distinguish themselves as Ahir Gauli, a branch of the Ahir; Konkani Gaoli, natives of the Konkan, and Lingayet Gauli followers of the Jangam sectarianism but I have never heard of these distinctions. In peninsular, India their wealth is chiefly in buffaloes and a few cows.

There are Gaoli cowkeepers, but not in regular communities, scattered through Bengal Proper and Orissa, where they succeed to the Ahir, and with their congeners the Satgope are by far the most numerous hindu caste in Bengal and Orissa. They are graziers, but form a large part of the cultivators, carry palanquins, are domestic servants and follow other avoca-

tions, taking the place, there, of the Bui of the centre and South of India. An Ahir or up-country Goala would never dream of such work.

The *Ahir* are hindu shepherds, following a pastoral life. According to Wilson, they were originally in the west of India but are now spread over the country. He mentions that they arrange themselves as of three races, the Naud bansa (race) in the Doab ; Jad or Yadu bansa in the upper Doab and west of the Jumna and Gual (Go-wala) bansa in the lower Doab and province of Benares, but tribes of Ahirs are also numerous in Rajputanah and the Panjab. Some of the Jad Bansa have been converted to mahomedanism, and are known as Rangar. In the Dehli district they have become intermixed with the Gujar and Jat, and conform to their usage of the marriage of the widow of an elder brother by the next in seniority. The Ahir are not known further south in the peninsula than Berar, nor in Burmah. The Ahir Gaoli and Dhangar, seem all to be shepherds, the Ahir, in Berar, are herdsmen and with the Gaoli are deemed of the same avocation as Krishna. They are esteemed, however, of low caste as manifest by the Gopin girls song, Gali mat de re, Ahir ka ch' hora, akhir jat, Ahir. Do not spatter abuse, thou child of Ahir. After all you are but an Ahir in caste.

The Dhangar of the Mahratta and Telugu countries are the Kuru-buru or Curumbar of the Canarese districts. The Dhangar, in Telingana, are in twelve tribes who do not eat together nor intermarry. In the centre of the Peninsula, they are shepherds and wool-weavers, kitchen gardeners, and labourers. In the hill country of Ramgurh and Chota Nagpore, there is a tribe of this name, some of whom descend periodically into the plains for labour. The Dhangar, in Calcutta are labourers (Campbell p. 33.) Mr. Hodgson describes the Dhangar as of Mongol origin. He bids us look steadfastly at any man of an aboriginal race, an ubiquitarian Dhangar for instance, and say if a Mongol origin is not palpably inscribed on his face? There are 8059 of these in Oomraoti. But it is not known whether, as in Ramgurh and Chota Nagpor, they are a hill people ; or as in Telingana, they are cultivators ; or as in the south of India, they are shepherds and weavers in wool. Many of the Dhangar are settled in the towns of the south of India, occupied as labourers, kitchen gardeners and dairymen and the Dhangar in the south of India arrange themselves accordingly. The Tiling Dhangar are milkmen and weavers of coarse woollens ; the Mahratta Dhangar graze cattle and sheep and clarify their butter into ghi; the Bangar Dhangar are purely shepherds.

In the Peninsula, they are dark, almost black, men, of slender and spare forms, they are quite dissimilar from the Gaoli, in personal appearance, and all the sheep (kuru, Karnatica, a sheep) are under the Kurubaru or Kurumbar care. They are also wholly distinct from the Ydayan or Yadava Tamulian cowherd race, who are known in all the Tamul country as ' Pillai' or son, and in all probability, the dispersed Kurumbar or Dhangar of the Peninsula of India, some of them in towns and others almost nomade, are the fragments of the great shepherd race who held sway in the Arcot district in the early centuries of the christian era. See page 73.

The *Golla* is sometimes employed as a cashier.

The *Mirda* are a caste of migratory shepherds in the south of India.

The cowherd and barber are of the better of the servile tribes, but the Kurumbar or Dhangar, and the Gaola dairy men, keep aloof from each other.

Leather workers.—In Berar, the workers in leather assert that they consist of 12½ castes, amongst whom are

The Dhor, who are tanners, make water-buckets and water sacks or the pakhal and mashak.

Kullar Bandela chamar, both a tanner and a shoemaker.

The Mahratta chamar, a shoe-maker.

The Parderi chamar, a cobbler.

The Mang chamar, who make sandals.

The Mahomedan chamar, who is a book-binder.

The Katai, who make shoes and sandals and labour in the fields, at seed and harvest times. The Katai are identical in personal appearance with the chuckler (chakili) of the very south of India.

The Chamar in Aurungabad, worship Mariamma and Sitla. They marry when under age, amongst themselves, proceeding on foot to the goddess Sitla whose shrine they circumambulate five times. The expense is about a hundred rupees. They speak hindi. They burn their dead, but some very intelligent men at Aurungabad, did not know that anything followed death. The designations of tanners and leather workers

Sanigar.....	...CAN.	Chakili.....	TAM.
Madiga Madharu	...CAN.	Madiga.....	TEL.
Chuckler.....	ENG.	Madira wanlu	,,
Chamar.....	...HIND.	Madgolu.....	,,
Mhang.....	MAHR.	Madhera.....	,,

Those called Mang or Mhang are scattered through all the northern parts of the peninsula, in the Bombay Presidency, in Maharashtra, Guzerat, Candeish, the Concan and Kolapore.

The leather-workers are perhaps the most humble of all the settled races in the south of India. In the villages they dwell outside the walls, for they are deemed wholly unclean. They are tanners, workers in raw hides and leather, shoe and harness makers, messengers, scavengers, and executioners. They are never horsekeepers. Their avocations are the most abject, and only a very few have ever been known to have the ability to read or write. The race, as a rule, are of a dark black hue, short in stature, and of very slender frame; lower limbs particularly slight and calf and foot delicate. They still eat creatures that most races regard as unclean. In villages they perform the lowest menial offices, such as messengers and scavengers, and are paid by portions of the crops and some small privileges but are not permitted to reside within the village. The Madaru and Madigaru of Coorg are predial slaves, and seem identical with this race. The Madaru make baskets. In Northern India and in Bengal, the chamar, are a low caste race, workers in hides and leather, tanners and shoe and harness makers, and there form the great bulk of the labourers, taking the place of the pariah of the peninsula. There are many sections throughout the Hyderabad country and in Berar they serve as scavenger, guide, watchman and executioner. Their signature mark is a knife. They are part of the Baluth and like the Pariah are the predial slaves of the village. The Pendi Mang, are athletæ. The Mhang worship the leather ropes which they make. They also make cakes, which they place on the ground and over it five stones, and a lamp, and worship these. They also worship the spirits of departed men who have led evil lives. They claim the right to have, for food, cattle and camels and horses that die of disease but this is disputed by the Dher and in the village of Dangopura, in 1866 and 1867, this point was for 20 months, under litigation, the ultimate decision being in favour of the Dher. In the northern Dekhan are the sections Mang Garoro ; Hollar Mang ; Dakhin Mang.

The Mang-Garoro, are also styled "Pharasti" or Migrants, as they have no settled abode but move from place to place, begging ; their men and women assume other clothes, and smear their foreheads with the red kuku, a mixture of turmeric and safflower. They also are conjurors and sleight of hand adepts from which they have their name Garori. The men also beat the dholak, when practising their conjuring tricks,

The Hollar mang are village musicians ; at marriages, play on the sannai, a musical wood instrument, and beat the dafra ; they are also labourers, and go messages.

The Dekhan Mhang make brooms and mats from the date palm, are also labourers, bring wood, marry girls under age, fall at the foot of Hanuman but worship at a distance, being not allowed to approach. They, like the pariah and the humble native christian, are also prohibited approaching the house of any hindu, but stand some yards off and intimate their presence by calling out baba, or maharaj, or ayer, and like the Dher every thing they have brought and every thing they touch and the place they touch is unclean. If it be a metal dish it is passed through fire, and if cloth or other material it is washed, or sprinkled with water, or placed on the ground for earth purification.

They mount on horseback in procession to their marriage which they prohibit the Dher, and Teli or oilman.

They do not usually claim dead creatures as a right but beg portions from the Dher.

They worship generally all the local deities or village gods, the Ammun, the Ai, the Mata, Musoba, Mariai, Devi, Kandoba, and the Mangir or ghosts of deceased relatives. Mangir is the form of a human being engraved on silver or copper, intended to represent a deceased father or mother, sometimes it is a casket of copper containing a silver figure of a man. The Mangir is worshipped at the dewali and dussara a[illegible]ce are [illegible] and full moon and anniversaries. Peninsula of [illegible]s worshiped by washing, and [illegible] any other race [illegible]e. They bury or burn their [illegible]pral and migratory the corpse in the ground, t[illegible]a of Mysore, r[illegible]ful of water from the river, po[illegible]e and off the body and cover the dead with earth : after three days they take food and place it over the dead. They seem doubtful as to transmigration.

Dhor. Hind. Tel. Dhoria Can. Dhorata Mahratta are found in most of the larger villages of southern India. They are tanners, but are regarded as hindus, and, unlike the Dher and Mhang, reside within the villages. They worship the earthen jar in which the hides are steeped, placing vermilion on it. They do not partake of animals that die of disease. They never devote their young women to the gods. They are looked on by the Pariah or Dher as vile, and are not associated with in eating or intermarrying. The Dhor are robust, fair, short, men, with well developed chests, wide faces, light colored eyes, many of them with a light mustache and in all their features they present evidence of a Mongol origin. They never eat the large horned cattle, the cow, buffalo, or bullock, nor do they eat dead animals, but fowls, fish, deer, goats and sheep are lawful. They marry in their own tribe, making the marriage procession on a bullock, and say that they are not entitled to proceed on a horse. The objects of their worship are very doubtful.

Like almost all the races of India, they worship, at anniversaries, the chief implements of their trade, which in their case is the tan-pit, but they weekly cowdung a small spot in their house, on which they burn incense, place flowers, and wheaten cakes covered with rice, bow down, worship and eat. The deity, thus invoked, one family whom I saw at Oodghir said, was Bawa Adam, whom they consider to be Maha Deva, and inquiry elicited the information that about 60 or 80 miles west of Punderpore, is a stone, named Bawa, or Father, Adam. They also worshipped Ai, mother, whom they designate as the Bhawani at Taljapore, but Khandoba at Malligaum, also receives their worship. The temple guardians however do not permit the Dhor to approach near to the idols, as their trade of workers in skins and hides makes them unclean. They bury the dead who have fallen victims to small pox and cholera, but those from some other diseases are burned ; a pregnant woman dying is burned. They make leather from hides, and manufacture such articles as are used for water purposes, the mot bucket the d'hol and pak'hal.

The *Totti* of the Tamul people is a village servant who waits upon the villagers. The domestic Totti, does the humblest part of the house work.

Tottyar of Coimbatore are settled there from the north.

Beder.—In the tract lying between the Mysore and Hyderabad and Mahratta territories, are several petty sovereignties, such as that of the nabob of Banaganapally, a syud family, in the east of the Ceded Districts, until 1839, the Pathan nabobs of Kurnool ruled on the right bank of the Tumbudra river, further west, the Reddi chief of Gadwal ; the Mahratta chief of Sundoor, one of the Ghorpara family ; the kshetria rajah Narapati of Anagoondah, the descendant of the great king Rama of Vijianaggur, who was overthrown by the combination of the mahomedan kings of Golcondah, Kalburgah, Bijapore and Ahmednuggur; the Pathan nabobs of Shahnoor the Ghorpara chieftains of Gunjundurgurh and Akalkot, and at Ghoorgontah and Beder Shorapore are the descendants of that Beder soldier, Pid Naik, to whom Aurungzeb, for aid given at the siege of Bejapore granted a small territory in the Raichore Doab. The Beder race have only these two small sovereignties, and some of them, in Shorapore, are tall, well made, robust men.

The Beder race in parts of Mysore form a considerable part of the population and have many poligarships, and in Ceylon there remains a fragment of a prior stock, called Veddah.

Their name is variously pronounced, Beder, Baida, Baidara, Waida, Vedda, Vedar, Veddar, Vedan and Bedan. They are the race who gave their name to the Pindara who harrassed Central India for nearly 50 years. Some of them have become mahomedans.

The Baidar of Beder Shorapore, drink spirits, eat the hog, crocodile, porcupine (Sarsal) manis, Ali) Iguana, bullock, cow, buffalo, cat, rat, bandicoot, (Mus giganteus) and Jerboa rat.

The Baidera Wanloo, Tel. of Bellary, are mahomedans, keep numerous little horses which they use for carriage. They are great carriers and have been of use in several military operations.

The Pindari are mentioned in Indian history as early as the commencement of the eighteenth century ; several bands followed the Mahratta armies in their early wars in Hindostan. They were divided into durrah, or tribes, commanded by sirdars, or chiefs, and people of every country and of every religion, were indiscriminately enrolled in this heterogeneous community, a horse and sword being deemed sufficient qualifications for admission. A common interest kept them united : some of the chiefs acquired wealth and renown in the Mahratta wars, they seized upon lands which they were afterwards tacitly permitted to retain, and transmitted, with their estates, the services of their adherents to their descendants.—(*Cole, Myth. Hind. p.* 298)

Kakur are a dark colored, spare and sinewy migratory race, in the centre of the peninsula of India, who are usually regarded as identical with the Pindara that overran the south of India. They are found residing in most of the villages north of the Tumbudra river. They possess small active ponies, on which they bring the grass that they cut in the jungles, and otherwise act as carriers, but they might at any moment become active marauders. They are also screen or tatti-makers, and a few have become agricultural or engage in horse dealing. They elect a chief, to whom they give the rank of Rissaldar. They are all mahomedans and they use a dialect to which they give the name of Lahaura-ha-noche.

The *Taremook*, known as Bail Kambar in Canarese, Ghassari in the Dekhani and Lohar in the Mahratta, is a wandering black smith. Bail Kambar, means bullock blacksmith, but they style themselves Taremook. They wander from village to village, principally in the Northern Canarese speaking country.

The Dumur or Kollati, called by themselves Bhatu, are a wandering race, their women are athletæ and common.

The Kili-Katr, Muddikpor or Kotaboo are wandering minstrels. Many names have been given to this migratory people who dwell

in the southern Mahratta country; Kublgira or ferryman, Koli and Barkur, are the terms most usually employed, but Muddikpor is the designation they apply to themselves. They are generally tall and powerful men, with an olive yellow complexion and are now very numerous throughout that part of India; they say that their original locality was the village of Talicot near the town of Sorapoor, and that, however far they have dispersed, all classes continue to speak the Mahratta tongue, though it is requisite they should attain likewise a knowledge of the language of the countries in which they wander to enable them to gain a livelihood.

Bhowra, the wild hunter race of India, called Pardhi, Hirn Pardhi, Shikari, and Hirn Shikari. Though, seemingly, very poor and humble they are a migratory and predatory tribe. They snare wild animals which they bring for sale into towns. They also capture the larger beasts of prey. They work in certain tracts of country which they call their jungle, each section keeping to their own circle.

Soligaru, according to Buchanan, are a rude tribe inhabiting the southern ghauts, which separate Coimbatore from Mysore.—(*Hindoos, Vol.* 1.)

Yanadi,—It may serve to illustrate one feature of this country and show how long and effectually a race may remain sequestered in it, to notice this rude tribe. Though residing up to within 20 miles of Madras with its 500,000 people, though surrounded by the active and industrious Tamul and Telugu people and possessing the readiest means of communication by the Pulicat marine lagoon and Cochrane's canal, they are nevertheless almost in the lowest state in which human beings can remain.

The Yanadi dwell in the forests of the Sriharikottah muttah an island of the Chingleput Collectorate. They hold little or no intercourse with their more civilized neighbours. Until recently their ordinary avocations were the gathering of the wild products of the forests which the officers of Government bought from them at rates lower than the ordinary market prices, and paid them in kind, with grain, and clothes. Latterly, however, a few on the outskirts, have taken to charcoal burning and wood-felling, and they are now also paid partly in money, changes which bring them more in contact with the settled people around them. An effort was made in 1855, to induce them to engage in agriculture, but neither that nor subsequent attempts to persuade them to rear cattle and sheep have succeeded. In 1857, Government established a school for their children, and forty to fifty scholars were lately in attendance, for each of whom, an allowance in grain is given. The use of money has compelled them, to a small extent, to engage in the ways of ordinary life, but they are considered to be still insufficiently civilized to be left without the aid and protection of Government. The sum paid to them is about Rupees 1,800 a year. Some who reside on the outskirts of the forests, come a little more in contact with the every day world; but their ordinary locality is in the very depths of the forests, beneath the shade of pending branches, and only about ten or twelve families have huts made of branches of trees. In stature they are about the same size as the hindu people around them. A few are of a dark bamboo colour, but ordinarily they are black. The men are taller and more robust than the Tamul race, the women are decently clad. The men wear only the langoti. They have clear skins, but suffer much from fever. They seem to use warm earth baths in fever. Their food consists of wild fruits and roots, particularly those of the Kanduri, *Hind* (Bryonia grandis, *Linn.*) a few wild varieties of yams and the leaves of Capparis horrida, rice, the wild bean, Canavalia virosa, molluscs, fish and flesh of every kind. They hunt with the bow and fish by torch light. They are polygamists, have up to four or even seven children. They bury or burn their dead, and pour libations on the grave. The men average 5 ft. $4\frac{4}{5}$ in., in height and lbs, 100 in weight. The women average 4 ft. 6 in., in height and lbs. 82 in weight. There are about 20,000 of them in the Nellore district.

They have little intelligence cannot reckon up to ten, converse but little with each other, and are more taciturn with strangers, whose very presence even alarms them. The language they speak is said to be Tamul, and a similar race, it is stated, occupy the neighbouring forests on the hills at Naglawaram, and others are spread through Nellore, N. Arcot and Cuddapah.

Villi are a race dwelling in hamlets of five or six huts on the outskirts of most of the villages in the district of Chingleput, and are sometimes called Yenadi. They are herbalists. They have Mongol features, the men have scant hair on the lip or chin and no whiskers. They are polygamists. They eat all animal food except the flesh of the cow. They dig up the wild chayroot. The average height of the men was 5 ft. 5 in. and weight lbs. 83.

Korawa, with their sub-divisions (1) the Bajantri or Gaon Korawa or Sonai Kolawaru, (2) Teling Korawa or Kasbi Korawa, (3) Kolla Korawa, and (4) Soli Korawa, are a race in the peninsula of India. The Yerkal, Korawa, or Coonchee Kooree, are wanderers of whose original country they themselves retain no knowledge. They are darker than the usual tinge of hindoos around them. In their

own communities they style themselves 'Yerkal' and they give the same appellation to the language in which they hold communication with each other. Some of them seem to have been converted to the brahminical faith, and are now of the vaishnava sect. With the exception of the cow, almost all animals are used by them as food. Their dead are burned.

The Eruku, also called Yerkal, Yerkalvadu Kurshi-wanlu, Yera-kedi, Yera-kellu, Erukuluvadu, in the Canarese part of the peninsula of India, occupy themselves ostensibly as basket-makers, and in fortune telling. But they are notoriously predatory and steal girls whom they devote to prostitution. They are found in mat huts on the outskirts of most towns.

The Yerkala of the Nellore District are migratory mat and basket-makers, using the midrib and leaflets of the date palm. They also make wooden combs, work as labourers, and a few have settled and engaged in cultivation. They rear pigs, poultry, donkeys and dogs and eat the flesh of most animals. They are usually of a dark brown colour, the men are spare, and light make, but hardy, with low foreheads, small eyes, short nose. They wear only a strip of cloth and they tie their hair in a knot above their brow.—(*Balfour in Madras, Jour. Lit. & Science, Vol.* 18, *p.* 4.) They admit polygamy, do not remarry their widows.

Dr. French says there is a rude uncivilized race in the Kistnah district, who are bird catchers, and who have no feast or music at their marriages, but the bridegrooms pay a fine or price of Rs. 202 to the brides' parents. The men have only a loin cloth. They are said to eat cats, mungoose, squirrels, rats, parrots and minahs. They snare birds, rear pigs and donkeys and live by making baskets and mats from the palm leaves. The women are sooth-sayers. These seem to be the Korava race.

Also, Professor Wilson mentions the Koracharu as a hill and forest tribe in the Carnatic who make bamboo mats and baskets and carry betel nut from market to market. A Korawa race also inhabit the Pakhal hills and near the Godavery.

Yeruva are a migratory race in Coorg, of middle size, with coarse features, black and straight hair, they are labourers and are believed to have come from Malabar. Their language is said to resemble Malayalam; they worship evil spirits and have no priests.

Pakenatti, a peaceful and innocent migratory race, found in Mysore and the Telugu country, who, about the beginning of the 18th century were driven from their houses by oppression.

Wadawar, are tank and road-makers.

Bunjara, often written Banjara, are called also Lambada, Lambadi, Ilambadi, and Binjara. Their Canarese name is Herkeri. The name of Banjara is supposed by Elliot to be derived from the Sanscrit Bunij, a merchant. Shakspeare derives it from the Persian Birinjar, a rice-carrier. In the Dasa Kumara Cheritra, a work written by Dandi, mention is made of a cock-fight in a Bunjara camp, but the Bunjara are even indicated by Arrian as one of the classes of Indian society. They are chiefly wandering grain merchants and salt merchants, but many have settled down in the tract under the northern hills lying between Goruckpoor and Hardwar. Some are mahomedans and say they came from Multan. Those of western India are usually Charuns, and their sacred character is a great protection to them. The Bunjara of Berar have been greatly predatory and are being removed.

The Turki Bunjara, who are mostly carriers, have 36 tribes or "got."

The Beid Bunjara have 11 "got," they came from Bhutnir and are now in Pilibit and Kant, and many are weavers and medical men.

The Lubana Banjara have 11 "got" are mostly agricultural. They claim to be descendents of Gour brahmins and to have left Runthumbor in Aurungzeb's time.

The Mookeri Banjara claim to have come from Mecca, and to reside in Jhujjur. They have 16 "got."

The Buhrup Bunjara are mostly hindu and lead a more wandering life. They are divided into the five tribes, Rathor, Chouhon or Koorri, Powar, Towur and Burtea, who are again subdivided into tribes or got. They claim to have come from Chittoor. They intermarry, but not with members of the same got. They have a close relation with those of the Dekhan, each community has a chief at its head styled Naik, to whom they yield implicit obedience. The Bunjara are scattered in communities all over India.

In the south of India, they style themselves Gohur. They are met with from Kashmir to the south of India and keep in Tandas or encampments. Their Tanda, Hind. Kepa, Mahr. in the extreme south of India have become greatly broken up, for they are predatory, engage in gang robbery, many of them are to be seen in jails, in the Mysore territory their women and aged men are breaking metal for the roads and the rapid extension of roads and railroads have done much to exclude them from their trade as carriers and collecting merchants. But, in Berar and throughout the Hyderabad country they are still in large numbers collecting from the lone hamlets the small quantities of grain, cotton, and wool obtainable, and bringing them into the larger marts. Their means of carriage is solely the bullock and the cow. Some of these are magnificent and it is a

grand sight to see a Banjara Tanda laden with cotton or grain, traversing the country through pathways and tangled trees and brushwood so intwining that portions of cotton are taken up at every step. Their value as travelling merchants, in times of scarcity or great demand is incalculable, for no other means could bring in the small stores of outlying hamlets. They will shortly disappear from traffic as rail and metalled roads increase. The Banjara are men of great energy. They have in some places fixed homes. Throughout Berar and in the northern parts of the Hyderabad territory some of them are to be found settled in villages as servants of the Potails and are recognised as village Banjara. On the borders of Rohilcund towards the Terai, they have considerable settlements, are considerable landed proprietors and important people. Campbell (p. 107.) A numerous tribe hearing this name are spread along the food of the Himalaya from Hurdwar to Gurukpur engaged in agriculture.

Wilson also says they are partly of hindu and in part of mahomedan belief and that the Bahurupa Banjara arrange themselves into the Rahtore, Chauhan, Powar Tuwar and Barka Banjara and some of them are accepted as guarantees for agreements similarly to the Charan and Bhat.

The Banjara is called by the Dekhan people Lambana. The Banjara man is a Gohur, a man, a woman however is a Banjarni.

The goddess Marri-Ai is a great deity with the Dekhan Banjara, and they invoke her in their most solemn oaths. They use a broken branch of the Azaderachta Indica, or nim tree, or as they call it, Lim Ka Dagla, in their solemn ordeals. They lay one on the ground, and will say to a woman whose virtue is in question, "if you be not a whore lift it," and her lifting it, or otherwise, establishes her innocence or her guilt.

Their dress and appearance are singular, more particularly of the women, and their social habits and customs distinctive. The men wear the usual "Puggree" and "Dhoti" whilst the dress of the women consists of a boddice, "Choolee" with long sleeves, and a petticoat or skirt hung from the waists in ample folds, consisting of coarse cotton prints of bright colors, and a "saree" or scarf, of a similar texture, which is carelessly thrown over the shoulders, giving them a picturesque appearance, when combined with brass and deer-horn ornaments and gaudy colored tassels of cotton, with which their arms, ears, nose, neck, ankles and toes are profusely decked. They have, small well-turned hands and feet; their movements are easy, graceful, and stately, rendered slow from the quantity of ornaments they wear. The hair is parted in the centre, combed back, plaited, and ornamented with a profusion of silk or cotton tassels. They seldom change their clothes, till they are tattered and torn, and are only renewed by a new suit. The women possess considerable natural charms, are as active as the men in their business avocations, and they carry burdens when travelling, chiefly their children, provisions, or utensils. They are capital needle-women, making their own jackets and petticoats, and frequently embroider these tastefully. The material used by the women of some branches of this tribe is manufactured from the fibre of a species of nettle, which is woven into cloth for themselves, and these are tastefully dyed in various colors, to suit their peculiar taste in this respect, frequently overgaudy. They visit the most remote and hilly regions and lone hamlets to collect and transport grain and other commodities to more civilized parts; no jungles or wild beasts deter them from travelling. In some districts they are addicted to thieving and thuggee. They settle their own disputes, either by arbitration, or by the decision of their Naeks and seldom or ever complain of their fellows. Their Code of Laws prescribes punishments for all crimes, the verdict of which, when carried out, is never disputed. Their Priests exercise the power of life and death over the community but this is masked under the cloak of religion and supernatural agency; and, as a tribe, they are bound to secrecy, whenever the extreme penalties of their laws are carried into effect. Unchastity is strictly punished with death, frequently both the woman and man suffer when detected, and their corpses are buried or burned together, and neither the justice nor execution are ever complained of. They recognize no authority, keep aloof from settled races, interfere with no one, and allow of no interference among them, in the matter of their laws or customs, &c., As carriers, distance and climate have no difficulties for them: they undertake extensive engagements in exporting merchandise, chiefly grain, cotton, cloths, oil seeds, &c., and carry them out with the utmost good faith—they never play false when once the work is undertaken by them; no instance has been known of goods entrusted to their care having been robbed. They are looked upon by other classes of natives with a superstitious dread, so that they can traverse the wildest and most jungly tracts with impunity and perfect security. It is reported that the Banjara of the hill districts (Bisram, Cuttack, and Jeypore) practise the Meriah sacrifice, as also do those who trade between Nagpore and the coast. Dr. Shortt from personal inquiries in Orissa, Nagpore, Hyderabad, South Arcot, Vizagapatam, Jeypore, &c., was satisfied that sorcery, witchcraft, human sacrifice, and infanticide, prevail among differ-

ent communities of the Banjara. Each community is localized by the term of "Tanda," having its own leader who is said to lead a peculiar ascetic life. On occasions of sickness among themselves or murrain amongst their cattle, the Priest is consulted, and should he attribute such visitation to sorcery, the Priest fixes the guilt on some individual belonging to the community, when the supposed evil-doer is immediately ruthlessly seized and murdered in the manner dictated by the Priest, to abate the evil. The execution is coolly and deliberately carried out in the most summary manner, and the deed is buried in oblivion. The practice of infanticide is in vogue among them, in consequence, it is said, of the large sums of money required to ornament their girls, in addition to the large dowries which they have to bestow on marriage. It is reputed that the practice is carried out by placing the new born infant in an earthen vessel or chatty, the mouth of which is tied over with cloths steeped in a decoction of turmeric, and ornamented with flowers, some trifling ceremonies being carried out, the chatty is taken to some remote place in the jungles, and there buried. Some of the Khond tribe carry out a similar practice as regards their female children.

The Banjara generally possess large herds of cattle, which they convert into pack animals—even cows are made to carry burdens, which, as a rule, no other class of Natives do; and it is no unusual thing to see among a herd of Banjara bullocks several cows laden with burdens, with young calves at their heels. One or more of their best bullocks are selected as leaders, their horns and the crests of their pack saddles are ornamented with cowries, scarlet cloths, peacocks' feathers, tassels of cotton variously colored, &c., their necks are encircled with a band of scarlet cloth or leather, to which is fastened numerous bells of sizes, and, as they walk, the bells give out a monotonous sound. The selected animal is supposed to be deified, forming the protector of the herd, and is termed Guru Bail; the jingle of the bells, and the ornamentation of the animals, are said to frighten away beasts of prey in their lonely and jungly marches. The cattle are let loose as soon as the march is over to enable them to pick up what they can by browsing in the vicinity, The Banjara is independent of villages generally in his travels. As soon as the encampment is fixed on, he unloads his bullocks, and packs the loads in tiers, and over them he stretches an awning of cloth or a cumbly, as protection from the weather. At night, the cattle are tied round the packages in a circle, in the midst, the Banjara lights a fire and lies down to sleep. He is up at sunrise, loads his bullocks, and proceeds to the next stage: the distance travelled is generally from 10 to 15 miles a day. On these travels, one or more of their women accompany them.

Nomades and Migratory, houseless races.—*Kurumbar*, a nomade shepherd race are the earliest known inhabitants of Dravidadesam, now known as the Carnatic and Coromandel. The Korumbar appear to have been at one time the most numerous and most powerful race in the peninsula. They seem to have established numerous petty principalities over the whole of the peninsula, which were ultimately absorbed into the Chola empire. Numerous sites attributed to this race and still called Kurumbar Kot are to be met with. The number of these sites and conditions indicate an extensive sway. They were a pastoral shepherd race, and Kuru in the Karnatic language means a sheep. Small communities exist all over the peninsula from north of the Kistna, wandering with their flocks, and others of them dwell in the less accessible hills and forests of the peninsula.

The Curb, Curubar or Kurumbar, nomade shepherds, who occupy the denser deeper jungles of the lower slopes of the Neilgherries, are occasionally stumbled upon by adventurous sportsmen, and the smoke of their fires may occasionally be seen rising from the lower gorges of the hills.

The Handi Kurubar, are Kurumbar who take service in towns.

Kurumeru, or, according to Buchanan, *Karubaru* (Journey through Mysore, Vol. 1. p. 395) according to the Abbe Dubois, are in three migratory tribes, one section of which engages in the traffic of salt and grain on the backs of asses, backwards and forwards from the coast to the interior. Another section manufacture osier panniers, baskets or mats. This section live in tents 3 feet high, 4 or 5 broad and 5 or 6 long, made of bamboos, and they move from place to place to obtain work. The third section are called Kalla bantru and are said to be robbers by profession.

The *Chensu Karrir*, are a migratory race mentioned by Buchanan as residing in the hilly tracts near Coimbatore. They are described as without houses or cultivation, but by snares or with the bow catch birds or larger game which they dispose of for rice: the white ant is said to be used by them for food. They approach their game under the shelter of a cow or buffalo, which they have taught to stalk. Their language is a dialect of the Tamil with a few Canarese words intermixed. Those near towns learn the use of Telugu words. A Tamular is unable to understand their language. A few reside in little huts on the outskirts of villages and have

a little blanket, but their ordinary clothing is a loin cloth and in the denser forests they dwell in caves or hollows of trees or under the shelter of a hut made of branches of trees, and use only a few leaves for covering. They describe the Animalai as their original country.

Ceylon.—The *Singhalese* language according to Rask belongs to the Turanian family of speech, but in Ceylon, where the Arian and Dravidian element is intermixed, a remnant of buddhists is still to be found who use the Pali scriptures. As in the whole line of coast in the extreme south-east, south and south-west of the peninsula of India, a large part of the population of Ceylon is of foreign blood.

The population in 1844 was estimated at 1,448,062, and in 1857 it amounted to 1,697,975 besides about 30,000 soldiers and foreigners. Since then an estimate has been made, which shows a population close on three millions. There are various statements as to the races occupying Ceylon. The European population is small and consist chiefly of British emigrants employed in the civil and military service or on the plantations.

Burgher is a term properly applicable only to white persons of pure Dutch descent, of whom there are now but very few in Ceylon; but the name has, by courtesy, been given to all those who in India are styled Indo-Britons, Eurasians, Anglo-Indians, East-Indians or more commonly half castes, namely, the descendants of Europeans by native women, therefore a race of mixed European and Native origin. The people of Ceylon are of a Tamulian or Dravidian stock. Those of Kandy, with their habits of polyandria, would seem to be more allied to the people of Coorg, but the coast tribes are of the same race as the Tamular of the peninsula. And there are a few wild, out-caste races, the Gahaleya, Rhodia and Veddah in the forests and unfrequented parts.

The *Singhalese* range themselves under the heads of Kandians, low-country Singhalese, and Rhodiah.

The *Tamul* people of Ceylon belong to the same race as the Tamular of Southern India, and consist either of those who have been on the island for centuries or who are recent emigrants. They are chiefly to be found in the north-east portion of the island, and the two towns to which they chiefly resort are Jaffna and Trincomalee. Their main occupation is agricultural. The labourers of the island are styled coolee, also a Tamul word. They come over in large numbers from the continent during the coffee-season.

Lord Valentia who travelled in Ceylon, says the races are the *Rajah Wansaya*, the king's caste:

Brahmana Wansaya, the caste of brahmins skilled in science:

Waniya wansaya, the merchant caste:

Gowi Wansaya, the caste of Gowi, who cultivate the ground, known in Ceylon by the name of Vellala, which however is not a Singalese word. These Gowi or Vellal are of the highest caste on the island, there being none of the three superior castes, except the king of Candy, who is of the first:

Chandalayo, inhabitants of the woods, who strip the skins of animals to make thongs for the king's use:

Veddo, a people who live wild in the woods, and kill wild beasts:

Duravo caste, commonly called Chando, which is not a Singalese word. The name Duravo is compounded of two words, which signify come from afar:

Karawo. There are nine sub-divisions of this race, which is commonly called the fisherman's caste; it derives its name from a compound word which signifies "evils doers," because the occupation of the caste is the destroying of animals, which by the religion of Boudhou is forbidden.—*(Valentia's Voyage and Travels, Vol. I., p. 492.*

Sirr (Ceylon) says the principal castes are four, viz.,

The *Surya Vanse* or royal race; this has two divisions, viz:

Goe Wanse, a division of the Surya or royal race, cultivators, the most numerous in the island, and to it belong the nobles, chiefs, priests, and nearly all the Government servants.

Nille Makareya, or shepherds, is the second division of the Surya.

Brachmina Wanse, descendants of brahmins.

Wiepa Wanse, is divided into two classes, cultivators and shepherds.

Kshoodra Wanse, which has sixty subdivisions.

The Singalese are a small race, and by no means good looking. Their complexion is the same as that of the hindoos, but their features are in general disagreeable. The costume of the men is a long petticoat, fastened round the waist and reaching to the heels. Tortoise shell combs are worn by men as well as women. In the numerous excesses into which European costume has been carried, the size of the back comb worn by ladies has never attained that of the Singhalese men, who also wear a narrow long bent comb across the forepart of the head—the lighter colored shell is most esteemed by them. Five pounds is a moderate price for a tortoise shell back comb, which increases in value according to the size and quality of the shell: hair pins of tortoise-shell are worn by the women: gold and silver being substituted for full dress;

these hair pins are among the articles purchased by passengers in the steam-boats.—(*Rhode, M. S.S.*)

The rich and well watered delta between Colombo and Galle is an overgrown waste. The Singhalese, whose property it is, have covered it with cocoanut, bread-fruit and jack-fruit trees, and on those they are content to live, or rather exist, passing the great part of their time in sleep, while the women of their household work.

Kandians are the inhabitants of the hill-country and are a hardy robust race, never till recently intermingling with their low country brethren. Their language is made up of three component parts. Elu (or Singhalese pure) the Pali, and the Sanskrit. They possess an extensive literature, and their religion is Buddhism. The low country Singhalese are either Buddhists, Roman Catholics, or Protestants. The influence of Roman Catholicism is very great, and the people are divided into classes according to their occupations.

Among the Kandyans, and them only, polyandry is prevalent, and the wife has the possession of all the brothers. The children call the eldest brother father. A man can bring in another not a relation, to have joint marital rights with himself; indeed the first husband, can so introduce, as many as the wife will consent to receive as husbands. According to Polybius, polyandry was practiced in ancient Greece, and in Book xii. we read that it was an old and habitual practice in Sparta. In Kandy, in the *Beena* marriage, the husband goes to reside in the wife's house, and the woman shares the family inheritance with her brothers. The husband, in this marriage, can be dismissed summarily, by the family of the wife. In the *Deega*, a more respectable form of marriage, the wife leaves her own house for that of the husband—forfeits all claim on the property of her parents but acquiring some claim on that of her husband, and the wife cannot obtain divorce, unless with the full consent of the husband. Divorces are constantly sought for by women, on trivial pretences. A child born within nine months of the divorce, must be maintained by the husband. The Kandyans are a larger race of men than the Singhalese of the coast provinces. They have a saucy, independent mien, but are exceedingly indolent and thriftless.—*Sirr's Ceylon.*

Gahalaya are an outcaste predatory race, near Matelle in Ceylon who acted as executioners in the times of the Kandyan kings.

Gattaroo, an outcaste race in Ceylon.

Veddah are hunters, and are supposed to be the first occupants of the island. They are a wild semi-savage race residing in the interior. *The forest Veddah* dwell in hollow trees or caves, subsist on game which they kill with rudely formed bows and arrows, wandering from jungle to jungle, as the game becomes scarce. They will not hold the slightest intercourse with any natives but those of their own tribe, and their language is said to be unintelligible to all others. *The Village Veddah* dwell in certain districts, hold but slight intercourse with the other inhabitants of the island, will not intermarry nor mix with them. They can make themselves understood to the Singhalese. Their sole clothing is a strip of cloth which hangs down in front, and is fastened by a coir cord, which passes round their loins. Their hair, beards and whiskers are never shorn or cleansed, but hang down in matted masses. Tennent describes the Veddah as miserable objects, active but timid, athletic though deformed, with large heads and misshapen limbs. Their long black hair and beards fall down to the middle in uncombed lumps, they stood before him with their faces bent towards the ground, and their restless eyes twinkled upwards with an expression of uneasiness and apprehension. The children were unsightly objects, entirely naked, with misshapen joints, huge heads and protuberant stomachs; the women, who were reluctant to appear, were the most repulsive specimens of humanity he had ever seen in any country.—(*Yule Cathay, Vol. II. p.* 371.)

The forest Veddah are dexterous hunters, and especially skilful in snaring the wild elephants. The two sections of the tribe do not intermarry, as they mutually distrust each other. The Veddah generally deposit their dead in the jungle to be devoured by wild animals. They seem to worship the planets ?, evil spirits and the spirits of deceased ancestors. They have their own headsmen whom they elect and obey. They use bows and arrows and clubs of iron wood. (*Sirr's Ceylon, Vol. II. p.* 216.) They occupy a district about 90 miles long and 45 broad in the south eastern side of Ceylon, lying between the sea and the base of the Badulla and Oovah hills. According to Sirr they are a remnant of the Yakko, the aboriginal inhabitants of Ceylon, who, 2,000 years ago, after the conquest of the island by Wijayo and his followers, returned into the wilds, as the Kuli in Guzerat, the Bhil in Malwa, the Putu in Cuttack, the Kond in Gondwana, and the Beda in Mysore retired before conquerors. The Bisadæ, or Besadæ, which in mediæval Greek is called Vesadæ, are alluded to in the tract of Palladius de Moribus Brachmanorum, written about A. D. 400, and the same name is applied by Ptolemy to a similar race inhabiting northern India. A forest tribe of Mysore, known by the name of Veda or Beda, are said to have formed part of the army of Tipu Sahib but this seems inaccurate as the Beder of Mysore and up to

the Kistnah river are an active agricultural people though predatory. The Veddah of Ceylon live by hunting and use the bow, in drawing which they employ their hands and their feet. They are omniverous and eat carrion and vermin roots, grain, fruit, birds, bats, crows, owls, and kites, but refuse the bear, elephant and buffalo. Their language is a dialect of Singhalese, free from Sanscrit or Pali, but the vocabulary is very limited and they have recourse to gestures and signs. They have no knowledge of God, nor of a future state, and have no temples, idols, altars, prayers, or charms, but have a devil worship. They do not bury, but cover their dead with leaves in the jungle. They are regarded by the Singhalese as of high descent. See Beder, p. 87.

Rhodia, a little numerous out-caste, scarcely civilized, race, in Ceylon, forbidden to approach a temple, or any of the higher castes. According to one tradition, they were hunters who, on the eve of a solemn occasion, failing to obtain game, &c., murdered a child and sent its dismembered body for the king; but another tradition is to the effect that this caste persisted in eating beef after its use as food had been prohibited. The native laws forbade a Rhodia to approach a temple of buddha or the gods; to build houses or to live in any abode enclosed within walls, nor even to cultivate the soil or possess land; and, even to this day, their dwellings are mere sheds. They were forbidden to approach much less to touch or breathe upon a caste man, and all things they touch are unclean. The men wander about in parties or tribes seeking their precarious subsistence. Their women perform feats of legerdemain, and tell fortunes, and their want of chastity is proverbial. Their numbers do not exceed a thousand, and they are principally in the Kandyan province, at Saffragam, Dombera, Wallepane, &c. Nominally buddhists they are also spirit worshippers. Rodeya or Rodda, in Singalese, literally means filth. In their social degradation, they resemble the Cagot and Caqueax, who from time immemorial have been held in abhorrence in the valleys of the Pyrenees and the plains of Bretagne, Poitou and Guienne.—*Sirr, Vol. II. p.*

Maldive Islands, Zabiyah ul Mohli, are a vast group, estimated at twelve hundred, extending southward from lat. 7° 6½' N., to 0° 42' S. A memoir of them, by Lieuts. J. A. Young and W. Christopher, I. N., is given in Bom. Geog. Trans. 1836-1838; Bombay reprint, vol. i. 54. These multitudinous islands and rocks have about 60 miles of breadth, the islands being formed into large groups which the natives call atoll or atollon. Of these there are nineteen, and they appear to be the summits of coral mountains. The inhabitants are mahomedans governed by a sultan or king, and engaged in trade and navigation.

The Laccadive islands are so called from two Hindi words, lacca and dipa, many islands. They are off the coast of Malabar and extend from Lat. 9° 17' N. to the parallel of 13° 52' N. Most of the islands are low and surrounded by steep coral reefs. They were visited and described by Mr. Robinson of the Madras civil service.

According to Lassen, the language of the Laccadives and Maldives, belongs to the Turanian family, but both the Maldive and Laccadive islands have the Arabic alphabet though their language is Singhalese.

Canarese, is essentially a plateau language. The ancient Hindu term, Carnatica, comprehended all the high table land in the south of India above the Eastern and Western Ghats, and its rulers seem never to have held sway beneath the ghats, though, in the present day, by a strange fatality, it is now only the countries below the ghats, the Carnatic on the east and Canara on the west, to which the name of the ancient Karnatica kingdom has come to be applied, and its name is now never given to the Bala Ghat or country above the ghats.

Canarese, properly Kannadi or Karnataka, is bordered by the Tamil and the Telugu on the east. It is spoken throughout the plateau of Mysore and in the western districts of the Nizam's territory as far north as the village of Murkundah lying 30 miles west of Bedar. Also it is much spoken in the ancient Tuluva country on the Malabar Coast, now long designated as Canara, a name which it acquired from having been subjected for centuries to the rule of Canarese princes. But, in Canara, the Malayalam, the Konkani and the Tuluva, are also spoken though less extensively than the Canarese. The Canarese character differs slightly from the Telugu, from which it has been borrowed, but the characters used for Tamul, Malayalam and Telugu are quite distinct from each other. The ancient Canarese character, however, entirely differs from that of the modern Telugu, and the Canarese language differs even more widely from the Telugu than it does from the Tamil. There is an ancient dialect of the Canarese language current, as well as modern, the latter differing from the former by the use of different inflexional terminations. The ancient Canarese dialect, however, has no connection with the Sanscrit character to which that name has been given, in which viz. the Hala Kannada, many very ancient inscriptions in the Maratha country as well as in Mysore are found. Dr. Caldwell estimates the people who speak the Canarese language, at five millions. This includes the Coorgs, but he has no means, he says, of cal-

culating the numbers in the Hyderabad country, where Canarese, Marathi and Telugu are spoken, where the Hindustani language is merely known to the mahomedans, the hindus and Kuets from Northern India, the resident population using it as a lingua franca. The common Canarese or Karnatic character and language are used by the natives of the countries within the parallels of the Eastern and Western Ghauts from Coimbatore north through the whole of Mysore, Belgaum, Dharwar, much of south and west Bellary, through Bijapore to Murgh and near Sangam, east and west of Beder and the people designate the line of villages and towns from Murgh to Sangam, as the Si-bhasha-basti, three tongued towns, for Mahratta, Telugu and Canarese there meet. This northern boundary is, therefore, more extended than that given to it by Mr. Walter Elliot, who draws its boundary line west and north, by a line from Sadasheghur on the Malabar Coast to the westward of Dharwar, Belgaum, and Hukairi, through Kagal and Kurandwar passing between Kelingaon and Pandegaon, through Brahmapuri on the Bhima, and Sholapur and thence east to the neighbourhood of Beder. From Sadasheghur, following the southern boundary of Sunda to the top of the Western Ghats, it comprehends the whole of Mysore as far as Coimbatore and the line of the Eastern Ghauts including much of the Chola and Belala kingdoms, and even Dwara Samudra, the capital of the latter, which was never captured by the Chalukya, *i. e.* the Carnatic dynasty of Kalyani. Mr. Walter Elliot tells us that this, the Chalukya, is the oldest ruling race of which we find satisfactory mention made in the records of the Dekhan: they seem to have belonged to the great tribe that, under the general name of Rajputs, exercised dominion over the whole of the Northern and Central India. The names anterior to Teilapa Deva (Saka 895) are given on the faith of two inscriptions which profess to be taken from older inscriptions on copper plates then extant, supported by confirmatory evidence. The inscriptions collected by Mr. Elliot relate to four dynasties of princes, reigning over the greater portion of that part of India now denominated the Dakshina or Dekkan, but at that time Kuntala-desa. The capital was first Kalyan in the mahomedan province of Kalburga, and subsequently Devagiri, now the moderu city of Dowlatabad. The limits of this kingdom seem to have been the Nermada on the N. the ocean on the W.; the line formed by the Kenarese language on the S. E. and on the S. W., they would include the province of Nuggar or Bidnur and of Sunda. The eastern boundary probably did not extend below the ghats, below which lay the kingdoms of Kalinga and Andhra.—(*Prinsep's Antiquities by Thomas, p.* 277.)

The people who speak Canarese are a tall and somewhat graceful race, with some of whom, as amongst the Coorgs and the Kandians in Ceylon, a community something akin to polyandry is very prevalent. In this they somewhat resemble the Nair of Travancore.

In recent times, until the British took possession in 1801, for nearly 200 years, the inland tract occupied by the Canarese speaking people had been traversed by great armies, bent on conquest, and since the fall of the great Vizianagar dynasty all comers seem to have crossed this tract without opposition. The great bulk of the Canarese speaking people are of one race who are pure Dravidians. They have adopted the Jangama sectarian faith, the followers of which by their tenets, ought to have no caste distinctions: most of their sub-divisions are restricted to vegetable products as food, and so carefully do they act up to these that no one of these vegetarians will even bring any living creature for sale to any one of a flesh-eating people. Their sect is, perhaps, amongst the most exclusive of all in India. It is perhaps their tenderness towards animal life, that guides them to their avocations, which are mostly those of civil life, cultivators and shopkeepers and may have led to their non-resistance to invaders, but in all the great armies which the British have formed during the past century, perhaps of the Canarese Jangama sectarians, not more than a few thousand men may have become soldiers and certainly not even one of that portion who abstain from animal food. This branch of the Tiling and Canarese nations have, perhaps, till recently, continued equally advanced as to elementary school education, and though, in this respect, both races fall short of the progress made by the energetic, restless, impetuous Tamul race, they are greatly in advance of the Mahratta.

Mr. Campbell mentions (p. 74, 75-130) that in the north Canara district, in the high hilly country above and about the ghats and on the adjoining parts of Mysore, there is a large population of brahmins industrious and thriving cultivators, and landowners. Most of these are called Haiga brahmins, and culture of the betel nut is their especial pursuit. In a census of North Canara taken some years ago, there were 147,924 brahmins, 146,309 Bantes (corresponding to Nairs) and 151,491 Billawar, an inferior class. They are very fair, with large eyes and aquiline noses. In the Nagar district of Mysore, they are very numerous, not very literary, or highly educated, but devoted to agriculture. In south Canara and the Tuluva country, are many Brahmins who do much cultivation and all down the west

coast to the extreme south of India, the country is said to have been extensively colonised by brahmins led from Calpee by Parasrama. They have been from political and hostile circumstances, much removed from Malabar, but they are very numerous in Travancore and Cochin, and in the Palghat valley, they are numerous and are industrious and good cultivators. On the South west coast, the chief class of brahmins are the Namberi and they have some very peculiar customs, but they principally engage in priestly offices. The Namberi brahmins resemble the Nair and the Hindu population of the S. W. coast, but are fair. The headman of a village is styled Gauda.

The *Wokul* or *Oocalaga* among the Canarese, are hindu cultivators whom the Abbe Dubois considered to be identical with the Tamul Vellalar. They eat flesh freely, and are not strict hindus. They are indifferent soldiers but serve locally. One of their sub-divisions are called Gangacara.

The Wani are a lingaet or jungum sect numerous in the Canarese speaking country and extending in the direction of Poonah and Bombay. They arrange themselves into the sections Rasot, Diksot, Melwant and Tailwant, who eat together but do not intermarry. The Tailwant drink only tank water, which is first strained and carefully covered with a cloth to prevent injury to animal life. The Rasot have no Guru, which the other three have. The Wani are shopkeepers and agriculturists. They marry girls when five to eight years old. The couple are placed sitting on a mat or bullock saddle, to which they are lifted on the crossed hands of four men, who put betel leaf in their mouths and complete the ceremony. Widows are remarried. They inter their dead in a sitting posture, and on the third day, sprinkle rice and milk on the grave.

The Coorg or Kodaga is spoken in the small principality of this name, lying on the western Ghats, and has hitherto been regarded as Canarese, modified by the Tulu. But Mr. Moegling states that it is more nearly allied to the Tamul and Malayalum than to the Canarese.

Dr. Nash describes the Coorg and Amma Coorg as of the same tribe. They have a Caucasian head, regular features, aqualine nose with chiselled lips, black eyes and dark hair. They wear whiskers and mustache, but no beard, have a fair complexion with intelligent countenances and general bold independent deportment. They follow agriculture and a few seek other employments, but, as a rule, they eschew military employ. They believe themselves to be descendants of the daughters of Chandra Varma, king of Matsa desha obtained by the intercession of Parvati. Chandra Varma is said to have come originally to Coorg. They chiefly worship the goddess Cavare Ammah or Parvati, but demon and ancestor worship are common. They have no guru of their own but are under brahmnical influence.

Holeya, a race of labourers in Coorg, ill-favoured with coase stupid features, short in stature but strong built, with dark and black skin and black straight hair. They practise demonology and are said to have no Gurus.

Tulu or *Tulava*, a cultivated Dravidian tongue is an idiom which holds a position midway between the Canarese and the Malayalam, but more nearly resembling the Canarese. Though once generally prevalent in the district of Canara, it is now spoken only in a small tract of country in the vicinity of Mangalore, by not more than 100,000 or 150,000 souls. It has been encroached upon by many languages, and is likely soon to disappear. The Tuluva, has a strong resemblance to Malayala, though the Tuluva speaking race are unable to understand their Malayalam neighbours. Malayalam and Tulu are considered also, by Dr. Caldwell, to be in gradual course of extinction. Malayalam extends from Cape Comorin to the Chandagiri river ; or more strictly, perhaps, to Nileshwar (Nileswara), where a Nair rajah, conquered by Hyder, formerly ruled. The people speaking the Malayalam are said naturally to shrink from contact with foreigners, even from people of their own caste : retreating from the great roads, cities and bazars as eagerly as the Tamul flocks to them ; and the Malayala speaking race are to be found isolated with their families in their high walled parambu, even in parts where the lines and centres of communication are entirely occupied by the more enterprising Tamul people whose language too seems gradually pushing the Malayala aside.—(*The Rev. Dr. Caldwell's Comparative Grammar, Sir Erskine Perry's Bird's Eye-View. Pers Obser.*)

Telugu, one of the Dravidian languages, extends to Chanda, where it meets the Mahratta, and from Ganjam where it interinixes with Urya, along the coast to the marine lagoon thirty miles north of Madras, known as the Pulicat Lake. At Vizagapatam, which is 120 miles south of Ganjam, this is the sole language spoken. On this line of coast, two monarchies formerly existed, the Andhra and Kalinga, both apparently enterprising races and seafaring people, and it is doubtless from the name of the latter dynasty that the Burmese and Malays have derived the appellation of "Kling," by which they distinguish all people from India. The Kalinga dynasty appear to have gained great possessions to the westward, as at the time of the mahomedan conquest, Warangal, seventy miles from Hyderabad, was considered by them the capital of Telingana. The eastern part of the nabob of Hyderabad's do-

minions, all the districts of Ganjam, Nellore and Cuddapah and much of the lands north-east of Bellary are occupied by Telugu speaking people. And the boundary line may be roughly drawn from immedately north of Madras, where it meets the Tamul, through Kirkambari, and Cuddapah to Bellary, where it meets the Canarese which it runs with to the west of Beder, then turning eastward and having Gondwana as its northern boundary it re-joins the line near Vizagapatam and at Chicacole, where it begins to meet Urya. The most westerly spot at which we hear it spoken is the small town of Murkundah about 30 miles west of Beder and it reaches this by a wavy line running westerly from Sedasheepet (Satyassi) on through Sangam and Beder and Dungapura to Moorghpettah or Moorkoonda or Murgh.

In ancient times, Telugu seems to have been spoken as far north as the mouths of the Ganges. This appears both from the geographical limits which the Greeks have assigned to the territory of the Andhra race or northern Telugu dynasty, and from many of the names and places mentioned by Ptolemy up to that delta being found to be Telugu. Even now the Teling are tolerably pure along the Southern boundary of Bustar, but Gond tribes are dwelling amongst them. Telugu is also called Telingu and Telungu, and is the Andhra of Sanscrit writers, a name mentioned by the Greek geographers, as that of a nation dwelling on or near the Ganges. It is the same language which, until lately, Europeans termed the Gentoo, from a Portuguese word signifying heathen or gentile. In respect to antiquity of culture and glossarial copiousness, it ranks next to the Tamul, in the list of Dravidian idioms, but it surpasses all of them in euphonious sweetness. The Telugu people are a taller and fairer race than the Tamular, many of the more northern of them being equal in stature to the Arian hindu of the north. They are more brahminical than the Tamulian races and are as energetic as the latter though less restless.

The Telugu people are the most numerous branch of the Dravidian race, although the Tamul surpass them in restlessness and enterprise and in that self-reliance which supports them in their emigrations. Including the Naik or Naidoo (Nayaka), Reddi and other Telugu tribes settled in the Tamul country, who are chiefly the descendants of those soldiers of fortune by whom the Pandiya and Chola kingdoms were subverted, and who number not less than a million of souls; and including also the Telugu settles in Mysore, and the Telugu inhabitants of the Nizam's territory and other native states, the people who speak the Telugu language may be estimated to amount to at least fourteen millions. Tamil and Telugu roots are in the great majority the same, but peculiarities in inflection and dialectic changes have so modified the modern tongues, that they differ from each other as much as Portuguese from Spanish, Irish from Welsh, Hebrew from Aramaic, and Hindi from Bengali.

The Tiling race are bold and self-reliant. They are good farmers, carefully storing the rainfall in artificial ponds or lakes. They have been good infantry soldiers, but are not horsemen ; they repeatedly drove back the Golcondah armies. A considerable portion of the force with which Lord Clive fought the battle of Plassey was composed of Telings, and, until late years, perhaps even now, Tiling was the term given in northern India to the irregular foot soldiers employed there. Those engaged in civil life, push their way fearlessly amongst the other nations on their south and west: many of them are seafaring men, undertaking long voyages, and a portion of them, in former ages, conquered and held large islands in the eastern archipelago, where, under the term kling, from the Kalingapatam rulers, the peoples of India, are still known. The Tiling are partly Arian, partly a non-Arian people, but most of them follow, outwardly, the brahminical teachings, though adhering to many unorthodox rites ; they are sober and staid, little impressionable and not easily excited. A body of them, known as Reddi, a very energetic enterprizing race, have held large municipal rights for centuries. An extensive colonization of southern India, by the Tiling race, took place under the Bijanagar dynasty, and they still exist there as distinct communities. The Reddi migrated from their original seats near Rajahmundry over the whole of southern India and even into the Mahrashtra country, where they are met with as far northwest as Poona and are considered the most thriving ryots. The Reddi are large men, good cultivators. Many of those in the Cuddapah collectorate were, till A. D. 1865, addicted to dacoity. In their marriages, in the south of India, a young woman of 16 or 20 may be married to a boy of 5 or 6 years, but she lives with some other adult male, perhaps a maternal uncle or cousin, or it may be with the boy husband's father, *i. e.* her father-in-law, but she is not allowed to form connection with the father's relatives. The offspring of these arrangements are fathered on the boy husband. When he grows up, the wife has become old or past child bearing, and he adopts the same course.—(*Madras Government Proceedings*, p. 6.)

The Ramusi are also a Tiling people who have spread themselves into the centre and western parts of the Peninsula and are partly predatory.

The Wadara wanloo, called also Waddiwar, or Waddar, also a Teloogoo speaking race, are road and tank-makers. They are spread over the centre of the peninsula, from Central India, southwards. They are tall, robust men, seem to have no settled home, but live in tiny grass tents, and are constantly migrating from place to place to take up work. The great increase in railroads and roads, since 1850, ought to have made them wealthy, but they seem to live from hand to mouth.

The Tiling and Canarese are almost of similar physical frame :—have tall, graceful figures, but, as a rule, the Tiling are fairer than the Canarese. The great similarity of the two languages Canarese and Telugu imparts an impression that they are of the same stocks, who have separated in more recent times and that circumstances have modified their characters and personal appearance. As a rule, the inland tract of table land country occupied by the Canarese, from the southern part of the Mysore country, through Bellary in the Ceded Districts up to Bejapore, is arid, and the soil yields as food crops small cereal grains. Eleusine corocana; Setaria Italica and Germanica; Panicum italicum and Pencillaria spicata which even the humbler labourers of the south of India, only use on pressure when scarcity or dearth prevails, and a hot, arid, climate with a less nourishing food may have led to their darker complexions.

The Ailma or Velma or Yelmi in the Tiling country are a dominant agricultural tribe, with military proclivities and claim to be rajputs. They are soldiers and agriculturists.

The Rachewar (Rajwar?) of the Northern Circars claim to be descendants from Kshatrya hindus; they are a a brave race, with a high sense of honour.

The Kapu of Telingana is a cultivator.

The Bhoi-wanlu also called Ur-bhoi-wanlu, are mercenary soldiers who serve native sovereigns. They are never found in the ranks of the British army. There are a few of them in every large town in the South.

Mutraj, subdivide into bhooi and Mutraj and the Bhui of Tilingana is merely classed as a Tiling Sudra, who occupies himself as a palanquin bearer. But where settled, away from his fields and agricultural pursuits, the Bhui is engaged in catching fish by the net.

Naek or Naidu.—Many of the Tiling race are called Naidu the plural of Naik, an honorific term applied to masters, or chiefs of tribes. The bulk of the Tiling sudra take this honorific appellation.

The Kamma-Varoo in Tilingana are sudra agriculturalists.

The Besta of Telingana and Karnatica are a fisher race commonly employed as palanquin bearers.

The Baljavadu, in Tilingana, are a sudra tribe.

The Uppari of the Tiling country are tank and well-diggers, salt-makers.

The Yerra Walleroo are a dhangar tribe in the Northern Division.

The Pariah race in the Telugu country are taller, fairer and more intelligent than those of the Tamul villages.

The Yanadi, in 1867, in the Nellore District, were estimated by Dr. Lloyd at 20,000, and the residents inland are more robust than those of the Striharicottah jungles.—(*Proc. Madr. Govt.* 1867.)

The Palalu, of the Northern Circars, are agricultural labourers who are regarded as slaves to the ryots, and are hereditarily attached to and transferrable with the land.

The Agari of Cuttack are said to be domestic slaves.

Gaita is the name of a barbarous tribe in the Rajahmandri district.

Forest races occupy the mountainous region from Mirzapore to the shores of the Bay of Bengal, and along the Eastern and Western ghaut mountains running on both sides of the peninsula.

The Patuah or Juanga are a forest race inhabiting the Tributary Mahals to the south of Singhboom in Cuttack, scattered in the mahals or killahs of Keonjur, Pal Lehra, (30 villages,) Dhekenal (6 villages,) and Hindole 6 villages. In Dhekenal alone their numbers are stated at 1,005 persons. The stature of the men does not exceed 5 feet 2 inches and in the women 4 feet 3 inches or 4 feet 4 inches. Their forms are slight with little muscular development, and physique weak. Their face is shorter and broader than that of the Uriah, nose is flat and nostril wide. Their colour is not darker than the Uriah peasant. The men are not handsome, but the women are repulsively ugly. The men dress like the peasantry of the neighbourhood, but all the covering of the women consists of two bunches of twigs with their leaves attached, one before and one behind, which are changed daily, kept in their position by a strip of bark or a string of glazed earthenware beads passed twenty or thirty times round the waist and over the stems of the twigs, hence the name of the tribe, Patuah, literally people of the leaf, but they call themselves Juánga. The women also wear necklaces of the same kind of beads, and their hair is gathered together in a knot at the back of the head fastened by a string with a silver or brass button at each end of it. The women wear no blanket or covering at night but sleep between two fires. Their traditions are to the effect that they were formerly vain of fine dress and were wont to lay aside their good clothes to

prevent them being soiled, and wear such leaves when attending to the cleaning of the cow-house or other duty, when one day, a thakurani, or according to some, Sita, appeared and commanded them as a punishment for their vanity always to wear such leaves. Dr. Shortt mentions that the legend of Killah is that a rishi commanded them to wear the leaves. They believe that if they violated these commands they would be devoured by tigers. Women dance in a circle to the sound of a large drum beaten by the men, moving round and round in the same measured step, occasionally advancing towards the musicians and then retreating, but keeping the body inclined towards the musicians. Their villages are in some clearing or opening in the forest; are small with about six or eight families, in poor and mean thatched huts of wattle and daub, each family in its own dwelling. They have no lands, but sometimes assist in the cultivation of the neighbourhood. Their avocations are chiefly those of the chase, using the bow and arrow and dogs; they kill deer, hogs and not unfrequently snakes, of the flesh of which, especially that of the Python molurus, they are very fond. Except the cow, they are omnivorous. Their usual food is insipid and nauseous roots (tunga, kurba and panialu) and the seeds of the jungle grasses. They all call themselves pudhan, and have no system of caste. If they have any worship, it is one inspired by a desire to avert evil; they however deny that they worship any deity or have any image, but they pay homage to nameless spirits who inhabit the woods and mountains, and make offering of a fowl, a goat or rice or spirits to the genus loci. In the month bysakh, they offer libations to the manes of their deceased ancestors. They bury their dead. Marriages are arranged by the parents and are scenes of revelling and drunkenness. They adhere to one wife unless she prove unfruitful. Like many hindoos, they will not pronounce their wives names. Their language is not similar to Uria and it shows that they are connected with the Mundah of Chota Nagpore and that their nearest kinsmen are the Khariah. But in their present position they are isolated from all other branches of the family, and they have no suspicion that they are connected with them. They receive the name of Patua from the sole covering used by the women consisting of bunches of leaves before and behind stuck into a waist-cord. p. 156.—*Mr. Samwells, in Ben. As. Soc. Jour. No.* IV *of* 1856.

The Sowrah or Soor, a tribe on the borders of Cuttack, under the hills north of the Mahanuddi are described by Mr. Sterling as small, mean and very black, harmless, peaceable and industrious; but without moral sense. According to Major Macpherson, the hill tribes south of the Kond and running up to near the Godavery are Sowrah. Dr. W. W. Hunter says the Sowrah also now live with the Oraon or Odaon of the Bengal frontier. The Sowrah race who occupy the hill ranges of the Northern Circars mostly those hills near Chicacole, near Kalahunda, and southwards as far as Bradach lum, bury their dead with their weapons. They seem in this respect to resemble the Chensuar of the hills further south.

Chensuar, or Chenchwar, (Suar or Surah) also Chentsu, are a wild, half-savage, forest tribe inhabiting the Eastern Ghats of the peninsula of India. They are known to their settled neighbours as the Chenchu kulam, Chenchwar, and Chensuar. Wilson names them Chenchuvadu (vadu, Tel., a man.) They are about 1,200 in number, and dwell in the tract of jungle covering the westernmost range of the Eastern Ghat line, between the Pennar river and the Kistnah, and known locally as the Nulla-Mulla, and the Lankamulla. They inhabit clearings in the forest, and live in beehive shape huts like the African, Nicobarian and many of the ruder Asionesian tribes. These are of wicker-work with walls about three feet high, and a conical straw roof, with a screen for a door. The men are almost nude and have in general only a rag for covering The women dress like the wandering female basket makers whom they resemble in features. The features of the men are small, but the expression is animated, cheek-bones higher and more prominent than those of the hindus in general, nose flatter, and nostrils more expanded; their eyes black and piercing; in stature they are slightly shorter than their neighbours, and they are slightly, but well made, except about the knee, which is large, and the leg. The colour of the skin is darker, and there seems a tendency to cutaneous eruption. Newbold characterises them as between a Tiling and a Jakun of the Malay peninsula. They have no language of their own, but speak Telugu with a harsh and peculiar pronunciation. Brahmans say they formerly were shepherds of the Yerra Golla caste. They have large dogs, and a few are employed as hill police, in the pass from the Kuman to Badwail. The Nandial Chenchwar assert their ignorance of a god or a soul. They have no images. They are polygamists; they bury their dead, but sometimes burn, and, like the Tartars, they carry the deceased's weapons to the grave. They use the spear, hatchet, the matchlock, or a bamboo bow and reed arrow tipped with iron. They look on weaving and other manufacturing arts with contempt. They are patient and docile. It is suggested by Mr. Logan that the Chenchwar are a continuation of the

wild forest Surah of the mountainous tracts further north in the line of the Eastern Ghats. Vocabularies of six of the non-Arian tongues, the Kond, Savara, Gadaba, Yerukala, and Chentsu are given at p. 39, No. of 1856, of Beng. As. Soc. Journal.—(*Newbold in R. As. Soc. Journ*, 1865. *Logan. in Journ. Ind. Arch.*)

Orissa, Urya is the language of Orissa, and the country takes its name from the Or or Ordu tribe who seem to have come from the N. West. In the Orissa district, they appear to have had very narrow limits, viz. along the coast line from the Rasikulia river near Ganjam northwards to the Kans river, near Soro, in Lat. 21°10′, but in the process of migration and conquest under the Gangavansa dynasty the limits of Orissa (Ordesa) were extended to Midnapore and Hooghly, on the north, and Rajahmundry, on the Godavery, in the South. The Urya tongue is a tolerably pure dialect of Bengalee. At Chicacole, Telugu is the prevaling language; in Vizianagram, Telugu only is spoken in the open country, and Urya in the mountains runs further down to the south; Telugu is spoken to within 45 miles south of Ganjam and at Ganjam Telugu ceases. On the coast line Urya continues in the direction of Bengal as far as the Hijli and Tumlook divisions on the Hooghly. On the Western side of the Midnapore district, it intermingles with Bengalee near the river Subanreeka. To the westward, the Gond and Uria languages pass into each other, and at Sonepur, half the people speak the one, and half the other, language Amongst the Urya race high cheek bones seem to prevail with good features and straight hair.

A great many of the Urya bramins obtain their livelihood as cultivators, they also trade, and follow the occupations of brick-makers, brick-layers, &c.

The Pana of the frontier and south of Orissa are a wild predatory tribe.

The Poila or Poliya are slaves.—(*Wilson.*)

In the Urya, a dancing girl attached to a temple is called a Mahari.—(*Wilson.*)

Marathi.—The northern limits of the region in which this language is spoken stretches on the sea coast from the Kolwan hills or country of the Kol, near the Portuguese settlement of Daman, above the ghauts in a north-easterly direction along the Satpura range parallel to the Nerbudda, intermingling with the Gujarati, about Nandobar, in the jungly valley of the Tapti. It is spoken throughout Berar, in the open parts of the territories of Nagpur and the whole of its eastern border abuts on the countries and languages of the Gonds. From Nagpur, the Marathi exends to the south-west, and near the villages of Murghpetta and Ninni, about thirty miles west of Beder, it meets with the Telugu, and Canarese; touching in advance nearly on Bijapur and Shankashwar, and thence trends south-westerly to the coast at Sidasheghur, skirting the western boundary of the Canarese. From Daman in the northern Konkan, Marathi runs down the coast to the neighbourhood of Goa, both below and above the ghauts. It there meets the Konkani, a mixed tongue, which runs nearly as far as Mangalore. And the southern limits of this mixed language is a village four miles north of Upi or Oodapi near Condapore, where Tulu or the language of Canara begins. The Konkani, however appears to be only Marathi with a large infusion of Tulu and Canarese words, the former derived from the indigenous inhabitants of Tuluva or Canara; the latter from the long subjection of this part of the Konkan to Canarese dynasties above the ghauts. Mr. H. Mogling, however, mentions that the Konkani speaking brahmans of Mangalore, consider it quite distinct from, though cognate with, Marathi. The limits extend from Goa below the ghauts, to the village above mentioned north of Upi. From this part of the coast in northern Canara, a diagonal line running in a north-eastern direction towards Beder, marks the boundary between Marathi and Canarese, of the latter at least above ghauts.

From Murghpetta, however, eastwards through Beder on to Sangam near Sedasheepet (Satyassi) the people designate the line of villages and towns as si-bhasha-basti, three-tongue-towns, for in them the Mahrathi, Canarese and Telugu mingle, though in all that line the people have seemed to me rather of the Mahratta than of the Canarese or Tiling type. At Sedasheepet, however, 20 miles further east the Tiling people and Tiling tongue alone occur.

The Maratha are supposed to have been originally a race of mountaineers, in Baglan on the crest of the ghauts, and cultivating the fertile valleys or mawals, and the country called Maharashtra, which is first mentioned in Indian history in the Mahawanso, probably obtained its name and received a distinctive language from the existence of a Marathi dynasty at some period not recorded in history. The Maratha are essentially mountaineers, herdsmen and soldiers, and, until lately were deemed bad farmers.

The races and tribes and fragmentary nations dwelling in the Mahratta country are numerous, The most prominent with many immigrants, are the Kunbi cultivator, the brahman, the gardener, the artizan, the shopkeeper, the Parsi and the village authorities, amongst whom are the Mhar and Mhang as predial slaves. The races daily seen are,

Brahman, Deshast'h or Mahratta, and Konkani.
Kunbi, cultivators.
Kulgargi ,,
Wani Langaet cultivators.
Manwar, cultivators.

Baghwan, or Mali, gardeners,
Kallal, palm-wine drawers,
Goliwar, keep sheep and goats.

Komti, banya, merchants, generally grain merchants, they wear the sacred thread, and are in several sections.

Teli, oilmen, oil-makers and oil-sellers ; many are of the lingaet sect; some of their sections are deemed impure and must not enter sacred places.

Jain, shop-keepers.	**Búrûd, bamboo basket-makers.**
Mahomedans, in every avocation.	**Kaikari, palm-leaf „**
Sempi, or tailor.	***Chamar*, leather workers.**
Julai, or weaver.	**Dher or Mhar, or pariah.**
Wättan, or bangle-maker.	**Mhang or tanner.**
Kumhar, or potter.	**Thakur.**
Sutar, or carpentar.	**Gosai.**
Sonar or goldsmith.	**Byragi.**
Lohar or blacksmith.	**Jangani.**
Dhobi or washerman.	
Hajam or barber, *unclean*.	

In the Mahratta Dekhan, the municipal system is still very perfect and the servants and village authorities are known as Balute. These vary in every district. In some are the

Potail.	**Sonar.**	**Bhat.**
Jangam.	**Bhisti.**	**Taral or Yeskar.**
Ramusi.	**Gharpagari or hail-conjuror.**	**Dauri Gosain.**
Bhil		**Garsi or piper.**
Koli.	**Mhar.**	**Bajantri**
Mali or Baghban.	**Gondhali.**	**Kalavantin.**
Darji, Suti or Sui, or Sempi.	**Teli.**	**Vaidya.**
	Tambuli.	**Ghotakhor.**

The Village Accountant, is known as

Patwari.....MAHR.	**Karnam..... ... ...TEL.**
Kulkarni .... CAN.	**Conicopilly.....TAM.**

and is usually a brahman. He keeps the village accounts for Government and sends same to the tahsildar.

Potail.—The Mahratta village head is the Potail, who rents the lands to cultivators, collects the Government land tax, and forwards it to the tahsildar. He is also the civil magistrate, and settles petty civil matters to the extent of two maunds of grain or five or six rupees, and sends higher claims to the tahsildar. In criminal matters he is only the police, and sends all to the amin. In lieu of pay, for the above services, the Potail is allowed from 25 to 50 bhigahs of land rent free, the land tax is about Rs. 3 or 4 the bhigah. For the cultivation of this allotment two to four bullocks would be needed, as, from 10 to 16 bhigahs, according as the rains are heavy or light, are all that a pair of bullocks can get over. There are generally two to four potails in a village, not always of the same caste ; for instance the village of Khanpur, zillah of Nandair, has four potails, two Mahratta, a Canarese speaking Lingaet, and a Kulkargah. There are a few brahman and mahomedan and pariah potails but a christian potail is unknown. In the Canarese speaking country the village head is called Goura or Ganda.

The Kunbi are the main body of the cultivating population of Guzerat, Khandesh, Mahrashtra and the Central Provinces. In Guzerat and Mahrashtra they are the chief owners of the soil and, though quiet and unpretending, are a robust, sturdy, independent agricultural people. Mr. Campbell considers them (pp. 93, 94,95) to be quite Arian in their features, institutions and manners, though their institutions are less democratic than those of the Jat and Rajput, and in the Mahratta villages they have at their head, a Potail. Few of these men ever enlist as soldiers. Sevaji and his descendants and some of his chiefs were however of this race, but their followers, were drawn from the Mawals of the Western Ghats and latterly their armies were composed of soldiers of fortune of every race. The Mawals of the mountain valleys of the Syhadri range of mountains, commence at the western extremity and extending about 100 miles east.—(*Wils. Glos.*)

The Mahratta chiefs sprung from the people of Sattarah and Poonah, but Holkar was of the shepherd, and the Gaekwar was of the cowherd castes, while the Peshwa who put the descendents of Sivaji aside, were Konkani brahmans. The Kunbi of the Hyderabad dominions are wholly illiterate. Indeed, no effort or attempt has been made to educate the people of the Hyderabad territories, though education is making enormous strides in Berar, and in British Maharashtra. There was no proper school met with in all my journeys amounting to about 9,000 miles and only occasionally a few lads, children of foreigners, were to be seen learning in a verandah, the elements of the Hindi or Mahratta. In that eastern part of the Mahratta country, a knowledge of reading and writing any tongue was almost wholly wanting. The Arjanna Kunbi reside in Western India.

The Kurmi are cultivators dwelling north of the Kunbi, but to the south of the Rajput and Jut. They form the bulk of the population in the part of Manbhum, near the Damudah river (*Dalton, p.* 157.) and are a very industrious class of quiet cultivators in considerable numbers in all the central and eastern parts of the N. W. Provinces or in Hindustan generally, who there attend to the finer garden style of cultivation much more than the Jat and Rajput and like the Jat race are assisted by their industrious wives. They dwell to the south of the Rajputs and Jats, have villages of their own, and also spread in detached families or groups. Mr. Campbell considers them to be identical with the Kunbi and to occupy from the 23° or 24° N. to 16° N. and from the western frontiers of Guzerat. Very few of these from the countries watered by the Wyn Gunga and the middle,

lower and upper streams of the Nerbuddah, ever become soldiers, and in the valley of the Ganges they are looked down upon as mere humble tillers of the soil. They are more numerous towards the Jubbulpor and Saugor territories where they mingle with the Lodha. Thence westwards on both sides of the Nerbuddah, in Malwa where they meet the Jat. Throughout the southern borders of Hindustan there are numerous Kurmi who speak Hindi. (*C. p.* 92-3.) Those in Hindustan, are darker and less good-looking than brahmins and rajputs, but Mr. Campbell states (*p.* 94) that they are quite Arian in their features, institutions and manners. Other authorities, however, mention that there is no similarity in the physiognomy of the Kurmi and Kunbi. The Kurmi subdivide themselves into many tribes,

Jeshwar	Patan	Patrihu
Dhaniai	Adhonda	Ghora Charhao

Wilson says they have seven sections and that in Central and Eastern Hindustan west and North-west provinces they are the great agriculturists. He says that they are occasionally seen as predial slaves to which they have sold themselves or been sold.

The Ghameta of Behar are a sub-division of the Kurmi.

The Lodha, tribe are supposed by Mr. Campbell (193) to be cognate to the Kurmi and seem to have at one time occupied a very considerable position in the Jubbulpur and Saugor districts of the Central Provinces.

Gardener races.—The Kăchi, Koeri, Morow, Kumboo, and Kisan, are gardening and cultivating tribes in northern India

The Kachi, of the Mahratta country state that they came there as cavalry and infantry soldiers from Bundelkund in the times of former kings, and of Alamgir, and that they had been villagers and servants. There are many in Poona and a few in Bombay but only one in Jaulnah. In Aurungabad, Poonah and Bombay, they are fruit-sellers, market and flower gardeners and agriculturalists. There are under one hundred houses in Begumpur in Aurungabad city. They are of a bamboo colour and speak hindi. They worship Seetla, in the form of a stone from the river, offering flowers and betel and use vermilion in sanctifying the stone. They also worship Hanuman, and Balaji. After death, they burn, but bury those who have died of small pox, also the unmarried, Of what may happen to them after death they know nothing.

Gaoli or Goli people have been settled from time immemorial along the Satpurah range, and once ruled the hill country round Baitul. (Campbell p. 7.) The *Gaoli* of Seoni have many sub-divisions. They are generally robust fair men.

Momin, in Berar, weavers and sellers of native cloths, the sarhi, susi, parban, khodi, and profess mahomedanism.

Sali in Berar are silk weavers, of sarhi and choli.

The Bombay fishermen are a strong-made race of men, and are the only labourers in India amongst whom a great degree of obesity is observed,—every fourth or fifth fisherman to be met with being more less corpulent—some of them very much so They are much given to the use of intoxicating drinks, and are often to be met with in a state of inebriety. A set of boats and nets belong to a dozen of fishermen, one often advancing the capital required to be contributed by the others; the capture is divided amongst them on their reaching the shore, and is immediately taken charge of and carried to market by the women, who carry their baskets on their heads. The men carry baskets swung at the opposite ends of a bamboo across the shoulders. They are Christians.

The low caste tribes, are the humble village servants, the Ramusi, Bhil, Gond, Mhar and Mhang, all of whom serve as watchmen. The Ramusi, Kallar, Marawar, and Beder are sturdy semi military predatory races—(C. 133.) Below the Ghats near Bombay the dher are known as Parwari.

The Ramusi or Ramoosi tribe dwell near the Bombay Ghats. They have immigrated from Telingana within a recent period, and though they have adopted Marathi, they preserve a few words of their original Telugu for purposes of crime. They are a Telugu race who crossed into the west of India, and there assumed predatory habits.

Gurawa, a worshipper of Bhawani, professionally drum beaters before idols.

Garpagari or Garpadi in Berar, pretend to the ability of preventing hail showers on fields.

Burod, a caste of hindus in Berar, who weave bamboo baskets.

Baid.—There are two branches of this tribe the Adavi Goolar and Gaddha Goolar about 2000 in number. The Adavi Goolar are dwelling in the villages between Hyderabad and Poonah but a very considerable number dwell in Seroor, ten miles from Gulburgah. They call themselves Gol, from Go a cow, also Hanam Gol, and they claim to be of the Dhangar or herd race, but the people know them as Adavi Gollar, *i. e.*, country or wild Gollar; also as Bai-mandelwanloo; also Dowai Darman, and Dowa dene wale. The men are herbalists, collecting roots and plants for the native physicians, but those whom I have seen were unwilling to communicate any of their knowledge and strove to avoid questioning. The young and the women beg. Their physical appearance was strikingly like the races from Raj-

pootanah, about the same in colour, but more slender and not so tall. None of them had resemblance to any of the races of Southern India. They speak in Hindi, Teloogoo and Canarese: They wear clothes dyed red with red ochre, they seem poor. They do not eat the cow or bullock, but use the goat, sheep, hare, and other creatures. The Adavi Gollar tribe dwell between Kulburgah and the Bhima river, but principally in a village near Kulburgah, close to Hira-phool. They wear red dyed trousers, and jackets. They are travelling herbalists. Like the Baidar, they eat the crocodile. Their name means the wild Gullar. They do not intermarry with the Gaddha Goolar.

The Goddha Goollar dwell in the neighbourhood of towns and villages. The men wear beards, and rear dogs and asses, they hunt wild animals, and eat the jackal, crocodile, porcupine, iguana. The village Gullar are goatherds and the women beg. They are alleged to be thieves and dacoits.

Kunjana is the name given by mahomedans to a migratory tribe who style themselves Rajyognee. The people of this tribe are found in the southern Mahratta country. They are of ordinary stature, dark featured, and not well favoured, and state that they came originally from Bhopal which their forefathers left 150 years ago. They encamp without the walls of towns, and have no definite period of residence. The men play on musical instruments, and the women combine the art of dancing to fascinate the spectators. They call themselves hindoos and say they worship the brahminical deities, but they wear clothes like the mahomedans and never have brahmins to preside at their festivals. They also eat the cow, but never eat the hog. They bury their dead, place offerings of rice to the manes, and draw the most favourable omen of the state of the deceased by the offerings being eaten by a crow.

Patari, a wandering tribe of people who speak the Telugu language, some of whom have travelled into the Mahratta country pursuing their avocation of manufacturers of hand mills, from which they are also named "Chakki Karne-walay" by mahomedans, and are seemingly identical with the Takinkar. They have a deity whom they term Satwai, whose emblem is suspended around their necks, and resembles the forms worshipped as Hanumantu. They dwell within the walls, in huts made of a fine grass. They marry at all ages; they do not eat the cow or bullock, and they bury all their dead.

Beldar, stone-cutters, wall-builders.

Poshm-wanloo, a wandering Tiling tribe of sudra mendicants, on the banks of the Bhimah, who wander about with a small temple called Poch-amma.

Kaikari, Hind. Mahr. Tel. *Kaikadi*, in Berar, are makers of basket from stems of cotton plants and palm leaves.

Takan-Kar, in the Dekhan and Berar a migratory tribe who make and renew stone hand-mills.

Bhamti, migratory pick-pockets in Berar.

Garodi, a race of migratory jugglers, who exhibit serpents, and profess mahomedanism.

The Maharatta people profess brahminism: but, amongst them is a more general amount of demon, spirit, fetish, totem, shaman, and hero worship than is observed amongst the other races of the peninsula. The deities Hanuman, and the Nagserpent are to be seen in every village, south to the Tumbudra, and blood sacrifices of sheep and fowls are largely made at the village gods. Hanuman is the chief of the village gods, and is invariably smeared over with red lead, which also is applied to every bit of stone or wood that has been erected into a fetish god. There has seemed to me also, a more extensive polytheism, there, than in any other part of India, and an introduction even of the Semitic and Christian names. Between Ellichpoor and Oomraoti, the pariah races are ordinarily called Krishn, a variation of the word christian; all along the tract southwards to Oodghir the Bawa Adam, of near Punderpore is largely worshipped, and the Jabral Abral, worshipped in east Berar is evidently the Gabriel or Jibrail of the Semitic, races. Even amongst the Kunbi race, who profess brahminism, the hindi deities Siva and Vishnu are little heard of and with consent I put up for two days in the temple of the village of Assaye to which the villagers came at the usual periods to worship Hanuman and the serpent, and the officiating priest to wash and ornament its lingam. An officer of Sindiah's artillery had fallen in the battle of Assaye and been buried beneath a tree, and every one in the village continue to worship there his spirit. Sickness is usually attributed by them to the influence of a malignant spirit, and all through the Mahratta speaking district the practice of the "Bolwan" prevails, viz. the ceremony of propitiating the Bhuta or evil spirits who have entered a village inducing them to leave the village and conducting them across the borders with music and a procession. The conductors often move to the next village and thereby cause intense fear and anger, as the morbific influence is supposed to be conveyed to it. Ai, mother, equivalent to the southern, Ammun, is largely worshipped in the form of a rude stone smeared with red lead and her temples are to be seen in lone places, passes and defiles.

At Oomraoti the deities worshipped are named as under,

Male deities.	*Female deities.*
Jabral Abral.	Asra or Asrai.
Massoba.	Meskai.
Bahram.	Amba.
Mahadeo.	Marri.
Shadawal.	Satwai.
Kandoba.	Agachi Panna
Worba.	and her sister
Yetoba.	Jana Bai.

Jabral is worshipped at and near Ellichpur and seems to be the angel Gabriel, whom Mahomedans style Jabrail. In the alliterative habits of the Easterns, Jabral abral is commonly used and the silver figure, that of a man, is worn around the neck. I saw near Oomraoti a rag tree, with incense alters of mud at its foot, which the dher of Balgaon said was a Jabral.

Sakinath is a deity whose worship protects from snakes'.

Massoba.—In the Chauki pass, in the Lakenwara range, which forms the watershed between the Ganges and the Taptee about 10 miles North of Aurungabad, there is a shrine of this deity, to which, from a circle of a hundred miles, people of all castes resort, brahmin, and sudra or dher, but chiefly the Mahratta kunbi. The Jatra is held in the month Cheita, and lasts for four days, during which many sheep are offered in sacrifice. It is in the southern side of the pass, a mere block of stone, with smaller pieces at its foot all smeared with red lead. The objects of their visits are wholly personal, beseeching the deity to give them, or preserve, children, their flocks or their food.

Murli.—Several of the Indian races, the Dhangar, Dher, Mang, Koli and Manurwara and occasionally even the higher hindoo castes, under various vows, devote their girls to their gods. The deity to whom the girl is more frequently vowed, is some incarnation of Siva and his consorts. Amongst the Mahratta people on the western side of India, Kandoba is the usual Siva avatar, to whom the girls are devoted and his chief shrines are at Jejuri, Khanapur near Beder and at Malligaon.

The ordinary people believe that from time to time, the shadow of the god comes on the devotees (*deo ki chaya ati, ang par*)—and possesses the devotees person (*Murli Ke ang ko bhar deta*). These devotees are called Murli in Mahratta, Jogni or Jognidani in Canarese, and Basava in Telugu. They at times affect to be or really are possessed, during which they rock the body, but people occasionally make offerings to them as to an oracle or soothsayer, laying money at their feet, and await the possessing to hear a decision enunciated.

The female deity to whom those near the Bhima river are devoted is Yellamah; the Bhooili race, devote their Murli to Mata, Boys also are devoted, and styled Wagis, from "Wag" a tiger. Near Oomraoti it is to Amba and to Kandoba that the Murli and the Waghia are devoted. The Waghia does not associate with the Murli. At Oomraoti, the people say that Kandoba particularly moves on Sunday and selects a clean tree (clean Murli) whose body he fills.

Brahmins.—Scattered amongst the races in the peninsula, to the extreme south of India, are the brahmin people, belonging to the Arian family. In the more southern and central parts of the peninsula, amongst the Tamul, Telugu and Canarese nations, they are comparatively few, and do not possess lands, are not agricultural but are engaged in religious avocations or as servants of government, and have till lately been the undoubted aristocracy of those districts. In Malabar, the Konkan, in Maharashtra, Guzerat and Orissa, they have been more numerous. Mr. Campbell tells us (p.p. 56-67) that brahmins are one of the most numerous castes in India, and probably follow the greatest variety of avocations. In addition to the priesthood, in the north of India, in Hindustan they pursue agricultural pursuits, and in the south they are clerks and accountants. There are brahmins in the hills north of the Punjab, in the extreme northwest corner of India, occupying both the valley of Kashmir and the hills immediately to the west and south of it. Kashmir itself is a brahman country, all its people, though long since converted to mahomedanism, having been of the brahminical race. The educated class who maintained their own tenets and are still very numerous, are known as pundits and form quite an aristocracy. They are all educated, are exceedingly clever, and are an excessive and somewhat oppressive bureaucracy, which has ruled Kashmir under every successive government, and has sent out colonies to seek their livelihood in northern India. The features of the Kashmir brahmins proclaim them to be one of the highest and purest races in the world. They are quite high Arian type, very fair, handsome, with chiselled features. In many, the nose is high and slightly acquiline, but not Jewish, but in others the nose is straight. Their brow is a little more raised and their nose more arched than in the Greek statue. The ordinary Kashmiri has a strong, athletic figure, but none of them are martial, and the brahmans in these respects correspond: they rule by the brain and pen. They have a greater refinement and regularity of feature than the Afghan and others of a rougher type, with, however, a less manly looking physique, a colour less ruddy and more reduced to a somewhat sallow fairness. The Kashmir brahmans eat meat and are excluded by the Indian brahmans, alike from the five Gaur and from the five Dravid,

and form a separate brahminical class, being more secular than the priestly brahmans of Hindustan and the Dekhan, than whom they are altogether loose in their observances. The Kashmiri pundits are known all over northern India as a very clever and energetic race of office-seekers; as a body they excel in acuteness the same number of any other race with whom they come in contact. Almost all the secular pundits use the Persian character freely; they are perfectly versatile, and serving abroad, will mount a horse, gird on a sword and assume at a push a semi-military air.

The lower classes of Kashmir have long since been converted to mahomedanism, but they seem to be ethnologically identical with the brahmins, and tradition asserts that they are of the same race.

The brahmins of Kashmir are regarded by those of Bengal as of an inferior order, and the agricultural brahmins on the Saraswati banks are similarly regarded.

N. W. Himalaya, Kumaon and the Punjab.—Brahmans are numerous in Kumaon and Gahrwal, where education is more advanced and the Nagri character is used.

People of brahminical origin, approximating to the Punjabi, but in language, habits, manners and dress quite different from the Kashmir; dwell in the hills between Kashmir and the Punjab, but they have abandoned the hindu religion and are now partly Sikhs and in part mahomedans. Their language is a dialect of the Punjabi, they are good soldiers (*C. p.* 50, 60.) Mr. Campbell thinks that the brahmins of the frontier hills are even handsomer than those of Kashmir, the people in general of these hills being the handsomest of the human race.

The *Bamba* dwell in the hill frontier, beyond the Jhelum. They are of brahminical origin, but now profess mahomedanism, and on the eastern side of the Jhelum the hills are shared with other races and by a numerous tribe of Sikhs, converts from brahmans. Their brahmin ancestors became converts to the Sikh religion before it became a political power, and entirely threw off their hinduism. They are very useful soldiers and servants.

There are some brahmins at the foot of the N. W. Himalaya, they are not found beyond the Indus, but are pretty numerous in part of the Rawal Pindi district. South of the Salt Range, in the plains, the Rajput and Jat occupy the country. But there are villages of agricultural brahmans in the fertile plains under the hills in the districts of Sealkote and Goordaspore, and in the valleys of the broken country between Hushearpur and Kangra and in parts of the Umballa district and the adjoining Simla hills. They are not numerous near the source of the Saraswati but lower down its course in the somewhat desolate countries of Marwar and Jessulmir, where the lands are moist, the brahmans are still numerous, are good cultivators and claim to have occupied the country before Jats and Rajputs became dominant.

Central India.—The town of Palli seems to be a brahminical centre. The Marwari or Saraswati brahmans form a considerable portion of the most industrious of the cultivators in Malwa. The Saraswati brahmans seem to have kept much to the tenets of their forefathers.—(*C. p.* 60-61.)

The *Saraswati* brahmans are called in the south Kashastale brahmans; the oldest of the brahminical race, however, are the people of the upper hills in the western Himalaya, who date from a time anterior to hinduism. The Kashmiri were a civilized and literary brahminical people not yet fully hindu. The Saraswati brahmins were the earliest, most simple and pure hindus of Vedic faith; and those of the Ganges and the rest of India are in various of phases of modern hinduism. There are ten classes of Saraswati brahmans, who are supposed to come from the N. W. of India.

In the Punjab, Sind, and countries about the Saraswati, having been superseded by other races, there are few brahmans, except in the eastern part of those tracts, where they are industrious cultivators and claim to be the ancient occupants of the country.

Hindustan.—The main country of the brahmans is that part of Hindustan lying between the Vindhya on the one side and the Himalaya on the north, from the longitude of Kanouj and Lucknow to near the frontiers of Bengal, with a large segment of more especially Rajput country cut out of the centre of this tract.

The brahmans of Hindustan are generally good sized and on the whole well looking men with good features, not particularly fair. They are not of the high Arian type. The greater number are quite illiterate. The priests and pundits have never adopted the Persian writing character, they are not very clever, have little social position, but serve humbly as soldiers, and servants about courts and jails.

From the Gulcheter down to Dehli and in the country about Delhi, there are brahman villages, quite industrious and intelligent, the women working as well as the men, but brahmans do not form a large proportion of the agricultural population. They were kind to and protected fugitives during the mutiny. Some of the less pure agricultural brahmans of these parts are called Tuga or Gour Tuga. All the Dehli country is occupied by Gour brahmans. South of Delhi, in the Jaipur country, brahmans are numerous, and in the Saharunpur districts there are a good many brahmans following secular pursuits, besides the priests of Hurdwar.

About Benares, and the greater part of Behar, are a numerous class of bastard brahmans

called Bahman or Bhaban, or, according to Sir H. Elliot, Bhoonhar, to which the rajah of Benares and all the great landholders of Behar belong. They seem to be offspring of brahmans with some inferior caste.

Brahmans are common in the Banda district, numerous in Baghelcund or Rewah, and there, they condescend to very menial vocations and groom most of the horses on the Jubbulpur road.

In the proper brahman country some of them affect the Rajput prejudice against actually holding the plough, though performing every other agricultural labour and take the names of Dobi, Tewari and Chaubi, *i. e.* man of two of three and of four Veds, and are considered to be of very high caste. Between the Ganges and the Gogra, as we recede from the Ganges, the population becomes more rajput than brahman, but there are many brahmins about Ajoodiah the old Oodh. Beyond the Gogra, is a numerous brahman population, humble, not soldiers. Thence to the north of the Gogra and Ganges, all the way to Tirhut there are many brahmans, south of the Gogra, and thence across the Ganges, into the Arrah district (Bojpore) runs the Rajput dominions.

Bengal.—The brahmans of Bengal are numerous. They claim for themselves a northern origin, but they differ much from the Hindustan brahmans, in language, dress, and habits. They are fairer and larger than the mass of the Bengali population, and some are fine looking men in size and feature, and are largely employed as clerks and accountants, in learned professions, merchants and bankers, sharing the scriptory work with Kaets. They are acute and intellectually capable but not energetic. In Bengal, about nine per cent of the hindu prisoners in jails are brahmins. They will not put their hands to the plough, are aristocratic, but altogether unwarlike and effeminite, and, in mercantile business, are not equal to the Marwari. They are not numerous in Eastern Bengal.

Orissa and Ganjam.—There are many in Orissa, and in the Urya portion of the Ganjam district, many of the Urya brahmans are cultivators, and traders, and are stated to be also brickmakers and bricklayers, but this seems to need confirmation.

W. India—In *Guzerat*, brahmans are numerous, and are employed in public offices and in trade.

Brahmans are numerous from Damaun to Goa and from Bombay to Nagpore and the Wain Ganga, that is, all through the Mahratta country, they principally trace their origin from Kasyapa the first Rishi; there are two classes intermixing here, the Konkani brahman and the Mahratta brahman, the Konkani brahman is not tall, but fair, lithe and decidedly of Arian origin. The Mahratta brahman is dark, often squat, coarse featured, often with thick lips. The Mahratta brahmans are highly intellectual and have been distinguished as accountants and clerks, some of them, as the Peshwas, put aside the descendants of Sivaji and ruled over the greater part of India, and took the command of Mahratta armies. In their buruan duties, on the west of India, they are largely pressed by the Khetri caste, known as Purbho.

The *Koncan* is a hilly district of country to the south of Bombay. The Konkani or Konkanistha brahmans belong to that small strip of land lying between the Syhadri mountains and the Indian Ocean. They are all fair men, not large but with lithe and agile frames. They are good looking, though in this respect inferior to the Afghan and Rajput races, and their women are fair and have pleasing countenances with good figures, but even by their own relations are not considered to be equal to others of the women of India, amongst whom the fair jewesses of western India may be quoted. The race were agricultural until the British became supreme. The men are ready to move abroad in search of employment, and are now met with amongst the Mahratta nation, throughout Berar, and are largely employed on the various public offices, as accountants, clerks, in the educational department and in mercantile houses. They are not military nor agricultural, nor do they engage in trade. The Konkan brahman has a pleasant expression, is easily moved to laughter, much enjoys a joke, and is of an active turn of mind. They are easily distinguishable by the peculiarly large turbans which they wear.

The *Mahratta or Deshista brahmans* are dark swarthy men, much shorter than the Konkani brahman, with large features, large lips, and becoming, in advancing life, unwieldy. The men are not good looking, and the women are decidedly plain. The men are largely engaged in public offices as accountants and clerks. They are stolid men, inactive, and of sedentary habits, with literary tastes and may be justly proud of their poets.

The Konkani and Mahratta brahmins eat together, but do not intermarry. They do not marry in their own tribe or gote, but the Mahratta brahman will marry his mother's sister's daughter, and the Konkani brahman will not marry a relative unless very remotely related.

The Mahratta or Deshasth brahman is a reserved man, little inclined to seek friendship and rarely seen to laugh. They at one time filled almost every office under the Peshwa and under the British, and even in Madras till the middle of the 19th century the revenue accounts were kept in Mahrati, by these brahmins, and in their own country, they were zemindars, deshmookhs and deshpandes, and almost all the village accountants were Deshasth brahmins.

Both these castes have to compete for employment with the writers known as Purbhu, of which there are two classes the Patri Purbhu and the Kaesth Purbhu.

Karnatica.—Mr. Campbell mentions (74-75, 130) that in the north Canara district, in the high hilly country above and about the ghats and on the adjoining parts of Mysore, there is a large population of brahmins industrious and thriving cultivators, and landowners. Most of these are called Haiga brahmins, and culture of the betel nut is their especial pursuit. In a census of North Canara taken some years ago, there were 147,924 brahmins, 146,309 Banter (corresponding to Nairs) and 151,491 Billawar, an inferior class. They are very fair, with large eyes and aquiline noses. In the Nagar district of Mysore, they are very numerous, not very literary, or highly educated, but devoted to agriculture. In south Canara and the Tuluva country, are many brahmins who do much cultivation and all down the west coast to the extreme south of India, the country is said to have been extensively colonised by brahmins led from Calpee by Parasarama. They have been, from political and hostile circumstances, much removed from Malabar, but they are very numerous in Travancore and Cochin, and, in the Palghat valley, they are numerous and are industrious and good cultivators. On the South west coast, the chief class of brahmins are the Namberi who have some very peculiar customs, but they principally engage in priestly offices. The Namberi brahmins resemble the Nair and the Hindu population of the S. W. coast, but are fair. The headman of a village is styled Gauda.

In the festival of Bhaubij, on the 2nd day of the month Kartik, the wives of all brahmans, whether of the Saiva or Vaishnava sects, worship their husbands, standing before them, sacrificing with the lamp and ghi, and pouring rice over their heads.

Dravida.—Brahmans are scattered through Telingana and through the Tamul country, all tall, fine, fair, portly, men, are aristocratic, do not engage in any menial avocation but restrict themselves to priestly offices, to clerking in government establishments, but in these, the Sudra Naidu or Naik of Telingana and the Mudali and Pillay Sudra of Tamul districts and Vesya Chettiar, East Indians and Portuguese, descendants of Europeans, largely compete with them.

In Canarese speaking countries, the brahmans are largely employed as accountants and office clerks. They are much disliked by the vira-saiva lingaets. A village of Lingaets, near Kulladghee abstained from digging a well in their village to avoid attracting brahmins amongst them.

The brahman, kshatrya and vaisya hindu, at certain periods of life, are invested with the sacrificial cord. This constitutes the second birth, dwija, or dwijati, the first having been the natural birth.—(*Wils. Gloss. Mr. Campbell, pp.* 56 *to* 130.)

Kayasth.—The Kait or Kaest has twelve divisions, of which the Gaur Kayath is one. They are clerks and copyists, their habitual language is the Persian, they are largely employed as clerks about native courts. They say that they spring from Chatrgoputr the Secretary of Dharmaraja. They are hindus, generally worshippers of Siva, they allow their daughters to grow up before wedlock, many of them drink to excess. Their features, physical form and colour are more varied than those of any other section of the people. The *Kait* is acute in business, active and painstaking. In northern India they have adapted themselves to the British forms of administration and are useful servants. They have become in places considerable landed proprietors. In Bengal, they are more numerous and form an aristocratic class, have proprietory rights in the soil, and cultivate a great deal.

The Chandrasena Kayath of Bombay and Poona claim to be Kshatrya or descendants of raja Chandrasena a rajah of Malabar. This, the brahmins deny, and declare them to be of menial origin. They have however the honorific name of Purvoe (Parbhu Probabu or master and are distinguished as Patavi and Dawani Prabahu.—(*Wils. Glos*)

The Khatri, are a scattered race, a Khatri village is unknown. They, however, monopolise the trade of the Punjab, of the greater part of Afghanistan and further to the west in Central Asia and even to St. Petersburgh. They are the only hindus in Central Asia. In the Punjab they are almost the sole people who perform the scriptory work and there they are the chief civil employés of Government and in the villages they keep the village accounts, act as bankers and buy and sell the grain. They are also the gurus of the Sikhs; both Nanak and Govind were Khatri and the Sodi and Bidi of the present day are so. They do not usually engage in military pursuits, but the dewan Sawan Mull, governor of Multan, and his successor, Mulraj, and very many of Ranjit Singh's chief functionaries were Khatri. It is said that a Khatri was dewan of Badakhshan or Kunduz. Under the Afghans, a Khatri was Governor of Peshawar, and Akbar's famous minister, Tudar Mull, was a Khatri; Joti Persad the Agra contractor, is a Khatri. The Khatri claim to be descendants of the old Khetrya. They are hindus, none have ever become mahomedans, and few have become Sikhs. The Khatri of northern India are a very fine, fair, handsome race. Those of the Western part of

Peninsula of India, about Bombay, are equally fair. In Bombay and the adjoining districts, they are part of the writer class whom Europeans style Purbho and the Ror or Rora of northern India are said to be Khatri. In Afghanistan they are petty traders and shopkeepers, many of them in the Punjab hold land and cultivate.

The *Kukka*, a handsome race on the east of the Jhelum, are said to have been Khatri, originally and of the *Gaddi*, an interesting race of fine patriarchal looking shepherds in the interior of the Kangra hills, the most are Khatri.

In Behar is an agricultural class, called Kshatri, Khatri or Chatri, who sometimes serve as soldiers or as darwans in Calcutta.

In Loodiannah there is a large number of thriving merchants of the Khatri race with a numerous colony of Kashmir shawl weavers C. p. 109, 112.

Multani is a term applied to several trading classes in the north west of India, wandering pathan merchants and others.

Hyderabad.—The territories of the nizam of Hyderabad, contain four distinct nations, the Canarese, Mahratta, Teling and Gond, with numerous fragmentary tribes, and many wandering, houseless races. The Hyderabad territory has an area of 95,337 square miles, a population of 10,666,080 and an annual revenue of Rs. 16,500,000 or £1,650,000. Berar, now assigned to the British, belongs to the nizam. It has 17,334 square miles, with a population of 2,231,565.

Koli.—On all the western side of the nizam of Hyderabad's territories, also to the N. W. and S. W. in British territories, are numerous clans of the Koli race. In the autumn of 1867, a small body of Koli settled at the village of Kulloor about nine miles south of Hominabad. They had erected small huts for themselves outside the village, the men engaged themselves in mat-making from the leaves of the date tree, and the women in disposing of these and in begging. They were well made men, darkened from exposure, but very poor. They called their tribe Haravin or Halavin, but asserted that they were Kol, or Kablgiri or Ganga wakl. The villagers stated that they were honest. But they are alleged to engage in dacoity and thieving. The Koli, according to Captain Mackintosh, are to be found on the west in every part of Guzerat, constituting a large part of the agricultural population, in several parts of that province. They are numerous in Attaveesy and there are many settlers in the northern Konkan. In the hilly tract of country lying between Moosa, S. W. of Poona and the hill fort of Trimbuk, the source of the river Godavery, the inhabitants are chiefly Koli, and a few are scattered over the districts of Kandesh, Ahmednuggur, Poona and Sholapore, along the Balaghat on the western frontier of the Hyderabad territory. They seem to have early occupied Guzerat and the Attaveesy, and part of the latter country is still called Kolwan. They are arranged into many separate tribes, but all of them retain the appellation of Koli. The Raj, Salesi, Tonkri, Dhour and Dunggari Koli reside in the Attaveesy and in the Wun, Dandory and Nassik districts, and worship the hindu deities Khandoba, Bhairu and Bhawani. A few Raj Koli are settled in the Konkan and Jowair. They are the same people, an offshoot of the Mahadeo Koli, and are said to have been expelled for some offence. They are farmers and labourers, but the Dhour are the lowest in civilization, are the greatest drunkards and eat the flesh of animals which have died a natural death. They are ruled by chiefs termed Naiks. The Koli have, in some instances, attached themselves to the Bhil, and taken the name of that race. The Mullar or Panburri or Choomli Koli, is respectable. He is employed in every Dekhan and Kandesh village as a member of the third division of the Balottah and supplies water to travellers, wearing on his head the choomli or twisted cloth, hence the name, on which to rest the water pot. This Koli is also found in the Hyderabad Balaghat, extending eastward to Khanbar, Indore and Bodin, between the Godavery and Hyderabad, also near Naldrug, and eastwards down the banks of the Bhimah and Kistnah to Alpur near Kurnool.

The *Ahir Koli* of Kandesh reside along the banks of the Girna and Tapti rivers and are employed as watchmen.

The *Murvy Koli* is one of the Balotta, in every village in the northern Konkan, and in Bombay families, theyare employed as palanquin bearers. Some Koli are settled as soldiery in Angriah Kolaba and, at Bombay and Kolaba, in 1837 there were 1,000 families, and 500 to 600 families at Bassein, employing themselves as fishermen and seamen. At their meetings, whether for congratulation or condolence, they consume large quantities of spirits. Many are wealthy.

Mettah Koli who reside in Bombay, are fishermen and seamen, and many have wealth.

In Bombay, Tannah, Bhewndi, Kallian, Bassein, Daman, &c., are a great number of christian Koli, said to have been of the Sone section and to have been forcibly converted by the Portuguese, but, terrified by the cholera in 1820-21, a portion reverted to paganism.

Chanchy Koli are farmers and labourers, settled in Bombay, who came from Junaghar in Kattiwar.

In Guzerat the Koli are of three sections; the most numerous, the Tullabdah, then the Puttunwaria, the Kahrez, the Dhandur and Bhabria. They are in the Barodah district north to Khyrallu and Massanah in the Mahi Kanta, and form a large portion of the population. In 1837, in the Khanir district alone, there were 70,000. They are labourers and watchmen, and a few under the same of Selottah, form escorts of treasure.

The *Mahadeo Koli* reside in the valleys of the Syhadri range, extending from Moossa S. W. to Poona, northwards to Trimbuk, the source of the Godavery river, between lat., 18° 15' and 20 N. and long. 73½ and 74 E. These small valleys are known as Mawil, Khorah, Nahir and Dang, *i. e.* valleys, glens, straths and wilds. They are classed into 24 kula or clans each of which has many subdivisions. Their numbers in 1837, were estimated at about 50,000 souls. The members of the same kula, do not intermarry. With the exception of the cow and village hog, the Koli eat all other animals. The women are generally slender and well formed with a pleasing expression of features and some are very pretty. They are chaste and have large families. The Koli are fond of charms and amulets. (*Captain Mackintosh in Madras Lit Soc. Journ.*)—Colonel Tod describes a lofty three peaked mountain, on which is a temple dedicated to Aya-Mata, also called Isani, the tutelary divinity of the Koli. This, and the effigy of the horse, are the only objects of adoration among this aboriginal race. This was the first time he had seen a personification of Mother Earth; for such is Isani, from Isa, 'goddess,' and Anani, 'earth,' the universal nurse-mother (ayamata). Whether the worship of the horse is typical of the sun, the swiftest of created representing the swiftest of uncreated objects, he says, he does not know, but in this they resemble the other forest tribes, the Bhil and Surya—(*Travels, p.* 137-37.)

Berar.—The other races occupying the Maharashtra, Carnatica, and Telingana portions of the Hyderabad country having been already noted, (pages 68 and 94) it only remains to mention the inhabitants of Berar, the Gonds, and the broken tribes.

The inhabitants of Berar are

Jew ...	16	Sudra	1,441,271
Parsi ...	75	Vaisya	28,018
Christian...	903	Kshatrya	36,831
Mahomedan	154,951	Brahmin	49,843
Helot Castes	301,379		
Aborigines	163,059		2,231,565
Hindu sectarians	55,219		

The Kunbi, in Berar, allot themselves into eleven classes.

Mali.	Haldi Mali	Sagar.	Vindesa.
Ful Mali.	Wanjari.	Atole.	Pazni.
Jerat „	Gantadi.	Telale.	

With the exception of the Haldi Mali and Pazni, they have roti vya whar, amongst each other, but not Beti vya whar; *i. e.* they eat with each other but do not intermarry. The Kunbi and Mali, alone, of the Sudra people, are 834,588 souls. The Kunbi and Mali eat flesh, drink liquor in moderation, and their widows may all re-marry if they choose, except those of the deshmukh, who follow the high caste custom. The Dhangar sheep farmer race are of two sections, the Kota Pullia Dhangar who keep sheep, and the Barji Hatkar or "shepherds with the spears." The latter still hold much land on the borders of the Nizam's territory and, until the British domination, were notorious for pugnacity and rebellion, they even still continue a quarrelsome and obstinate race. They are supposed to have come from Hindustan, in twelve tribes, and been impelled by the Gonds towards Hingoli and Bassim, which locality got the name of Barah Hatia, or the twelve tribes. They now occupy the hills on the north bank of the Pyn Ganga. To die in the chase or in war is deemed honorable and the Hutkar who are so killed are burned. The Hutkar are fine, able bodied men, independent but arrogant; many of them never shave or cut the hair of their face.

The Bhui are in number 17,980.

The Banjara, 51,982, most of whom belong to the Bhukyava tribe, are supposed to have rajputs from Central India.

The non-Aryan races in Berar, 163,059 in number, are as under:—

Gond	68,542	Arakh	384	Korku	28,709
Bhil	2,279	Lajar	1,309	Kurki	8
Ramusi	7	Audh	28,037	Kolam	9,969
Koli	21,224	Nihal	2,591		

The Gond of Berar inhabit the Melghat and a strip of wild country along the Wardha river. They arrange themselves into thirteen sections, viz.

Manes	Dalwe	Pardhan	And'h
Gowari	Kahilwar	Jaduwan	Khatulia.
Raj gond	Thotli	Kohalin	Thakur
			Buchadi

The men, and women of the Gond never associate at work, but labour apart. A Gond desirous of having a wife and having resolved on a particular girl takes with him a band of his comrades to the field where the women are at work and he, suddenly, alone, runs towards, and attempts to capture, her. His comrades will not, however, aid him to carry off the girl, unless he succeed in touching her hand before she reach the village shelter. By touching the girl's hand, the marriage contract is sealed and

cannot be broken; nevertheless the women often fight every inch of the ground, inflict the most serious hurt and sometimes shameful defeats, continuing the contest even after the bridegroom has touched the brides' hand and, if the village skirts be reached, the men turn out, to aid the women, and pursue the attacking party back to their own village.

The Bhil of Berar occupy the eastern slopes of the Gawilgur range to its western extremity and stretch far westwards into Khandesh. They belong to the Turvi clan, all now, are mahomedans.

The Koli are in two distinct tribes, but they are agricultural and there are several substantial potails amongst them.

The Andh are also called Pardhan, and are said to be helot Gond, but they are cultivators, and do not eat animals that die of disease.

The Kolam are a Gond tribe, who have settled to agriculture.

The Lajar are woodcutters in the Satpura range.

The Nihal are a helot class among the Gonds.

The helot races and migratory, houseless, tribes are in number 301,379.

Mhar	227,824	Madigi	1,718
Dher	2,948	Buaorupi	232
Khakrob	543	Kaikari	3,201
Katik	4,069	Holar	274
Dasri	243	Wandering tribes	5,268
Chamar	19,172	Julru, Berar,	
Mang	35,453	Arvi, Phirasti,	
Moghe	332	Kalanki and Pasi	106

THE CENTRAL PROVINCES, is a term by which, under a resolution of the Government of India, during Lord Canning's rule, the provinces of Nagpore and the territories of Saugor and Nerbuddah were united under a Commissioner. The Central Provinces consist of perhaps the grandest plateau on the face of the globe, but more than half of it is covered by the densest jungle, where the wild beast finds its lair and the Gond savage a precarious subsistence. The plateau is in the very centre of the Indian peninsula. From it, as a focus, radiate the great rivers of the Deccan. To the north flow the Sone into the Ganges, the Cane, the Betwa, the Sindh and the Chumbul into the Jumna. To the west are the Taptee and Nerbudda, and to the East the Wein Gunga, Wurda and Pein Gunga, which form the Godavery. What the Kuen Lun mountains are to the river system of Central Asia, and the Himalaya to Northern India, that is the Mahadeo range to the Deccan. It is true that the Godavery and Nerbudda series of rivers are little more than mountain torrents, but engineering science will do much for their navigation, and railways with their feeders will supplement them. On this vast tableland there is soil of surpassing fertility, wood, whether useful like teak or ornamental like ebony, which, with proper conservation, is inexhaustible, and such mineral resources as coal, iron, precious stones and gold. Here, but for the want of population, all the emigrants of England for the next decade might settle and grow rich. The area is 111,238 sq. miles, of which 47,299 are unculturable, and in 1868, about half of the remainder was under cultivation. In 1862, the provinces yielded 80 lakhs a year, but, in 1867, the revenue had increased to 120 lakhs. The Satpura range runs 800 miles, with an average breadth of 60 miles. The Chouradadur plateau is 100 sq. m., and the Nowagaon lake is second only to the Deybur lake in Oodeypoor.

The Nagpore province and the Saugur and Nerbuddah territories occupy almost the old territorial division of Gondwana and they were reunited under the designation of the Central Provinces, containing nineteen districts viz :

Saugur and Dumoh on the Vindhyan table land.

Mandla, Jabulpur, Narsinghpur, Hoshungabad and part of Newar in the Nerbada valley.

Baitool, Chindwarah, Seoni and Balagahat on the Satpura table land.

Nagpore, Warda, Bhandara and Chanda, on the Nagpore plain, in the valleys of the Warda and Wain-Ganga.

Raipur and Bilaspor on the Chatisgarh plain, and Sumbulpor in the valley of the Mahanuddy.

Upper Godavery, on the left bank of that river.

The Satpura plateau runs nearly east and west for 600 miles. It is the true barrier between Northern and Southern India and is the line on which the settlers from Hindustan met the emigrants from the Dekhan and Maharashtra, each of them pressing the prior races into the great natural fastnesses of the mountain range. The Satpura mountain range extending from Rajpiplah to Asirgarh, is a belt of mountainous country 40 or 50 miles in breadth with an average height of 2,000 feet.

In Gondwana there are now only two millions of aborigines, out of a total population of nine millions. The remaining seven millions almost amount to a microcosm of the people in India, and justice is administered in the Central Provinces in five different languages, viz. Urdu, Hindi, Marathi, Uriya and Telugu. In round numbers the seven millions may be thus classified :—1¼ millions speak Marathi—half do. speak Uriya,—5 millions speak Hindi.

Dr. W. W. Hunter gives the following as the languages peculiar to Central India. :—

Ho (Kol.)	Mundala.	Naikude.	Khond.
Kol (Singhbum.)	Rajmahali.	Kolami.	Savara.
	Gondi.	Madi.	Gadaba.
Santali.	Gayeti.	Madia.	Yerukala.
Bhumij.	Rutluk.	Kuri.	Chentsu.
Uraon.		Keikadi.	

He arranges the races and tribes speaking these into Kolarian and Dravidian, viz.

1. The Kolarian,

Santal.	Bhumia.
Kol.	Bhui.
Mundah.	Mair.
Korku.	Mina.
Bhil.	

2. The Dravidian, or people of the Tamil tongue.
   Oraon.
   Gond.
   Khond and S Peninsula aborigines.

A Committee included as Kolarian,

Bhilalah.	Bhumiah.	Bhil.	Kawar.
Bygah.	Korku.	Dhangar.	Nahur.
Bhunjia.	Kol.	Gudba.	Manji.
Binjwar.			

Kolarian tribes occupy the broad belt of hilly country that runs almost continuously across India from the Santal tracts to the Kurku settlements. The Santal in the east and the Kurku in the west speak a language substantially the same. The Kolarian tribes of the Central Provinces are—

Kol.	Bhunjiah.	Gudba.	Mahto.	
Kurku.	Bhumiah.	Kawar.	Soura.	Doubtful.
Bhil.	Bygah.	Nahur.	Goli.	
Binjwar.	Dhangar.	Manji.	Aguriah.	

The Dravidian tribes of the Central Provinces are—

Gond.	Durweh Gond.	Khond.	
Bhuttra Gond.	Khutalwar ,,	Dhunwar.	Doubtful.
Maree-Gond.	Aguriah ,,	Nahur.	
Maria or Gotawar.	Hulbah.	Punkah.	
	Koy.		

The non-Aryan occupants of the Central Provinces are

Bhil.	Bygah.	Kunbi.	TilingKomati.
Korku.	Parwar.	Relee.	Mahratta.
Gond.	Kachi.	Oorya.	Mariah.
Lodhi.	Chamar.	Kond.	Jharia.

with a sprinkling of rajputs, brahmins and mahomedans, in almost every district.

In the extreme west in Nimar, are the Bhil.

From thence, going to the North East, we find along the Satpura range the Kurku and Gond, —the Kurku belonging to the Kolarian family, and the Gond to the Dravidian.

The Kurku are not numerous, and are chiefly to be found in the hilly part of the Hushungabad, and the adjoining northern part of the Chindwara, districts, in these localities, they meet with the Gond, and a few Kurku are also found in Baitool.

The Gond are numerous in the plateau district of Seone, and in the south of Jubbulpur, and they are found also in the hilly parts of Jubbulpur.

The Gond, Bygah and Kol form a large section of the population of Mandla, and the Gond and Bygah are also in the hilly parts of Balaghat, south of Mandla.

The Ooriya occupy entirely the Sumbulpoor district.

The *Khond* dwell in the country surrounding the Ooriya in Sumbhulpur and to the south.

The Hindoo races are numerous in Raepur and Belaspoor but a number of Gonds are scattered about and the Gond are numerous in the wild parts of Nagpur and Chanda and, on the Pranhita and Godavery rivers, the Maharatta and Teling races meet.

The Marathas proper consisting, chiefly, of Maratha brahman and Kunbi, scarcely exceed half a million in number, but owing to the prominent and powerful position so long occupied by them in the country, they have imposed their language and some of their customs on about twice their own number of menial and helot races, such as Dher and Mang, who, Maratha, in Nagpur, speakers of Hindi in the Nerbada valley, only retain their individuality because they are too low in the scale for absorption. The Maratha influence, however, did not penetrate much beyond the Nagpur plain, consisting of the lower valleys of the Wardha and Wainganga. To the south of this area the Teling races are intermingled with the settlers from the west, though not in large numbers.

To the east, Chhattisgarh is inhabited, after some fifteen centuries of Rajput ascendency, mainly by hindu races, except in the remote eastern district of Sambalpur, which, by language, belongs to Orissa.

The northern line of demarcation may be drawn along the southern crest of the Satpura range, for though a few Marathas are found on the table-land, there are probably more Hindi speakers, below the ghats, in the Nagpur plain and the almost universal language of the three Satpura districts, Seoni, Chindwara, and Betul, is Hindi.

The older settlers are in many districts called "Jharia from Jhar" (underwood, forest,) and are much looser in their observances than later comers of the same caste, eating forbidden food, and worshipping strange gods. For some generations after their arrival the northern importations generally keep up their home connection by marriage, fearing to ally themselves with degenerate brothers who may have carried their carelessness in social matters so far as to permit mesalliances, and, perhaps even to have contracted some taint of aboriginal blood. Thus in the Hoshangabad district the Ghori (moham-

madan) kings of Malwa seem to have attained this dignity without distinction of persons, and a hindu in difficulties would as soon invoke the "Ghori Badshah" as any other supernatural power. At Murmari, ten miles from Bhandara, the villagers worship at the tomb of an English lady, ignorant, and probably careless, of the object for which it was erected. The Gujar race are among the steadiest members of the community, and have a great deal too much property of their own to admit the idea of professional cattle lifting as a possibility amongst civilised people. The Lodhi, mere agricultural drudges in Upper India, have attained some distinction as swash bucklers and marauders in the Narbada country, and some of their chiefs still retain all the popular respect due to families which have forgotten to live on their own industry. On the other hand, there are rajputs who have taken to banking.

Damoh has a population of 262,641 souls, they are a few mahomedans who are cotton carders, weavers and the like. There are upwards of sixty different castes or sects of hindoos, amongst whom are

Kurmi	34,907	Brahmin	23,666
Lodhi	31,980	Ahir	15,281
Chamar	28,401	Bania	9,783
Gond	26,724	Rajput	9,187

The Lodhi came from Bundlekhund three centuries ago.

The Kurmi came from the Doab about A. D. 1620. The Kurmi are a large class of cultivators in the eastern and central portion of Bengal, few in Delhi and in the Upper Doab. According to Sir Henry Elliot, under the different names of Coormee, Koormee, Kumbhi, Kunabi, Koombhee, they extend throughout the greater part of Hindostan, Berar, and the Western Dekhan. They are famous as agriculturists, but frequently engage in other occupations. The Kurmi women, like the Jatni, assist the men in husbandry, and have passed into a proverb for industry.

Bhulee jat koonbin kee k'hoorpee hat'h
K'het nirawen apne pee ki sat'h.

The Coormee of the Hindustan provinces are said to have seven sub-divisions, which are usually enumerated as K'hureebind, Puturya, G,'horchurha, Jyswar, Canoujea, Kewut and Jhooneya.—(*Elliot.*)

The *Gond* of Mandla have the "Lamjina shadee," in which the betrothed lad serves an apprenticeship for his future wife. A Gond girl, however, may exercise her own will and run off with a man, but it is quite allowable for her first cousin or the man whom she has deserted to abduct her from the man whom she has chosen. The *Shadi Bandhoni* is a compulsory marriage. In the *Shadi Baitho*, a woman goes to a man's house. Widows re-marry either to a younger brother of their deceased husband, or to some other man.

To burn dead men is deemed the most honorable mode of disposing of the remains; women are always buried. When the father of a family dies, if well to do, they clothe the corpse in a new dress, and bury or burn the remains; his spirit is, however, supposed to dwell in the house till it be released and till released, the spirit is the only object of worship in the house. After the funeral, a piece of turmeric and a pice are tied up in a cloth and suspended to one of the beams of the house. When the time comes to lay the spirit, the cloth is removed and, with a portion of the flesh of a goat or a pig, is offered to the village deity, a feast is given to relatives and the elders and the release is complete.

The Baiga are supposed to be the prior occupants of the Mandla district, and take the title of Bhumia or landlord. The Baiga language is almost pure Hindi. They have three sections, Binjwar or Bichwar, Mundiya, and Bhirontiah, each of which is subdivided into seven sections. Even where the Gond and Baiga occupy the same village, the Baiga live apart from the Gond. They are of a slight, wiry build, hardy, extremely active, fearless, trustworthy and independent. They cultivate by the "Dahya" system and sow the kodo or Paspalum frumentaceum in patches called "Bemar."

Nimar.—The population of Nimar numbers 1,90,440 souls of whom 34,805 are Bhil, Kurku, &c. There are scarcely any Gond in Nimar.

The Bhil, as a distinct tribe, are found chiefly in the block of hills surrounding the fortress of Asirgarh. Until of late years, they were a troublesome set of robbers and they are still a dissipated and idle race. They are, however, improving and a good many of them have cattle and have settled down to regular cultivation.

The other population of Nimar consists of

Dher Mhang and other non-Aryans	18,446	Hindoo immigrants ...	118,508
Europeans ...	402	Mahomedans...	18,279
Brahmins ...	6,783		

The best cultivators in Nimar are the Kunbi Gujur, Mali and Rajput races. The language is a mixture of Hindi and Marathi with a good many Persian words and it is written in a peculiar current Devanageri character.

Kurku occupy Nimar, the Gawilghur hills of Berar, and Kalibhit. Kurku or Kur occupy the western Satpura, in the hills about Gawilghur, near Ellichpur and northwards towards Indore. Major Keatinge describes them as a tribe of Gond but this is a mistake, they are Gond, but are a branch of the Kol family. The Kurku and Gond keep themselves separate, and they each have a separate language. According

to Voysey, the Gond consider themselves a distinct tribe from the Kur and neither eat nor intermarry with them. Their language has a great resemblance to that in use by the Lurka Kol and Santal. None of these correspond with the words of the Dravidian tongues.—(*C. P.* 41-2.) The Kurku language is identical with that of the Kol.

Nagpore district population numbers, 634,121, viz,

Europeans	2,462
Maratha, Kunbi and cognates . .	177,183
Kansar, Sipi, Sonar, Gurao, Beldar Barhai, Koshti, Dhobi, Khatik, Nai, Bhoi, Dhimar, Banjara, Madrassee, Bhamtya, and Rangari, ...	118,019
Dher, Chamar, Mhang, Bhangi ...	114,407
Pardesi, Teli, Mali, Ahir, Pardhan Barai...	106,483
Bania, Ponwar, Marwari, Halwai, Kalal...	17,118
Brahman	26,597
Rajput	3,458
Vidur (illegitimate brahmins) ...	5,094
Gosain	5,203
Gond with a few Kurku and Bhil...	30,698
Mahomedan	27,371
Parsee	28

The language is a mixture of Hindi and Marathi. The bulk of the population worship Siva as Mahadeva.

The agriculturists are chiefly the Kunbi, Marathi, Pardesi, Teli, Lodhi, Mali, Barai, and Pardhan, of whom the Kunbi is the best and most numerous.

The Koshti and Dher are weavers.

Raipur population in 1866 amounted to 952,754, almost all of them immigrants,—Kurmi, Teli, Lodhi, Chamar, Ahir, Gaira, Ganda, Kanwar, from the north, the Halba from Bastar and Chanda, and Mahrattas. The Kurmi, Teli, Chamar and Halba are the chief agriculturals.

The Kanwar are regarded as the prior occupants, they prefer the jungle tracts, but are supposed to be Rajputs imperfectly hinduised.

The Halba are immigrants from the south. Once in his life-time, a Halba sacrifices three goats and a pig, one to each of the national deities, called Narayen Gasain, and Burha Deo, male deities; Sati and Ratna, female deities.

Balaspur contains a population of 780,503, amongst whom the chief divisions are

Immigrants.	
Chamar ...	164,388
Panka ...	72,972
Ahir or Raut	66,574
Teli ...	51,679
Kurmi ...	39,843
Mali ...	25,145
Brahman ...	17,167
Bairagi ...	11,092
Rajput ...	10,702
Bania ...	4,873
Other hindus	133,833
	598,268
Mahomedans	9,041

Non-hindu prior races.	
Gond ...	120,159
Kanwar ...	30,486
Bhumia ...	2,264
Binjwar ...	7,009
Dhanwar ...	3,988
Other non hindus ...	9,338
	173,194

Sambulpur population amounts to 812,348 of whom 497,774 are engaged in agriculture—the Kolta, the Agharia, and Brahmin are the largest cultivators. The Kolta are a hindu race; the Agharia claim to be rajputs: the brahmin are of two sections, the Uriya and Jharwa. The Uriya brahmin are a lazy improvident sect, and subsist chiefly by begging. The Jharwa brahmins are intelligent, careful and hard working, cultivate the soil, engage in trade. The labourers are the Pab, Saoura, Ganda, Gond, Mali and Gaoli races. The Mahanti are clerks, the Bhulia, Mehra and Koshti are weavers.

Upper Godavery district has many cromlechs; kistvaens and cairns. The present population is 54,680 of whom the Dhobi are a large part.

The *Boi* or Dhimar are fishers, palanquin-bearers.

Gote and Koe or Koitor are the prior occupants. The Gote and Koe belong to the Gond family, they are fond of spirits and worship ancestors. They are timid, inoffensive and tolerably truthful. Some of them have settled and have sheep and herds and money.

Sagor population numbers 498,642 half of whom are engaged in agriculture; the best are the Kurmi, Kachhi, Lodhi and Dangi. Those most addicted to crime are the Lodhi, Bundela, Brahman, Khangar, Churar, and Kohri.

Gond.—"The name Gond or Gund," says Mr. Hislop, "seems to be a form of Kond or Kund. Both forms are most probably connected with Konda—the Telugoo equivalent for a mountain—and therefore will signify 'the hill people.'" And this name they must have borne for many ages, for we find them mentioned by Ptolemy, the Geographer (A.D. 150) under the name of Gondaloi. Of their history we know but little; under all changes they appear to have preserved their own forms of worship, and social habits, but some adopted

to a greater or less extent the forms of hinduism, and a still fewer number have become mahomedans. The rajputs from Malwa seem to have pushed their conquests into the country and intermarried with them. Their descendants are still known as Rajputs or Gond Rajputs. They established governments, *one* of which ruled the Narmada valley and had its capitals at Mundala and at Garha near Jubalpur. It was founded by Jadu Rai, who succeeded his father-in-law Nagdeo, the Gond raja of Garha (A.D. 358) Mundala was conquered by his descendant Gopal Sa, A.D. 634. Sungram Sa, the 47th in descent from Jadu inherited only three or four districts in 1480, but at his death, in 1530, he ruled over fifty-two. Ferishta tells us that when Asif Khan invaded Garha in 1563, Bir Narayan was raja. Hirdi Sa, the 54th raja, built the temple at Ramnagar near Mundala, and Seoraj, the 59th began to reign in 1742 when Balaji Baji Rao invaded the country. A *second* kingdom had its seat on the southern slope of the Satpura hills—at Deogarh in Chindwara, one of the rajas of which, Bakht Baland, was either taken prisoner by one of Aurangzib's generals, or visited Delhi of his own accord, where he was converted to mahomedanism, and then permitted to return to his country, where "his descendants," says Mr. Hislop, "though adhering to this change of creed, " have not ceased to marry into Gond families " and hence the present representative of that regal house is not only acknowledged by the whole race about Nagpur as their head and judge, but " is physically regarded a pure Raj Gond." A *third* Gond principality had its capital at Kherla in Baitul, to which belonged the famous forts of Gawelgarh and Narnallah. In 1433 its raja, Narsingh Rai, who is represented as powerful and wealthy, was slain in battle by Hushang Ghori, king of Malwa, and Kherla taken. At a later date it appears to have become subject to Pandu Gauli, the raja of Deogarh, and continued so under his successors. Not far from Kherla we find a hill raja at Saoligadh in Aurangzib's time, who seems to have maintained his independence till swept away by the Mahrattas between 1760 and 1775. A *fourth* Gond kingdom was that of Chanda on the Warda, which extended far to the east and south east. The four dynasties arose before the ascendancy of the Moghuls in India, and have left architectural and other monuments of great interests, and of which we still want satisfactory accounts: " The principal architectural remains are at Mandla, at Garha near Jubalpur; at Chauragadh near Narsinghpur, at Deogarh near Chindwara; at Kherla near Baitul and at Chanda." But besides the preceding kingdoms, there was a *fifth* Gond Rajput dynasty at Warangal or Orankal in the Dekhan, to the south of the Godavari, which is said to have been founded by Kakati of the Ganapati family about A.D. 1088. The kingdom became very powerful about the end of the 13th century, and the raja of Orissa, becoming jealous of his neighbour's power, solicited the aid of Allah-ud-din who sent an army in 1303, through Bengal, to attack Warangal, but his expedition failed. Malik Kafur was then despatched with 1,00,000 horse into the Dekhan, and after a siege of some months he took Warangal in 1309 and made the raja, Ladderdeva, tributary. In 1321 it was again besieged by Alif or Jema Khan, the son of Ghiyas-ud-din, Tughlak, but he was obliged to retreat with the loss of nearly his whole army. He returned, however, and in 1323 reduced the place and carried the raja prisoner to Delhi. It is said he was afterwards released and restored, at all events Warangal re-asserted its independence in 1344, and assisted Hasan Ganga, Bahmani, in his revolt. From this time the Bahmani kings of Kulburga involved the native rajas in continual wars. Firuz Shah (1397-1422) especially, obtained great successes over the rajah of Kherla, and finally Amad Shah, Wali, took permanent possession of Warangal, forcing the raja to relinquish his ancient capital and flee northward across the Godavari, where he established himself in wild independence among the inaccessible forests. The Gond rajas still maintained their independence however, and in 1513 we find them joining in a powerful confederacy on the side of Medon Rai against Mahomed II of Malwa. At the close of the 16th century, Akbar reduced the western portion of Gondwana, but it was not till the middle of the 18th that permanent progress was made. About 1738 Raghoji Bhonsa interfered in a disputed succession in Deogarh and secured half the revenues, but in 1743 the Gonds raised an insurrection which Raghoji quelled, and annexed the principalities of Deogarh and Chandah to his own dominions, and in 1751-52 he took the forts of Gawelgarh, Narnalla, and Manikdrug with the districts dependent on them. From this period large numbers of Mahrattas settled in these districts and the Gonds became more restricted to the hills.

The Gonds divide themselves into twelve and a half castes: viz,—Raj Gond, Raghuwal, Dadare, Katulya, Padal, Dholi, Ojhyal, Thotyal, Koilabhutal, Koikopal, Kolam, Madyal, and an inferior sort of Padal as the half caste. The first four, adds Mr. Hislop, with the addition, according to some, of the Kolam, are comprehended under the name of Koitor—the Gond—par excellence. This term in its radical form Koi, is the name given also to the Meria sacrificing tribes of Orissa and to the wild tribes skirting the left bank of the Goda-

vari from Rajahmandri to near the mouth of the Indrawati. The Persian word koh, a hill, approaches this more closely than even the Telugu konda. The Koitor, as a rule, resent with no small vehemence, the imputation of belonging to any portion of the hindu community. The first three classes generally devote themselves to agriculture; the fourth includes those who have begun to conform to the hindu religion and ape hindu manners. The Padal, Pathadi, Pardhan, or Desai, called Raj Pardhan to distinguish them from the Marathi speaking half caste, who play on wind instruments of brass and spins cotton thread, are the religious counsellors or bhats of the upper classes. The Dholi are musicians, and a subdivision of them in jungly districts are employed as goatherds. The Ojhyal are wandering bards and fowlers. The Thotyal (i. e. 'maimed') or Pendabarya 'ministrels of God' are also called Matyal, because their songs are chiefly in honour of Mata, the dreaded goddess of small pox. They make baskets also. The Koilabhutal are the third wandering caste, and their women are dancing girls. "They follow their profession chiefly among the hindus, it being reckoned disreputable by the people of their own race." The Koikopal, i. e., Gondi Gopal are a settled class devoted to cow-keeping. The Madya, called Jhodia in Bastar, are savages on the Beila Dila Hills and in the remoter parts of Chanda, the only clothing the women wear is a bunch of leafy twigs fastened with a string round their waists to cover them before and behind. In this they resemble the Juanga to the south of the Kol country, the Chenchi near the Pulicat lake and to the north of Ellore and till about A. D. 1830, a similar custom existed among the Holier near Mangalur. The Kolam extend along the Kandi Konda or Pindi Hills, on the south of the Warda river, and along the table land stretching east and north of Manikgadh and thence south to Damttanpalli, running parallel to the right bank of the Pranhita. They do not intermarry with the common Gond, but the one attend the nuptials of the other and eat from their hands. Connected with the Gonds, though not included in the preceding classes are the Badiya between Chindwara and the Mahadeva hills, who have conformed to the hindus in their language and some religious observances; the Halwa, pretty numerous in Bastar, Bhandara and Raipur, who covet the distinction of wearing a sacred thread, a privilege, till recently, sold to those in Bastar by the raja; the Gaiti Gonds in Bastar who call themselves Koitor; the Moria Gond, who are the principal agriculturists in Bastar and the Naikude Gond inhabiting the jungles on both banks of the Pain-Ganga and especially the tracts between Digaras and Umarkhed and found about Aparawa-pet and as far as Nirmal,—who have adopted the hindu dress and will not eat beef, but they live by the chase, or cut wood and grass, and are a terror to their neighbourhood by their depredations.

Quite distinct, in language at least, from the Gond tribes are the Kur or Muasi and the Korku to the N. W. and W. of the Mahadeva hills. Of the latter of these, Mr. Elliot, gave interesting details in the 2nd number of the Journal of the Antiquarian Society of the Central Provinces: they belong to the Kol or Munda family.

Physically the Gond are below the average of Europeans in stature, and in complexion they are decidedly darker than the generality of hindus. They are somewhat thick-set and muscular, but well proportioned. Their features are rather ugly; they have roundish heads, wide mouth with thickish lips, and somewhat distended nostrils. Their hair is straight and black, and the beard and moustache scanty. But their hair and their features, says Mr. Hislop, 'are decidedly Mongolian. They have an average amount of intellect, and remarkable quickness of observation. They are truthful in their statements, faithful to their promises, and observant of the rights of property among themselves; they nevertheless do not scruple to plunder those to whom they are under no obligation to fidelity. They are not deficient in courage when a proper occasion arises to call it forth, and more than once in late years they have saved British officers from death by wild beasts. They are shy in their intercourse with strangers, simple-minded, superstitious though free from fanaticism, but unfortunately habitually drunken. No festival, says Mr. Hislop, can be held in the forests or village in honour of their deities, no birth, marriage or death can take place in their families, without an excessive indulgence in ardent spirits.

Their religion is also as distinctively of Scythian origin as their language and physique. All introduce figures of the horse, made of earthenware, in their worship, which they offer instead of living sacrifice. They propitiate the names of their ancestors, by offerings of earthenware horses, rice and other grains, eggs, fowls, or sheep. On one occasion, at Jami, a cow was sacrificed at the grave of a Gond, but the authorities of the Bhonsla government hearing of it, the relatives were publicly whipped and all were interdicted from the repetition of such an act. Those who have conformed to hindu customs, and the Madia of Bastar burn the bodies of adults, but children are everywhere buried, and adults very frequently.

Their pantheon is but a small one; the entire number of divinities worshipped over the whole country being probably less than thirty; but of these only about ten seem to be generally recognised, and scarcely any class worship more than seven, and many six, five, four, or three gods. They have no images in their houses; and at their religious ceremonies in the jungle, they employ only the rudest symbols,—knobs of mud, stones, iron rods, pieces of wood, chains, bells, &c., Their festivals are associated with their crops, and are celebrated under the shade of the Saj or Ein tree, three or four times a year, as when the rice begins to be sown, when the new rice is ready, when the Mhowa tree comes into flower.

1. The Creator, under the name of Bhagwan, is occasionally worshipped in their houses by prayers, and burning sugar and ghee in the fire; but the inferior gods have the greater share of their attention. The principal of these are:—1 Badu dewa (great god) or Budhal Pen (the old god) and the same as Bura Pen of the Konds. He appears to be the same as Rayetal or the sun-God, represented by an iron tiger three inches long, and possibly the same as Marung Bura of the Sonthal. He is worshipped once a year at rice harvest, when a hog is sacrificed to him. Among the Gaiti, he is represented by a copper pice kept in a tree in the jungle. This they take down at the festival, and, selecting a small area about a foot square under a tree to be cleaned, they lay on it the pice before which they arrange as many small heaps or handfuls of uncooked rice as there are deities worshipped by them. The chickens brought for sacrifice are loosed and permitted to feed on the rice. Goats also are offered, and their blood presented in the same manner. Until prohibited by the hindus, sacrifices of cows were also common. On the blood, arrack is poured as a libation to their deities. The pice is now lifted and put in its bamboo case, which is shut up with leaves, wrapt in grass, and returned to its place in the tree, to remain there till it is required in the following year. Both Budhal and Matiya are sometimes said to be of iron and a foot long.

2. Matiya, called Mata by the Kurku, is both the god (or goddess?) of small pox and of the town, indicative perhaps of the constant dread of the scourge. Among the Gonds of Seoni, Matiya is represented as the attendant or Kotwal of Budhal Pen, and they offer him a pig: by the Kurku he is supposed to reside inside the village, and receives offerings of cocoanuts and sweetmeats, but no blood. In the south of the Bandara district, Mr. Hislop informs us, the traveller frequently meets with squared pieces of wood, each with a rude figure carved in front, set up somewhat close to each other. These represent Bangaram, Bangara Bai, or Devi, who is said to have one sister and five brothers, the sister being styled Danteshwari, a name of Kati, and four out of the five brothers being known as Gantaram, Champaram, Naikaram, and Potlinga. These are all deemed to possess the power of sending disease and death upon men, and under these, or different names, seem to be generally feared in the region east of Nagpur city. Kali, as the goddess of small-pox is much worshipped by the aboriginal tribes, and Gonds, fishermen, and other low castes may officiate at her shrines even in behalf of hindus. In India generally, Kàli is worshipped as Sitala. At Chanda and Lanji, Kali has temples in which human victims have been offered almost within the memory of the present generation. The victim was taken to the temple in the evening and shut up, and in the morning he was found dead, the great goddess having shown her power by coming in the night and sucking his blood. At Dantewada, in Bastar, about 60 miles S. W. of Jagdalpur, near the junction of the Sankani and Dankani, tributaries of the Indrawati, is a famous shrine of Danteswari, at which, about A. D. 1830 it is said that upwards of twenty-five full grown men were immolated on a single occasion by a late raja of Bastar, Since then, adds Mr. Hislop, "numerous complaints have reached the authorities at Nagpur of the practice having been continued, though it is to be hoped that, with the annexation of the country, it has entirely and for ever ceased." Major Macpherson mentioned the same bloody rite as celebrated only last generation by the hill rajas of Boad, Gumsur, &c. Among the Moria, Bhowani is worshipped as the small-pox goddess and as Maoli or Danteshwari.

3. The next on the list is Sale or Sali, and among the Gaiti Gonds, Saleng. He is said to be nearly equal to "Badu-dewa the "great god" and sits with him on the same gaddi. He is offered a she-goat, and is probably the protector of cattle.

4. Gangara, Ghangara, Gagaral, Gongaro Mal, is the bell-god, and is represented by a bell, or by an iron chain of four links.

5. Palo is only known by name as yet. The appropriate offering to him and Ghangara is a cow.

6. Gadawa is the god of the dead, the Pluto of the Gonds, and is perhaps the same as Chawar, and indentical with Dichali of the Chaibassa Kol.

7. Khan or Kank usually closes the list of the Sat-dewala or seven god-worshippers. He is worshipped under the Saj tree (Pentaptera tomentosa).

Besides these there are some others deserving of mention:—Kode Pen, common to Gonds and

the Kur, is the horse-god. Mr. Driberg believed him to preside over a village, and thus he would correspond to Nodzu Pen of the Konds. Mr. Hislop conjectures he may be the god of crops, Kodo (Paspalum frumentaceum) being one of the chief sorts of grain cultivated by the Gonds. In the wilder villages near the Mahadeva hills Kodo Pen is worshipped by new comers at a small heap of stones, through the oldest resident, with fowls, eggs, grain, and a few copper coins, which become the property of the officiating priest. Among the Kurku, Mutua or Mutya Deva, is a heap of small stones inside the village and besmeared with sandur. He is connected with the prosperity of the village and is worshipped with a goat, cocoanuts, limes, dates and a ball of sandur paste. Pharsi Pen or Pharsapot is represented by a small iron spear-head. The name may possibly be connected with barchi (Hindi) a spear, and he may be the same as Loha Pen, the iron-god or god of war of the Konds. Pharsa also means 'a trident' in Gondi. He is worshipped at full moon of Vaisakh, every third, fourth or fifth year, when the people assemble from great distances and the ceremonies are conducted with much secrecy; no hindu or even Gond woman being allowed to be present. They offer him a white cock, a white he-goat, and a white young cow. He is apparently related to, if not the same as, Dula Dewa, the god of the battle-axe of the Gaiti Gond, who is represented by that instrument fastened to a tree. The Cholera god is worshipped at Amarkanthak as Hardal, which Mr. Hislop suspected might only be another name for Budhal Pen. Among the Kurku he is called Lala Hardal, and is probably the same as Gohem of the Chaibassa, the god of fever, and among the Kol of Chaibassa, where he is associated with Dichali and Gohem already referred to, and with Chondu, the god of itch, and Negra of indigestion. Bhiwasu or Bhim Pen is the god of rain in the Mahadeva hills, where a festival lasting four or five days is kept in his honor at the end of the moonsoon, when two poles, about 20 feet high and 5 feet apart, are set up, with a rope attached to the top, by means of which the boys of the village climb up and then slide down the pole. Offerings of fowls, eggs, and grain are presented to him. All over Gondwana he is generally worshipped under the form of an unshapely stone covered with vermillion, or of two pieces of wood standing from 3 to 4 feet above ground, like those set up for Bangaram. Before these the Moria Gond regularly perform worship previous to sowing. But a little S. W. from Bajar Kurd, N. of Parseuni is a large idol of Bhiwasu, 8 feet high, formed into shape, with a dagger in one hand and a barchi (javelin) in the other. A Bhumuk is the Pujari; and the people repair to worship on Tuesdays and Saturdays, offering hogs, he-goats, cocks, hens, cocoanuts. The patel of Awareghat, who is a mahomedan gives 2 rupees, and hindu cultivators give rice for an annual feast, which takes place at the commencement of the rains when the Bhumuk takes a cow by force from the Gowar, and offers it to Bhimsen in presence of about twenty five Gonds.

To Sasarkund, a pool in the Mahur jungle, where the Pain Gunga is said to be engulfed, the Naikude Gonds go on pilgrimage in the month of Chaitra. There a huge stone rises in a gorge and goes by the name of Bhimsen, before which Naikude Gonds mingle with Raj Gonds and Kolam in worship. The worshippers, towards evening, cook a little rice and place it before the god, adding sugar. Then they besmear the stone with vermillion and burn resin as incense, after which all offer their victims,— sheep, hogs, and fowls, with the usual libations of arrack; the pujari affects to be inspired, rolls his head, leaps widely about, and finally falls down in a trance, when he declares whether the god has accepted the service or not. At night, drinking, dancing, and beating tom-toms go on, and in the morning after an early meal they return home. Those unable to go on this pilgrimage, perform similar rites under a Mhowa tree.

Besides these other deities are reverenced in particular localities: the tiger-god, Waghoba, is worshipped by the Nikude Gonds; and under the name of Bagh Deo by the Kurku; Sultan Sakada is worshipped by the Kur; Saka deva or Sakla Pen-the chain god, in Seoni and elsewhere. The spirits of the departed, Sanyal Pen or Sanalk, are worshipped or propitiated for a year after death, but persons of note, headmen of villages or priests, are treated as gods for years or generations, and sacrifices are annually offered at their st'happana or shrines of earth.—(*Extracts from portion of a Newspaper sent by Asst. Surg. Porter, M. D. seemingly the Times of India* or *Bombay Gazette*).

The word "*Gond*," according to Hislop is a form of Khond and according to Macpherson, Khond means mountain. The Gond race in the centre of India, meet the Arian hindus on the north, the Tiling in the south, and the Mahratta in the west.—(*C. p.* 40.) In the wilder parts of the tract occupied by the Gond, they speak their own language and seem, there, to be a simple and not intractable people following both pastoral and agricultural pursuits. Gondi is not a written tongue. The Gond are broad faced, have high upper maxillary bones with large lips. Occasionally great curly, woolly, hair are seen. They object to vaccination. The women do not wear the choli or boddice. The Raj Gond, generally dark, are of middle

eize with high cheekbones and good teeth. Some of the wealthier are of a light bamboo colour the hair of the women is generally wavy or curly. The lips of the Gond rajah of Nagpore are as thick as those of an African. This family are fair skinned and for generations past have professed mahomedanism. According to Major Keatinge, Gond, Kur and Bhil tribes meet about Asirghur and these in the centres of their country, are very black, with a decidedly African expression. Captain Probyn says the more civilized Gonds are fairer than those less advanced, but have somewhat African features.

The chiefs have none of the features of the race, owing to their bringing into their households the women of other races. But the savage Gond, in the forests of the Wain Ganga have features of the African type. The Gond of the forests of Bustar and thence running up towards the Wain Ganga are called Maree. They are extreme savages, black, ugly, barbarous and dangerous. They are almost independent, and own a scant allegiance to chiefs whose blood is for the most part Gond. Thence the Gond extends north to the valley of Sumbhulpur, and occupy a broad tract east and west wherever the country is hilly or jungly.—(*C. pp.* 22, 31-2.)

The clothes of the Gond are few. The women have many glass and metal rings and bracelets and all are more or less tattooed : the tattooing is performed by the Pardhan Gonds.

The *Raj Gond* claim descent from the Pandu, who are regarded as minor deities, and, with Dripadi and Krishna, are worshipped by one or other of the Raj Gond sections. All, however, worship Phersa Pend, whose emblem is small pieces of iron about six inches long, placed in an earthen pot and suspended from a tree. At the summer solstice and again in winter these are taken to a river and washed and worshipped with sacrifice, formerly of human beings, then of cows, and now of goats. The Raj-Gond are supposed to be a mixed race. They do not eat beef, and worship Barra-Deo.

The Maraila Gond is an offshoot of the Raj Gond and deify their dead. Ten days after death, they sacrifice a hen pouring its blood on a pot, on which they previously put some oil. They then tie the pot on the branch of a tree and after a year they bury it near the raised platform (chabutra) of their Burra Deo, and from this time the dead is ranked amongst their tutelary gods.

The Bhaigia, Bhumia, Khutola, Pahari, Burko and Bhuria tribes of Gonds all speak the same language and resemble each other in stature, and features. The bridegroom lives for several months serving for his bride in his father-in-law's house and the bride goes to the bridegroom's house to be married.

The *Raj-Gond* commences the harvest by the owner cutting a sheaf which is divided into two portions, one of them being devoted to Phersa Pend, the other to the goddess of Suttee, Both halves are boiled and eaten, the former by the men, the latter by the women. They believe in witches and use scourging and throwing into deep water as ordeals. The Murmi or Shadi marriage is with a maid, the Pat is between a widower or widow or divorced couple. In the Murmi, offerings of oil and turmeric are made to Mar Ai, the goddess of smallpox and cholera, and subsequent prostration to the household gods. Occasionally, still, when a father refuses to give his daughter, the bridegroom's friends carry her off by force. When they burn the dead, the axe, with its head reversed, is employed in parts of the ceremonial, and a cock for a man or hen for a woman is offered and then eaten (Cor. ix.)

The Raj Gond are frank and merry, truthful, and of late years peaceable. Infidelity among married women is lightly regarded. The Raj Gond are agriculturists or servants. They are permitted to eat the flesh of every slaughtered animal, but by many who are mixing with hindus, the cow is not eaten. Wild fruits and roots with scraps of meat are the common articles of diet

The *Khutulwar Gond* are Raj Gond in the N. E. of Chota Nagpur ho ape rajputs.

Durweh Gond of the Ghatkul pergunneh are less civilized than the Raj Gond.

Mareh Gond are in the South East.

Purdhan Gond are the Gond bards and they are beggars and are to the Gond what the Bhat is to the Hindu.

Thotee Gond are the Pardhan Gond.

Hulba Gond are East of the Waen Ganga. —(*C. I. P. Com. Rep. p.* 2 to 25.)

The *Gour Gond*, extend on the east, into the borders of the Chota Nagpur Agency, of Udipur and Sargojah, but they are there much hinduised and have lost their language.

Dhulya Gond are musicians.

Punka, *Dhunwar* and *Nahil* are subordinate Gond tribes.

Aguriah Gonds work in Iron, from Agur Hindi iron.

Koy Gond are very dark.

Gotta and *Matta* Gond are copper coloured, broad faced, smalleyed, giving a strong Tartar like appearance. The Koy, Gotta, Maria, Bhuttra or Purja, Hulba and Gudba Gond tribes of the Godavery, Pranhita and Sevory rivers and Bustar, have manners and customs nearly alike.

On the death of a Maria Gond, a cow is killed and there is drink and music. The body is tied in a standing position to a mahwa tree, Bassia

latifolia, and then burned. Captain Glasfurd notices the absence of hair on the faces of the Koy, Gotta and Maria. The Gotta, Maria and Muriah erect large monumental slabs to the memory of the dead, placing at the foot of the slabs a flat stone on four small round stones.

Under the names of Bura deo, Narain deo and Bahwani deo, the object of worship of the Belaspur Gond is a raised earthen mound. The branch of the Saj tree, set upright, is also worshipped.

The Gond of the hilly districts of the Central Provinces bury their dead and sacrifice a bullock or buffalo for the benefit of the dead. On the 3rd year, a buffalo or bullock is again sacrificed and the dead is ranked as one of the tutelary divinities of the family.

Dulha Deo, is a favourite deity in Bundelkhund and amongst the Gond of Central India. It is the apotheosis of a bridegroom (dulha) who died in the marriage procession, and whose death so affected the people that they paid him divine honours. The worship of Adonis is similar, and also that of Thammuz whose annual wound in Lebanon allured the Syrian damsels to lament his fate.

The Gond think no harm of appropriating the property of others.

Kaikari, this houseless, wandering race were recently treated as rogues and vagabonds, and a number fled the central Provinces, a remnant changed their name to escape the persecution. The Kaikari are scattered over Berar and along the northern frontier of the Hyderabad territory. They are a small statured, slender race. They arrange themselves into six sections, the Hindu Kaikari, Chari or thieving; Kasbi Kaikari; Pungi bajani wala; Samp Khelne wala and the Kuchi wala. The Hindu Kaikari are basket makers from the date palm leaf, cotton, ambari and turatta stalks, and speak hindi and mahratta. They reside in towns and are permitted to approach the village gods, all the other sections are migratory and are prohibited from approaching the deities. The hindu Kaikari marry when young; they worship Maroli, Bhawani and Khanderao and they bury or burn their dead. They are an olive yellow, large mongol faces and mark their forehead thus ⌣

Sherria, are a wild race dwelling about the sources of the Nerbuddah.—(*C. p.* 44.)

The *Kawur* tribe are found in large numbers east of Belaspur and the N. E. of Raepur. They worship Siva and bury the dead.

Soura are in the Eastern part of Raepur.

The *Mali* are gardeners and husbandmen, but are not landowners. They take their tribal name from "male," a man.

Mahra, a tribe in Mundla are joining the Kabir Panti sect.

The *Nahur* tribe are in the easterly parts of the Central Provinces.

Mana a strong built dark complexioned race, in the Central Provinces, speaking Mahratta. They were formerly a military race, and served as soldiers, but though retaining military traditions they are now agriculturists or private servants. They are truthful, industrious and courageous. In customs and religion they much resemble Mahrattas. Their widows re-marry.

Kohiri a truthful, honest, and somewhat timid Mahratta speaking agricultural tribe, in the Central Provinces, of middle stature, slight make, and bamboo colour. In religion, they are the same as the Mahratta and in manners, customs and dress same as the Mana. The form tanks with great skill applying all their spare means to works of irrigation. Their houses are large and clean and each member of the family has a bed room.

The Sevaka is a Chota Nagpore slave.

The Kamia of South Bahar, are a low caste agriculturist, a temporary, or permanent predial slave.

Pemka, a low caste tribe of Mundla and Raepur who are there joining the Kabir Panti sect.

The Bygah and Binjwar of Mundla are the same. They are becoming hinduised. They perform priestly offices for the Gonds.

Bhumij and *Bhumija* are only known quite on the eastern border of the Central Provinces. Bum, in the Singpo, means hill. Among the Bhil, Bhumia means head man or high priest: among Kurku, Bhumka stands for high priest, and among the Gond, Bumiah means a medicine man. The Bhumiah and Bygah, speak hindi. Bhumi, Manji and Mahto of the hilly tracts of Belaspore are short and spare made men, capable of great endurance. Their language is allied to Gondi. The Mahta worship their fathers until they have a son, and then worship their first son,—if he die the second son and so on.

The *Settled Races in the Central Provinces*, most largely represented are, from the north, brahman, Rajput, Ahir (herdsmen), Lodhi and Kurmi cultivators, and Chamars; from the south and west brahman and Kunbi. Teli (oil-pressers), Kalal (distillers), Dhimar fishermen and bearers, Mali (gardeners), and Dher, are also numerous throughout the province, but have taken, in each part of it, the impress of the dominant race, speaking Marathi in Nagpur and Hindi in the Narbuda country. Of mahomedans there are only 237,962 not three per cent. of the population, and many of these are of mixed origin.

The Koli and Bhil, seem to be of a similar origin. The Koli are scattered over a great portion of the Bombay presidency from

the Thur and neighbourhood of Sind, southwards to Goa and eastwards, along the banks of the Bhima and Kistnah and Tumbudra, into the centre of the peninsula as far as Kurnool, where they are engaged as ferrymen. Considerable numbers live in Guzerat and in the hills adjoining that province and the hills east of Guzerat are called Kolwan. They are mixed in the north with Bhil, but in the south they form part of the ordinary population. The wilder Koli are like the Bhil, but the more civilized are fairer, more sly and cunning, and less truthful. Many live in villages, and adopt some hindu practices The Koli it is said, frequently marry Bhil wives.—(*C. p.* 42, 43.)

The Bhil are described by Mr. Forbes, as wearing few clothes, of diminutive stature, with swift and active habits, independent in spirit; eyes which bear an expression of liveliness and cunning, bold in assault but rapid in flying to the jungles; formidable in anarchy, but incapable of uniting amongst themselves and as by far the most numerous of the predatory races who, in former days, resided in the hills between Guzerat and Rajputanah and disturbed the country. Their arms, are bows and arrows; they are robbers, averse to industry, addicted to drunkenness and quarrelsome when intoxicated.

The *Bhil*, *Mair*, and *Koli* seem to have had, at one time, considerable power in Rajputanah and Guzerat. (*C. p.* 44.) The Bhil race, now occupy the mountains and forests of Malwa, Mewar, Khandesh, and in the Dekhan to the north of Poonah, in the northern part of the chain of ghauts running inland parallel with the coast of Malabar. On one side they are bordered by the Koli, and on another by the Gond of Gondwana. They are considered to have been aborigines of Central India; and with the Koli, Gond, and Ramusi are bold, daring, and predatory marauders, and occasionally mercenaries, but invariably plunderers. The northern part of the chain of ghauts and the country at its base is inhabited by Bhil; that part of the south of Bauglan and the country at its base, as far south as Bassein, is inhabited by the Koli tribe who somewhat resemble the Bhil but are more civilized and less predatory. The Bhil possess the eastern part of the range, and all the branches that run out from it towards the east, as far as south of Poona; they even spread over the plains to the east, especially north of the Godavery, and the neighbourhood of the Wurda. On the north, they extend beyond the Taptee and Nerbudda. The Bheel and the Koli are both numerous in Guzerat. South of Poona the Bhil are succeeded by the Ramusi, a more civilized and subdued tribe, but with the same thievish habits as the Bhil. They have no language of their own, are more mixed with the people, and resemble the Mahratta in dress and manners; whereas the Bhil differ from the rest of the people in language, manners and appearance. Of the Bhil Mr. Elphinstone remarks, that although they live quietly in the open country, they resume their wild and predatory character whenever they are settled in a part that is strong, either from hills or jungle. The Ramusi do not extend farther south than Solapore, or further east than the line of Bejapoor. The Koli of Guzerat, and the Gonds, have maintained more of their original character than the Bhil: they have probably been less disturbed. (*Coleman.*) The Bhil, seem the prior possessors of the hills of the Satpura and Vyndhia ranges and extend into Rajputanah, but are scattered over parts of the Bombay presidency. They are numerous in Kandesh, and are found in the adjoining parts of the Dekhan. They sometimes find their way to the western coast where they are stated to be known as the Dubla or the Kala Puruj or black men. Many of the wilder Bhil live much apart in their own hills and jungles, almost independent, but they do not seem to possess any separate language. (*C. pp.* 42,34,44.) The Bhil seem to have been the aborigines of the hills near Mount Aboo, but at some time or other to have become mixed with marauding rajpoots from the plains, and with the workmen who were so long engaged in building the Dilwarra temples. This mixed race called themselves Loke and are now in possession of almost all the land under cultivation. Bhils occupy the petty states of Dunduka, Rompur and Gogo—between the Mahi and the Nerbudda and Nerbudda and Tapti, and Rajpipla N. E. of of Surat; and as a rule, Kandesh is Bhil.—(*Latham.*)

According to Malcolm, in a sanskrit vocabulary, at least seven hundred years old, the term Bheel occurs to denote a particular race of barbarians subsisting chiefly on plunder, and found more particularly in the mountainous woody tract of the Nerbudda. But there is still earlier mention of them in the Mahabarat, in which the Bhil are not only minutely described, but a long fabulous account given of their origin. The Caba race now almost extinct, was famed, even in the days of Krishna, 3,300 years ago, as the savage inhabitants of Saurashtra. It was a forester Bhil who mortally wounded Krishna, having mistaken him for a deer. When the Bhil was expressing his contrition for the unintentional act, he was forgiven, with the remark, that it was only retributive justice, as, in a former birth, as the godlike Rama, he, Krishna had slain him. Rama thus appears as the subjugator and civilizer of these indigenous tribes, of whom the Caba are described as plundering Krishna's family

after his decease.—(*Tod's Raj. V. II. p.* 217.) The Bhil are one of the many tribes who seem to have entered India prior to the Aryan and the Rajput races and been forced by the later emigrants into the more secluded forest tracts. There are many such tribes in Central India the Bhil, Kol, Gond, Meena, Mera, Chooar, Serya, Sarja, Ahir, Goojur, several of them dwelling in the forest tracts of the Son, Nerbudda, and Mahanuddy, the mountains of Sargooja, and the Chota Nagpore, a number of them still but little removed from savage life, and with dialects as various as their manners. These are content to be called the 'sons of the earth,' or 'children of the forest,' while their conquerors, the Rajputs, arrogate celestial descent. The census of British India shows that these aborigines still number twelve millions or one-twelfth of the population of India and the Mahomedan and Sikhs, double that number

	Census.	Number.	
Sikhs.	1868	1,129,319	
Mahomedans, viz :			
Punjab	1868	9,335,652	
N. W. Provinces	1865	4,105,206	
Central Provinces	1866	237,962	
Berar	1867	154,951	
Madras	1867	1,502,134	
British Burmah	1867	38,601	
Mysore	Estimate	172,255	
Coorg	,,	3,318	
Sindh	Old Enumeration	1,354,781	
Bombay in 12 out of 21 districts		779,264	
,, Island	1864	145,880	
Calcutta	1866	113,059	
Dacca Division		2,493,174	
The rest of Bengal Oudh	Estimate	4,500,000	24,936,237
Non-Aryans.			
Madras (not speaking Tamil, Telugu, Canarese ; nor Malayalum —Dr. Caldwell)		650,000	
Central Provinces		1,995,663	
South Bengal		4,000,000	
N. East Bengal (say)		1,000,000	
Karen		402,117	
Khyen and Yabang		51,562	
Rest of India	(say)	4,000,000	12,099,342

Excluding the feudatory states, the following may be roughly accepted as the relative proportions of creeds and races in India :—

Asiatic Christians...	...	...	1,100,000
Buddhists ...	...	...	3,000,000
Aborigines ...	...	...	12,000,000
Mahomedans ...	...	...	25,000,000
Hindoos ...	...	...	110,000,000

The Bhil clans, are now in a state of great moral transition ; but those of Kandesh, nearly to the middle of the 19th century, continued to sally from their fastnesses and committed great ravages upon the villages of the plains. When measures were taken by the Bombay Government in 1818 to reclaim the Bhils of Khandeish, sir John Malcolm considered that success would only be partial unless corresponding measures were adopted for reclaiming the Bhils of Burwan and this was given effect to.

Fire-arms, says Tod, are only used by the chiefs and headmen ; the national weapon being the *kumpta*, or bamboo bow, having the bowstring (*chulla*) from a thin slip of its elastic bark. Each quiver contains sixty barbed arrows, a yard long. The Bhil, from ancient times, use the fore and middle fingers of their right hand to the string of their bow, holding the arrow between the two fingers. Although they claim descent from every race of rajpoot, and prefix the tribe, as Chohan Bhil, Gehlote Bhil, Pramar Bhil, &c., their origin is evinced in the gods they worship and their prejudices as to food. One tribe the Oojla Bhil, or pure Bhil, will eat of nothing white in colour, as a white sheep or goat ; and their grand abjuration is, by the white ram !—(*Tod's Travels, p.* 34.)

Their ancient position is well illustrated by the circumstance of their claiming the right to instal rajput princes. When Bappa fled, the companions of his flight were two Bhil, one of Oondree, in the valley of the present capital ; the other, of Solanki descent, from Oguna Panora, in the western wilds. Their names, Baleo and Dewa, have been handed down with that of Bappa, and the former had the honour of marking the teeka of sovereignty with his own blood on the forehead of the prince, on the occasion of his taking the crown from the Mori. The descendants of Baleo of Oguna and of Dewa the Oondree Bhil still claim the privilege of applying the teeka on the inauguration of the descendants of Bappa.—*Tod's Rajasthan, Vol. I. p.* 724.)

Oguna Panora, says Colonel Tod, "is the sole spot in India which enjoys a state of natural freedom. Attached to no state, having no foreign communications, living under its own patriarchal head, its chief, with the title of rana, whom one thousand hamlets scattered over the forest-crowned valley's obey, can, if requisite, appear at the head of five thousand bows." He is a Bhoomia Bhil of mixed blood, from the Solanki rajpoot, on the old stock of pure (oojla) Bhil, of Mewar. Besides making the teeka of blood from an incision in the thumb, the Oguna chief takes the prince by the arm and seats him on the throne while the Oondree Bhil holds the salver of spices and sacred grains of rice used in making the teeka.

CHOTA NAGPUR.—Kol is the term applied to the aborigines of the hill country of Chota Nagpur, Mirzapur and Rewah. Europeans apply the term to the Dravidian Oraon, as well as to the others, but perhaps erroneously and most of the tribes have other distinctive names. In the south of the Chota Nagpur country, about Singhbhum, it is applied to the Lurka Kol.

The Kol of Chota Nagpore, are in two tribes, Mundah and Oraon. These are occupying the same villages, cultivating the same fields, and their festivals and amusements are the same, but they are of entirely distinct origin and cannot intermarry without loss of caste. The Mundah were the prior occupants.

The Kol, Lurka Kol, and the wilder Lurka Kol of the hills to the west of the Singhbhum district, speak nearly the same language as the Ho, Sontal, Bhumi and Mundah.—(*Campbell, pp.* 27, 36.)

The Kol, the Kur of Ellichpur, the Korewah of Sargujah and Juspur, the Mundah and Kheriah of Chota Nagpore, the Ho of Singhbhum, the Bhumij of Manbhum and Dhulbhum and the Sontal of Manubhum, Singhbum, Cuttack tributary mahals, Hazaribagh and the Sontal Pergunnahs, are kindred peoples numbering several millions.

Amongst the Kol, man and wife eat together, as is the custom with some christian and mahomedan races. The Kol, the Mundah and Oraon tribes and all those cognate to the Mundah are passionately fond of dancing, which they commence in very early life and regard as an accomplishment. They also sing well and have musical voices and a great variety of simple melodies.

Their dancing assumes a national character at their great periodical seasonal festivals and fairs, called Jatra, at which the young men treat their partners with fairings.—(*Dalton, pp.* 158, 185.)

The Kol have a belief in, and greatly dread, witches and have killed many people whom they believed to be so.

Chota Nagpur, properly Chuttia Nagpor, is the country on the eastern part of the extensive plateau of Central India, on which the Koel, the Subunreka, the Damudah and other rivers have their sources. It extends into Sirgujah and forms what is called the Upar ghat or highland of Juspur, and it is connected by a continuous chain of hills with the Vindhya and Kymor ranges from which flow affluents of the Ganges, and with the highlands of Amerkantuk on which are the sources of the Nurbudda. The plateau is, on the average, about 3,000 feet above the level of the sea with an area of about 7,000 sq. miles. It is on all sides difficult of access, is a well wooded, undulating country, diversified by ranges of hills and it has a genial climate. The population, in 1866, was estimated at about a million, and is formed of a number of non-Arian tribes who had fallen back to that refuge from the plains, more than half of them, however, being the race known to Europe as Kol, the other races in *Chota Nagpore* and its adjoining tracts, are the Lurka Kol, Ho, Bhumi, Mundah and Sontal.—(*Campbell, p.* 27.)

The Kol, in former times, possessed the whole of Chota-Nagpur, which may now be said to be divided between them and the Dhangar or Uraon, who came from Rotasghur. The chief men in most of the villages are still, however, of the old Mundah or Kol tribe, and they do not intermarry with the Dhangar. The greater part of Singhbum is inhabited by Kol, and we find them numerous in Bamanghotty, and dispersed to the vicinities of Cuttack and Midnapore.

The *Lurka Kol*, as they are termed, inhabit those extensive tracts, which go under the name of the Kolehan. Part of these wilds is is situated in the Singhbum district, and the inhabitants pay a nominal obedience to the maharajah of the province, but the greater proportion of this population is more under the influence of the rajah of Mokurbunj than of any of the other powerful chiefs in that part of the country. But even his orders are obeyed only where they are supposed to tend to the advantage of the Kol themselves. Upon the whole it may be said of this singular people that, living in a primeval and patriarchal manner under their Moonda and Manki, they have managed to preserve a sort of savage independence, making themselves dreaded and feared by their more powerful and civilized neighbours. The Kolehan with its wilds and jungles is divided into different peer or purha, as they are termed, or pergunnahs. These peer are, generally speaking, not of any great extent, two or three moderate marches carry a traveller through each of them.

There can be little doubt, and such is the tradition among the people themselves, that the Lurka Kol came originally from Chota-Nagpur, and are descendants of the old Moonda or Moondai of that district. They emigrated finding the romantic hills and valleys of Chota-Nagpur too confined for their increasing numbers. The same cast of countenance prevails in the two races, though, perhaps, tinged with a wilder and more fierce expression in the Lurka Kol. The Uraon, who inhabit great part of Chota-Nagpur, regard the Kol as a tribe inferior to themselves, and do not intermarry with them. The villages in the Kolehan are ruled by Moonda and Manki, as in Chota-Nagpur. The former, the Moonda, is

the proprietor of one village ; while the latter holds six, eight, or twelve. These village potentates used frequently to wage fierce war with one another, and bitter and long existing feuds have often prevailed amongst them. There is this peculiarity in the Kol character, however, that serious and bloody as may be the domestic quarrels, no sooner are they threatened with hostilities from without, than all their animosities are laid aside and forgotten for a time. The villages are generally built on some elevated spot surrounded by trees, and, at some little distance from the principal entrance to the villages, the Kol standard or ensign, a pair of buffalo horns, is suspended in a conspicuous situation. The dress of both sexes is alike, a strip of cloth brought round the loins and passed between the thighs forming their only covering ; the women wear a profusion of coloured beads suspended from their necks, and have their ears pierced with a number of small brass rings. Their diet is of a very promiscuous nature ; every thing almost that can be considered eatable being relished by them, and much of what we consider carrion is eagerly sought for. In this respect they do not differ from the Kol of Chota-Nagpur. They are greatly addicted to drunkenness.

With the Lurka Kol, the great divinity is the sun (suruj), next to the sun ranks the moon (chandoo), and then the stars, which they believe to be the children of the latter. They uniformly, upon solemn and great occasions, invoke the sun, and by him many of these lawless men have, at times, sworn allegiance to the late E. I. Company. Another form of oath used by them is that of swearing upon a small quantity of rice, a tiger's skin and claws, and the earth of the white ants' nests. Besides the sun and moon, other inferior divinities are supposed to exist, to whom the Kol offer up sacrifices of various kinds. These spirits are supposed to inhabit the trees and topes in and around the village. The belief the Kol entertain of the power and influence of the Bhonga must be considerable, as they will on no account allow those trees to be denuded of their branches, and still less cut down. It is the universal custom in the various Kol villages that when a woman is seized with the pains of labour, she is immediately removed to a lonely hut, the door is shut upon her, offerings of various kinds are suspended near it to propitiate the Bhonga and no one ventures near till all is over. The women, it may be observed, are not secluded or shut up. When a Kol youth has fixed his affection on a lass, generally the inhabitant of some neighbouring village, she is waylaid and carried off to his house by himself and his friends. So soon as information of this reaches the parents of the girl, they proceed to the village of the ravisher, not however in general, with any hostile purpose. Interviews take place between the friends on either side, and at length matters are brought to a final settlement ; the new husband paying to the father of his spouse a certain number of cows, goats, or buffaloes, according to his means, or the beauty and comeliness of his bride. After this a scene of feasting and intoxication generally follows, in which women and children as well as men participate. The Kol burn their dead, carefully collecting the bones and ashes and burying them with offerings of rice in or near their villages, placing perpendicular or horizontal slabs of stone over each particular grave. Those grave-stones form a remarkable object, and strike the eye of every stranger on approaching a Kol village. The only weapons used by the Kol, whether in war or hunting, are the bow and arrow, and the tulwa or axe.—(*Journal of the R. A. S., Vol.* XVIII *of* 1861, *p.* 370 *to* 375)

Manbhum, a district of Chota Nagpore has numerous remains of Arian colonization close to its southern and eastern approaches, but none on the plateau itself.—*Dalton, p.* 60.

Singhbum.—The Kol, and Lurka Kol and the Sura, in Singhbum, north of the Gond, are regarded by all writers as of the prior Scythic stock. The estate of the rajah of Singhbum, afterwards styled the rajah of Porahat, was confiscated for rebellion in 1857. The Lurka Kol were subdued in 1821, and an agreement (No. LXXI) was made with them by which they bound themselves to be subject to the British Government, and to pay a fixed tribute to their Chiefs. In 1857, a large number of the Lurka Kol espoused the cause of the rajah of Porahat a rajput chieftain near the Kolehan, but on the restoration of order they reverted to peaceful pursuits. The total revenue from the district is about Rupees 45,000. The expenditure including a police battalion, amounts to about rupees 30,000.—(*Aitchison, Treaties, &c. page* 170.)

Three lists of Kol words were obtained by Captain Houghton from Chyebassa in Central India, and two by Colonel Ousely from Chota Nagpore, all of which Mr. Hodgson regarded as dialects of the great Kol language, and by means of the Uraon speech he further traced, without difficulty, the connection of the language of the Kol with that of the hill men of the Rajmahal and Bhagalpur ranges. He considers that between those several Kol tongues and that of the Gond of the Vindhya there are obvious links, and Mr. Elliot showed that much resemblance both in vocables and structure existed between that Gond language and the cultivated tongues of the Dekhan.

The Sontal call the Kol, Ho-lar-Ka. Marang Booroo is a god of the Kol, of the Ho and Oraon tribes, the Sontal, Bhoomij and Munda. Booroo, however, means a mountain, and every mountain has its spirit.

Dara, worshipped by the Oraon and Mundah of Chota Nagpore, is a carved stick, stuck up where the great jatra are held, or in the village dancing place, and is worshipped with much revel and wassail, with much drunkenness amongst the old, and dancing and love-making amongst the young.—*Dalton.*

Kol arms are the bow, a piece of bamboo with bamboo string, the arrow barbed and the battle axe.

The *Kol* intermixed with the Gond on the Sumbulpur borders, are said to be called Kirki. —(*Campbell, p.* 36.)

In Chota Nagpore, the *Sanwak* is a hereditary slave; the Bandha Sanwak a slave for life, but whose children are not slaves and the Chuta Sanwak is described as a slave for debt. Also, in Chota Rangpur, Ramgurh, and Hazaribagh, there are Sanwak life slaves generally from the hill tribes.

The Naga, is a serpent deity, and on the Nagpanchami, held on the fifth lunar day of the month Sravan (July, August) offerings are made to snakes, of milk, grain and other articles poured into holes. The crest and signature of the raja of Chota Nagpur is the head and hood of a snake called Nagsant.—(*Wils. Gloss.*)

Urya.—On the north eastern edge of the peninsula, the Urya is spoken by a tall, fair, somewhat slender race, in Orissa or Ur-desa, a country which is bounded on the north by Bengal, on the south by the Northern Circars, on the west by Gondwana and the east by the Bay of Bengal.

The original site of the Or or Odru tribe of Orissa appears to have had very narrow limits, viz., along the coast line from the Rasikulia river, near Ganjam, northwards to the Kans river, near Soro, in lat. 21° 10′ but in the process of migration and conquest under the Ganga-vansa line, the limits of Orissa (Ordesa) were extended to Midnapore and Hooghly on the north and to Rajahmundry on the Godavery in the south. Urya is a tolerably pure dialect of Bengali. In the direction of Bengal, it follows the coast-line as far as the Hijilli and Tumlook divisions on the Hooghly. On the western side of the Midnapore district, it intermingles with Bengali near the river Subanrekha. To the westward, the Gond and Uria languages pass into each other and at Sonapur half the people speak the one and half the other language. About Ganjam, the first traces of the Telugu or Tiling language occur, though the Uria still prevails forty-five miles south of Ganjam, on the lowlands of the seashore, beyond which Telugu begins to predominate. At Chicacole the latter is the prevailing dialect; and in Vizagapatam, Telugu only is spoken in the open country though Uria, in the mountains runs further down to the south.

Oraon.—The *Kol and Sura* dwell towards the north of the Gond and Kond in Central India; their languages contain Dravidian words, but they belong to a totally different family of tongues. The Kol inhabit the forest and mountain tracts of Benares, south Bahar and Chota Nagpore on the north of the Kond, in Ghondwana, and border on the people in the Rajmahal hills, dwelling in the east at Sumbulpur, Sirgujah, Gangpur, Chota Nagpur, Ramgurh and Mongir. The Kol were described by Lieut. Tickell in 1840, in the Bengal Asiatic Society's Journal. One tribe called Oraon, was driven at an early period from the neighbourhood of the Ganges, and found the Moonda Kol tribe in possession of Chota Nagpore. The Moonda call themselves Ho, though more generally known as Kol.—(*Mason Burmah, pp.* 131, 132.)

The *Uraon* according to their own traditions, were driven across the Sone by the intrusion into their native land of gangetic hindus, and ultimately settled in Chota Nagpur, the country of the Kol tribe of Munda or Ho. At a later period, hindus spread, also, into this territory, reduced the more civilized Uraon to slavery, drove the wilder Kol into revolt, and eventually forced them to migrate to the southward and eastward into the land of the Bhuian. The more northerly of the eastern emigrants passed out into the low country and mixing with the Bhumij and Bhuian natives, formed the class of Tamaria. The more southerly moved into Singbhum and Kolehan, living at peace with the Bhuian pre-occupants, until the intrusion of hindus from Marwar, who first leagued with the Bhuian, against the Kol, and then with the Kol against the Bhuian, and finally appropriated Singbhum, leaving Kolehan, or Hodesham to the Kol or Ho, as the southern tribe call themselves. Portions of the Kol are still found to the northward in Chota Nagpur and they appear to be also spread to the northwards towards Rajmahal.

The *Sonthal tribe*, appear to be very widely spread. It is found in Chota Nagpur and in the skirts and valleys of the Rajmahal hills. It is enumerated by Mr. Stirling in his list of the tribes of Cuttack, and, according to Captain Sherwell, its range is from Cuttack through Chota Nagpur to Rewa, thus embracing the territory of both divisions of the eastern Vindyan races.

The *Male and Uraon* languages are mainly Dravidian, and it is remarkable that although the Male are now confined to the N. E. extre-

mity of the Vindhya, where the Ganges washes and bends round the chain, and are separated from the South Dravidian nations by the Kol, their language is more Dravidian than the Kol itself. The explanation is probably to be found in the circumstance of the Uraon and Male having originally formed an uninterrupted extension of the Gond tribes and dialects that extended from the Godavery to the N. extremity of the Vindhya.

Uraon, according to Dr. Caldwell, is an uncultivated idiom, and contains many roots and forms belonging to the Kol dialects and so many Dravidian roots of primary importance, that it is considered by Dr. Caldwell as having originally been a member of the Dravidian family of languages.

The Kol and Male-Uraon are physically Ultra-Indian more than Dravidian, and the occupation of the eastern Vindhya and hills on the opposite side of the Gangetic valley, by Ultra-Indians, seems to imply that the valley itself was at one time possessed by the same race,—the simplest conclusion is that the Kol were an extension of the ancient Ultra-Indo-Dravidian population of the lower Ganges and of the highlands on its Eastern margin.

The Kond language of Gumsur appears to be merely a dialect of the Gond.—(*Mr. Logan in Jl. In Arch.*)

Ho, the Ho language differs so little in phonology and glossary from the Mundah, Bhumij and Sonthal, that Captain Tickell's account of its grammar, may be taken as that of the Kol language generally.

The Mundah Kol or Ho comprise about two-thirds of the population of the five pergunnahs of Silli, Tamar, Barundah, Rabey and Bundu, all others being recent settlers. But many of the Mundah Kol have been dispossessed of their ancestors, lands, by middlemen, brahmans, and rajputs. Mundah settlements are chiefly in the eastern and southern parts of Chota Nagpore.—(*Dalton, p.* 154, 163) The Mundah and Sonthal are amongst the ugliest of mankind, the Sonthals being remarkable for good nature and ugliness. They are more like Hottentots than Negroes.—(*O. p.* 150-151.) The extreme featured of the Mundah race have high cheek bones, small orbits often with an oblique setting, flat faces, without much beard or whisker, and in colour from brown to tawny yellow. Mundah features are flat and broad, the richer people of the Mundah, who aspire to be zemindars, wear the poita, reverence brahmans, and worship Kali, but the mass continue in their original faith. The great propitiatory sacrifices to the local deities are carousals at which they eat, drink, sing, dance and make love and the hindus settled in the province propitiate the local deities. The Mundah country is arranged into Purha or divisions, each consisting of twelve or more villages under a chief, and the chiefs meet at times for consultation. Many of the Oraon and some of the Mundah clans or Kili, are called after animals, the eel, hawk, crow, heron, and the clans do not eat the animal whose name they bear. The Mundah and Ho dead are placed in a coffin along with all the clothes and ornaments used and all the money the deceased had and all burned. The larger bones are preserved till a large monumental stone can be obtained, and the bones are interred below it, the Ho near the houses, the Oraon separate from the village. They are taken to the tomb in a procession, with young girls with empty and partly broken pitchers, which they reverse from them to him to show that they are empty. The collection of these massive grave stones under the fine old tamarind trees is a remarkable feature in Kol villages. The stones are sometimes so large that the men of several villages are required to move one. The bones are put with some rice into a new earthen vessel, deposited into the hole prepared for them and covered with the big stone. The Mundah and Oraon races are fond of field sports and all game, large and small, disappear from near them. They form great hunting parties. Fishing and cockfighting are also resorted to. The Mundah and Ho have a Shamanite religion. They have no worship of material idols, but Singbongu, the sun, is the supreme being, the creator and preserver, a benificent deity, and they have secondary gods all invisible, and generally malevolent. Sacrifices to Singbongu are made of fowls, pigs, white goat, ram, and buffalo.

The Oraon worship the sun under the name of Dhurmi, as the creator and preserver, and offer white animals to him in sacrifice.

The Mundah Ho and Oraon are all divided into families, called Kili or clan, and may not take to wife a girl of their own Kili.

Manki, is the name applied to the Mundah chiefs, in the southern parts of Chota Nagpore. The Manki of Chota Nagpore have acquired considerable estates.

Mundah and Ho houses are more isolated with better accommodation than those of the Oraon, with verandahs, and separate apartments for the married and unmarried members. Every Mundah village has its own dancing place —(*Major Dalton, pp.* 76, 158, 159, 163, 168, 188-9.)

Sonthal.—The Sonthal, Mundah, Bhumi and Ho speak languages nearly identical. They occupy most of the British districts of Chota Nagpur, Singbhum, Manbhum and the hilly part of Bhagulpur, (the Rajmahal hills excepted) now known as the Sonthal pergunnahs; also, parts of west Burdwan, Midnapore and Cut-

tack—an extensive region west of Calcutta. The Sonthal are a simple, industrious people, honest and truthful, and free from cast prejudices Their country is healthy, their numbers are increasing, and they are much sought after and prized as labourers, by the Bengal Indigo planters also, for the railways, and other works of western Bengal, and in the Assam tea plantations. These tribes live apart in detached houses or isolated hamlets.—(*Campbell, p.* 33, 34, 35.)

The Sonthal are a branch of the Mundah Kol. They seem to have separated when the Mundah and to have fallen back on Chota Nagpur from the Damudah river, which the Sonthal call their sea, and they preserve the ashes of their dead until an opportunity occurs of throwing them into that stream or of burying them on its banks. The Sonthal are now most numerous in the Sonthal Pergunnahs but there are many in Mohurbunj and there are several colonies of them in the Singbhum district. They are an erratic race; but, Lt. Col. Dalton thinks that they left their chief settlements on the Damudah river from having been pressed by the Koormi. The Sonthal, Bhumij and Mundah tribes have long been known to be intimately connected, and they have affinities with the wild clan of the Korewah of Sirgujah and Juspur, with the Kheriah tribe of Chota Nagpur and the Juanga of the Cuttack tributary mahals. Since the beginning of the nineteenth century they have intruded themselves into some of the Rajmahal districts, which therefore now contain two populations, allied to each other, but speaking languages said to be mutually unintelligible.

The Sonthal and Bhumij races have suffered in esteem in consequence of the human sacrifices offered at the shrine of Kali as Runkini, but these races personally do not much care for this goddess, at whose shrine the establishment and ritual are essentially brahminical.—(*Dalton, pp.* 154, 157.) The Sonthal and Rajmahali are markedly different in habits, appearance, manners and national characteristics and on the Chota Nagpore plateau these differences are very marked. The Sonthal are a very ugly race, with flat broad nosed features. They are a more simple, mild, industrious race than the Rajmahali, Gond or Khond. Though the Sonthal are geographically near the plains, they seem to be more shy and more socially isolated than the Mundah, Bhumi and Ho. They have kept much to themselves, preferring locations surrounded by jungle and segregated from the world, and cultivating the lower lands of their country, but they have latterly taken to labour for hire.—(*Campbell, p.* 35.)

Captain Walter, S. Sherwill, Revenue Surveyor, in his "Notes upon a Tour through the Rajmahal Hills says the Sonthal has the honour of being aboriginal to India. It was his forefathers who first occupied and inhabited the land then known under name of Colar. From them the country was usurped by invaders from the Ariana of the Greek Geographers. The Aryan followers of Brahma first settled in the Punjab, the Sapta Sindhoo of the Vedas and the Hapta-Hindoo of the Zendavesta and the Sonthal is singled out by his short-make, his thick lips, high cheek-bones, flat nose and small eyes. He has little or no beard. The Sonthal race are usually quiet, but in 1855 they were impelled by a sense of wrong to a headlong rebellion and then gave much and prolonged annoyance. In the suppression of the rebellion half their numbers perished. They occupy the district surrounded by Bhagulpore, Berhampore and Birbhum, and are now ruled by a commissioner. The Kumea in the Sonthal pergunnahs was a person, who for a period voluntarily bound himself to slavery. The Sonthal are truth-telling, patient, kind of heart, honest and ingenuous and characterised for their simplicity. They are reserved and phlegmatic. Latham says the Sonthal believes in Chandabunga, an all pervading deity, to whom, once in 3 or 5 years, he sacrifices a goat on a Sunday. Holding the goat under his arm, he stands on one leg, and looking heavenward he calls on Chandabunga, kills the goat and eats it. They have four gods of the woods (Dryads) called Jaihirira, Monikoh, Marungburu and Gosaira, who seem to resemble the Lares and Penates of the Romans. These are represented by four stones buried in a clump of trees called the Jairthan and no Sonthal village can be settled till the Jairthan is established. A familiar deity is Manjiharam in the shape of a stone, which is buried in the centre of the village in a small open shed. The shed is called Buddhathan, for Manjiharam is also called Buddah Manji, a Manji and Sonthal being synonymous. The panchayats of the Sonthal assemble here. In the months of April and May, when the leaves are bare, 2,000 to 4,000 Sonthals assemble with bows and arrows, for their great Seudra or hunting expedition, during which they make great circles to enclose and kill all the smaller game. They eat the flesh of every animal. Their most solemn oath is taken when touching a tiger's skin. They dance in bodies of one or two hundred to the wild, gloomy, monotonous, music of flutes and drums. The men go round one way, while the women circle the other. The men step in time without much action, but the women drop their heels and toes in a double shuffle, and bend their bodies forward to a half kneeling position, as though paying homage to the men. Peacock's feathers enter largely into the paraphernalia required in some dances. They marry at will, but can be divorced through the

panchayat. When death occurs, the body is burned and the ashes taken to the Damudah. In the Mission school in their neighbourhood about 300 boys were under education in 1869. The houses of the Sonthal are in enclosures made with the green boughs of the Sakua, planted in the ground and tied together they keep each family distinct from its neighbours, they generally contain a Sonthal and his wife, several married children and their families a pig-stay, buffalo-shed, and a dovecot, a wooden stand holds the water-pots, the water from which is used for drinking or cooking, there is also a rude wooden press for expressing oil from the mustard seed. In a corner of the yard there will be a plough or a couple of solid wheeled carts, whilst numbers of pigs and poultry are seen in every direction. Each of the enclosures contains to the number of ten souls.—*Tr. of Hind. Vol. I.* 181.

The Paharia of the Sonthal pergunnah are arranged into two tribes, those who live in the Rajmahal hills, and the Naiga Pahariah on the plains to the west. The former live by grain crops reared on the slopes of the hills, and by bartering in the plains the hill bamboos, the grass and timber, which grow in luxuriant profusion in every direction. The Paharia are given to great lying and drunkenness. The Bhagulpor Hill Rangers are principally composed of this people. But since Mr. Cleveland's settlement in the beginning of this century many of them receive pensions. The other body, the Naiga Paharia, have more than all the vices of their tribe on the hills, but are worse off, having no right of forest or well wooded hills and readily take to brigandage. Both the Paharia tribes are low in the social scale.—(*Cal. Review, Dec.* 1860.)

The *Sonthal* and *Male* or Rajmahali are regarded by Mr. Logan as a displaced portion of the prior inhabitants of the country. The Male and Kol tribes are supposed by him to resemble the coarser Binua tribes of the Malay peninsula, more than the Burmans, the Malays, or other Indonesian tribes. But the same type as the Male and Kol are found amongst Malays and Burmans, although generally softened, and the short and turned up nose are Binua, as also is the small stature and the vertical turned up head. The *Male* or Rajmahali are described as mostly very low in stature, but stout and well proportioned. There are many less than 4 feet 10 inches and perhaps more under 5 feet 3 than above that standard, but 5 feet 3 inches is about the average height of the men. Their nose is flat and their lips thick, though less so than the Kafir of Africa, but their lips are thicker than those of the populations of the neighbouring plains. Buchanan Hamilton says that the features and complexion resemble those of all the rude tribes whom he had seen on the hills from the Ganges to Malabar. Their noses are seldom arched and are rather thick at the points, owing to their nostrils being circular, Bishop Heber says that the *Male* nose is rather turned up than flattish, but they are not so diminutive as the noses of the Tartar nations, nor flattened like those of the African Negro. Their faces are oval and not shaped like a lozenge, as those of the Chinese are. Their lips are full, but not at all like those of the Negro; on the contrary their mouths in general are very well formed. Their eyes, instead of being hid in fat and placed obliquely like those of the Chinese, are exactly like those of the Europeans. Their women, though hard worked are far from having harsh features. Bishop Heber says that the Malay or Chinese character of their features is lost, in a great degree, on close inspection. The *Male* head like that of the Kol has more of an elongated oval than that of a lozenge shape. The forehead is not narrow and the lateral projection of the zygomata is comparatively small. Nothing is said respecting the shape of the back of the head, a very important point in comparing Turanian tribes, the *Male*, or Hill man is described by Captain Sherwill as much shorter than the Sonthal and of a much slighter make. He is beardless or nearly so, is not of such a cheerful disposition, nor is he so industrious.—(*Mr. Logan in Jl. In. Arch.*)

Ho.—In the mountains S. W. of Calcutta, are the Dhangar, Oraon, the Kol, the Lurka Kol or Ho, and the Khond.

The *Ho* are a comparatively small tribe. Their country proper is the part of the Singbhum district, called Colehan, a series of fair and fertile plains studded with hills, it is about 60 miles from N. to S. and from 35 to 60 in breadth, and has to the South and S. E., the tributary estates Mokurbung, Keonjur, Bonai and Gangpur, inhabited by Urya speaking hindus: to the east and north the Bengali pergunnah of Dhulbhum and district of Manbhum; and to the N. and N. E. the Hindi district of Lohardaggah. The Ho is the most compact, the purest, most powerful and interesting and best looking division of the whole Mundah nation. The more civilized Ho have an erect carriage and dignified, fine manly bearing, with figures often models of beauty: the occupants of the less reclaimed parts are more savage looking. Their tradition is that they came from Chota Nagpur and that they brought with them their system of confederate government of Purha, which they call Pirhi or Pir. The Ho of Singhbum are also styled Laraka Kol and have a tradition that they once wore leaves only, as the Juanga women now do, and not long since they threatened to revert to

them unless cloth-sellers lowered their prices. The Ho of the border land have probably much intermixed with the Urya and are less ugly than the race is usually described to be. Towards the close of the eighteenth century a maharajah of Chota Nagpur at the head of twenty thousand of his own men in co-operation with the forces of the Rajput chiefs of Singbhum, entered the Colehan to enforce the submission of the Ho. They allowed him to enter, but then fell on his army in masses and routed it with great slaughter. From 1819 to 1836, they continued hostile to the British Government but were then thoroughly subdued, and placed under British protection. The people and cultivation has immensely increased and the people are peaceful, prosperous, and happy, with hindu villages and colonies amongst them. The Ho of the lower part of Singbhum and Maunbhum are tolerably civilized are more dignified, more resemble North American Indians and have considerable physical qualities. The men are reserved, but often indulge in excess The girls have a modest demeanour with frank open manners and womanly grace. The Ho are sensitively alive to abusive language and occasionally commit suicide on an angry word. They are eminently truthful and are all kindly affectionate to one another. A Ho bridegroom buys his bride, or rather his father buys her for him, the price being so many head of cattle.—(*Latham's Ethnology. Campbell, p.* 22, 35, 181. *Dalton, p.* 197. 166-8. *Capt. Tickell. As. Soc. Jour. Vol. IX. pp.* 783, 997-1063.)

Khorewah, a considerable tribe dwelling near the Oraon and to the north of the Lurka Kol, in the highest hills to the north of Jushpore and in those between Sargujah and Palemow. They speak much the same language as the Ho, Sontal, Bhumi and Mundah, and they appear to be of the same stock, though much less civilized. They are described as of small stature, with shaggy heads of hair and some beard, and to be of a lighter colour, and better looking than their neighbours. They occupy the hills and highest table lands of Sargujah and Jushpur, and they possibly were forced into that position by one of the Gond tribes. They are a considerable, ugly, and ill favoured tribe in the district of Palemow, in Singrowli, the hilly country of Mirzapore and Rewah, and on the borders of Benares and Behar and westwards in parts of Sargujah and Jushpur, and they are numerous to the N. E. in those parts of the plains adjoining the hills. They are also found on the outskirts of the Patna and Arrah districts. A division of the Kharawa tribe is the Bhogtah. The Kharawa are the dominant tribe of Palamow and Singrowli. They are labourers, palanquin bearers and porters. The Kharawa are mentioned by Captain Blunt (Vol. VII. As. Res.) as very savage and speaking quite an unintelligible language. This, they now seem to have forgotten as they speak a dialect of Hindi. The rajahs of Singrowli and Jushpur are Kharawa, though claiming to be Rajput. They have no caste distinctions and eat anything. The Kharawa of Sargujah do not use the plough. The race are mostly short of stature but with well knit muscular frames, complexion brown, not black, sharp, bright, deep set eyes, noses not deficient in prominency, somewhat high cheek bones, but without marked maxillary protuberances. The Kharawa of the hills are wild savages, armed with battle axes, bows and arrows. The Korewah are nomadic and migrate every second or third year. Their villages are therefore mere standing camps, consist of about forty houses built round a large square in the centre of which is the dancing arena.—(*Dalton, p.* 176. *Campbell, p.* 36, 40, 378.)

Oraon, is a tribe found amongst others in the Chota Nagpur territory. Their language is of the Dravidian stock. They are located in the highlands east of the Udipur and Sargujah district of the Chota Nagpur division. They form a considerable part of the population of the Jushpore highlands and these Jushpore Oraon are the ugliest of the race. Thence, eastwards, the Oraon have pushed themselves into the country of the Mundah in the plateau of the Chota Nagpur district and adjoining country. They are not, at present, a dominant race. They are laborious and industrious and are engaged as labourers in Bengal. The Oraon, call themselves Khoonkir. They have traditions that they were once settled in Guzerat, but on being expelled from there travelled eastwards fighting unsuccessfully on the road, and finally settled on the Rhotas hills where some of them seem to have remained until the mahomedans erected a fort there. There is no similarity between the language of the Oraon and that of the Mundah and their cognates; the Mundah is soft and sonorous, while the Oraon is guttural and harsh and the Oraon language of the Rajmahal hills and the Tamul have a near connection. The Oraon, when driven from the Rhotas hills, brought with them to the plateau large herds of cattle and implements of husbandry previously unknown to the Mundah. Also the Oraon, when driven from the Rhotas hills, separated into two great divisions, one of these moving to the S. E. formed a settlement in the Rajmahal hills, and are now known as the Male or Rajmahali; the other sought refuge to the south in the Palamow hills, and wandered from valley to valley in those ranges, till they found themselves in Burwai, a hill-locked estate in Chota Nagpur proper. From thence

they occupied the highlands of Jushpur and formed the settlements in the vicinity of Lohardugga, on the Chota Nagpur plateau where they still constitute the bulk of the population. —(*Dalton, p.* 160. *Campbell, p.* 33.)

The present customs of the Oraon have been derived from the Moondah, and differ therefore from those of the Rajmahali people whose isolated position has preserved their ancient ceremonies. In the marriages of the Oraon, a public recognition that the couple have slept together is a part of the ceremony; the Oraon burn their dead. They are sworn on the Doob grass. Their supreme deity is the sun, called Dhurmo, a Sanscrit word. Amongst the Rajmahali people, it is customary for the engaged couple to sleep together before marriage. They bury their dead. They swear on salt. They worship Bedo Gosain, an invisible spirit. The Rajmahali is less cheerful than the Sonthal, less industrious and does not join in the dances to which the people of the Moondah stock are so devoted.

The Oraon are more lively than the Moondah, quite as industrious and the most active and nimble footed of the dancers.—(*Dalton, p.* 171 172.) The Oraon are now a good deal interposed between the Kharawa and the Mundah, but though the Kharawa and Oraon are in contact, they are described by Colonel Dalton as very unlike one another in language, appearance, manners and customs.—(*C. p.* 39.) Oraon settlements predominate in the western parts of the Chota Nagpur plateau and each village group has its peculiar flag. The Oraon are a very small race, but well proportioned. The young men have light graceful figures and are as active as monkeys. Those residing in isolated positions are generally black or dark and ill-favoured. They have wide mouths, thick lips, projecting maxillary processes, nostrils wide apart, no marked elevation of the nose, and low foreheads, though not, in general very receding. The Oraon who dwell in mixed communities have more varied features and colours softer, fairer and pleasing when young and improve in appearance with civilisation.—(*Dalton, pp.* 134, 169-70.) The Oraon, according to Colonel Dalton have more of the African type of feature, he has seen woolly heads amongst them and the wild Oraon have almost an ape like physiognomy. The Juspur Oraon, according to Colonel Dalton, are the ugliest of the race, with very low foreheads, flat noses and projecting cheek bones, and approach the negro in physiognomy and in manner the Oraon are more like bright hearted Negroes (*C. p.* 22.) are fond of gaiety, decorating rather than clothing his person, whether working or playing, always cheerful, and young Oraon boys and girls are intensely fond of decorating their persons with beads and brass ornaments which they discard on becoming christians. Oraon youths and maidens speedily acquired the songs and the steps of the Mundah. The Oraon have small, ill-built, untidy huts, in which the family reside. But they have in each village, of old standing, a Dum-Kuria, or bachelor's hall in which all boys and unmarried men of the tribe are obliged to sleep. Any absentee is fined; in the Dum-Kuria, also, is placed all the flags, instruments used in their dancing and other festivals, and in front of it is a clear circular space for the dancing ground. In some Oraon villages, also, the unmarried girls have a house to themselves with an elderly woman to look after them—she has always a stick in hand. The Oraon have no gardens or orchards belonging to individual houses, but they have some fine trees, common property within the village, and outside, their groves of fruit trees form a beautiful feature of Chota Nagpur scenery. The Oraon have a veneration for salt; Mundah and Oraon marriages as a rule are not contracted until both bride and bridegroom are of mature age, the young people often making love and suiting themselves. In Chota Nagpur amongst the agricultural classes, and in Singbhum amongst all classes of Kols, girls have a fixed price sometimes up to 40 head of cattle; and girls often long remain unmarried, even to be old maids. When they are married, the bride clasps a mahwa tree, the groom a mango tree, and at the close of the ceremonies the bridesmaids pour a jar of water over the heads of each of the couple who then retire to change their wet clothes. The next morning the bridesmaid burst into the nuptial chamber and bring forth the bride and groom.—(*Dalton, p.* 175, 179, 198) In villages east of Ranchee, wholly inhabited by the Oraon, the Mundah, not the Oraon is the language spoken.

Mundah and Oraon village officers are the Bhumhar, whose head is called Mundah;—the Mahto or assessor, Bhandari, his assistant; the Pahan or priest: Gorait or messenger, and Kotwar or Police.

Bustar, a large district and dependancy in Central India surrounded by the Tiling in the south, Khond and Mári Gond on the east and hindus to the north.

Gudba is a Kolarian tribe numerous in the eastern part of Bustar and Jeypur, but scarce to the west of Bustar some of their most important words are identical with those used by the Kurku in the west, and by the Kol and Sonthal on the east.—*C. I. P. C. Rep. p.* 6.

In *Singbhum*, occasionally, in the markets, a young man will pounce on a girl and carry her off by force, his friends covering the retreat.—(*Dalton, p.* 181.)

The Khond, Kund, or more properly the Ku, is the language of the people who are common

ly called Khond but who designate themselves Ku. They dwell in the country surrounding the Urya in Sumbhulpur and to the south, they inhabit the upper parts of Gondwana, Gumsur and the hilly ranges of Orissa and their horrid rites of offering children and young people in sacrifice (see Meriah) are generally known. Kimedy is peopled by Khond, who, during the past thirty years have been repeatedly in rebellion. The hilly tracts of India from Moorshedabad down to Ganjam, and southwards on the skirts and in the valleys of the mountains as far as Cape Comorin, are peopled by hundreds of small tribes, who form amongst themselves independent nations, who have not yet felt the effects of civilization and—as with the Sonthali,—the Saurian and the Khond, occasionally rise in open rebellion against the British power. It was known in 1833, that the Khond race were addicted to the sacrifice of human beings,—Meriah,—to the earth goddess ; and, ever since then, the British Government have made continuous effects to suppress this rite. Since 1837, the Khond of Kimedy have again been surging up, from time to time, but the true reasons are not known, though those alleged are their hopes of renewing the Meriah. Kond savages occupy the eastern parts of the highlands between the Godavery and the Mahanadi and are notorious for their human sacrifices. Those near Berhampoor average in height 5 ft. 5¾ in. and in weight 8 stone, with well developed muscles and tendons standing out hard and firm. They are wiry and active, have an upright gait, carry their heads erect, straight noses, narrow nostrils, thin lips, black eyes, not high cheek bones, slight projecting lower jaw, white and regular teeth with oval faces, as if of a mixed caucasian and mongolian origin. Their ordinary food consists of the wild farinacous products of the hills. They are social, but easily excited, and more truthful than natives of the plains. Animal food and palm wine are only used on festive occasions. The deities of the Khond are the same as those of the S. E. Gond. Pen and Pennoo are common to Khond and Gond. Dula deo was a bridegroom who perished in the marriage procession and received divine honours.—(*Mr. Campbell, p.* 31, *Pr. Mad. Govt.*)

Sowrah, Sour or Saur.—This term, identical with Saires, is applied to populations occupying the fastnesses of the Eastern Ghats, along with the Kond and Kol. The Sourah are wholly within Telingana, and extend from the Godavery to the southern frontier of the Khond. An insurrection in 1858, was neither aided nor led by Khonds, the principal actor in the affair was a man named Danda Sina, of Garbah Goomah, a village occupied by the Sowrah tribe, a race of savages armed with bows and arrows and battle axes, who occupy the hilly tract which extends from Parla Kimedy to Berhampore (Ganjam.) It is bounded on the East by the narrow belt which separates the hill tracts from the sea, and on the West by the Khond clans of Chinna Kimedy and Jeypore. The Sowrah are believed to be prior occupants, but in habit and barbarism they bear a strong resemblance to the Khond. Danda Sina had sometime before been apprehended by the authorities of Ganjam, on a charge of dacoity. He was convicted and sentenced, but the sentence required confirmation, and in the interim he contrived to effect his escape. Flying to his own village, he collected a large body of his clansmen, and with 10,000 followers attacked the manager of Purla Kimedy. Seven peons were killed upon the spot, and though the manager escaped, the whole country was immediately in a state of excitement. The Sowrah had previously been irritated by the execution of two of their number for murdering the headman of a village, and had openly threatened vengeance for their deaths. An old device also was employed to stimulate them to action, and give additional coherence to the movement. As in the Sonthal rebellion, an avatar descended, though he was not, as with the Sonthal, in the shape either of a cart wheel or of a piece of paper. The Sowrah appear to be advanced beyond that point in theology, and their idol was a little brazen image. But in all other respects the device was identical with that employed among the Sonthal. The avatar issued commands, the active leader is sole interpreter of them, and the commands authorized armed resistance to regular authority. The Sowrah country is one of the most difficult in the world, a hilly tract covered with a jungle as deadly to sepoys as the lowest swamp in the Sonthal Pergunnahs.

Bhui or Bhuya, a very numerous tribe dwelling all along the borders of Bengal, Orissa and part of Behar. The Bhui of the south of India keep asses, which the Bujhwa or Bhui of Northern India do not keep. The Bhuya seem to belong to west Bengal and Orissa on the one side and to Assam on the other. According to Colonel Dalton they were once the dominant race in Assam, but they seem to have been the prior occupants of Bengal and they have apparently no connection with the Bhumi or Boyar. They appear to be the original occupants of much of the lower country to the south of the Chota Nagpur plateau, great part of Singbhum and Bonai and the borders of Orissa. They have been partly driven from a portion of their country and they are partly dominated over by Kol, themselves probably impelled south and east by pressure from the north and west. But they are still very numerous in all the districts and petty states thereabouts, and are found more or less all the way across

the lower hill country to the borders of Behar, close up to Gya were they are succeeded by the kahar as palanquin-bearers. The Bhuya are the palanquin-bearers of Chota Nagpur. Major Tickell describes them as originally rich in cattle, and Mr. Campbell deems it possible that the hindus have changed them to Goali who are a most numerous race in Bengal and Orissa. They are a dark complexioned race with rather high cheek bones, but not otherwise peculiar and approximate in appearance to the Urya. Those in the hills towards the Bahar border have a darker complexion. They have no language of their own, but speak Urya on the Urya borders, Bengali, on the borders of Bengal, and Hindi further north.

Kaur, according to Col. Dalton, the Kaur next to the Jushpur Oraon, are the ugliest race he had seen, dark, coarse featured, wide mouths and thick lips. They are a very industrious, thriving people, about Korea and Udipur, in the extreme west of the Chota Nagpur Agency, of Nagpur proper. They speak Hindi. They are considerably advanced in civilization, but are very black, with broad noses and thick lips. They eat fowls and do not reverence brahmins, but worship Siva. They bury their dead. They claim to be descendants of the Kuru who fought the Pandu.—*Campbell, pp.* 22, 40.

Bhur, a tribe near Palemow mentioned by Buchanan, of whom little is known —(*C. p.* 39.)

Gour, a race on the east of the Gond, who extend into the borders of the Chota Nagpur agency in Udipur and Sargujah. They are the dominant tribe in Sargujah and the Sargujah rajah is supposed to be a Gour though claiming to be a rajput. They are much hinduised. —*C. p.* 32.

Dhoonkur or Dhankur or Dhungur in the Lukti territory bordering on Udipur and Sultanpur, a short but muscular and able-bodied tribe who speak a separate language. The tribe is confined to Chota Nagpur, and the adjoining districts. They do not follow hindu rites and they have no temples, but set up near their villages a stone with some rude carvings, which they worship in times of famine or sickness or calamity. They bury but sometimes burn their dead.—*C. J. P. C. R. p.* 6 and 7.

Gowari, a tribe of agriculturists speaking the Mahratta language dwelling in the more civilized parts of the Central Provinces. They resemble Raj Gond, but are fairer.—*C. J. P. Com. Rep., p.* 20.

Kheriah, an aboriginal tribe settled on the plateau of Chota Nagpur, they venerate the Koel river, as the Sonthal does the Damudah river. Kheriah build substantial comfortable houses. They say that their first settlement was Pora, a village on the Koel river. Their language, customs and appearance is sufficiently approximate to those of the Mundah as to evidence a consanguinity.—*Dalton, p.* 155. *Campbell, p.* 36.

Bendkur, a race in the south of Chota Nagpure.

Birhore, a race in the south of Chota Nagpur.

Bhuhar, or *Boyar* a race in the north of Chota Nagpur.

The Kherria, Bendkur, Birhore and Bhuhar are described as regularly wild inhabitants of the hills and jungles who have no fixed villages, but move about from place to place, burning down the jungles, sowing in the ashes, and after the harvest, moving elsewhere.—*C. p.* 36.

Bhumi, means man of the soil, but Bui also is earth or soil. The Bhumi are numerous. They form the majority of the population in all the estates of the Manbhum district to the south of the Kassai river. As they approach the confines of Chota Nagpur they appear to be called indifferently, Mundah or Bhumij, and they intermarry. More to the east, the Bhumij have greatly assimilated to the Bengali, many have acquired estates and influence as Sirdar Ghatwali, the hereditary guardians of the passes. They tenaciously cling to their national songs and dances. Bhumij are to be found in Mohurbunj and Keonjur, and it is this branch of the Mundah race which has spread farthest in an eastern direction. The *Bhoomi* of the lower part of Singhbhum and Manbhum are tolerably civilized. All the wild tribes of Central India worship relatives immediately after death. Bhunjia, Bhumij, and Kol tribes or clans practice the ceremony whereby the soul of a man just deceased is attracted or conjured into some tangible thing which is brought back into the house soon after the funeral, apparently that the soul may thencefourth be worshipped as a household spirit. Traces of this superstition may be found all the world over. It is practiced by hindus. Herodotus and Homer show its antiquity. Captain Burton mentions it in Africa.—(*Cent. Ind. Prov. Com. Rep. pp.* 5, 9. *Dalton, pp.* 147, 156. *Campbell, p.* 33.)

Male.—The Rajmahal hills form a kind of knot, at the extreme eastern point of the hill country of Central India dividing Bengal from Behar. They are to the east of the Oraon, but are entirely different from their neighbours the Sonthal. Rajmahali people are known as Male. They are better looking than the Sonthal. The skin is dark, face broad, eye small, and lips thicker than those of the men of the plains.

Their language abounds in terms common to the Tamul and Telugu, and contains so many Dravidian roots of primary importance, though it also contains a large admixture of roots and forms belonging to the Kol dialects, that Dr. Caldwell considers it had originally belonged to

the Dravidian family of languages. It is spoken by the Male, or inhabitants of the hills. The brief vocabulary of the words of the tribe inhabiting the Rajmahal hills in Central India, as contained in Vol. V. of the Asiatic Researches and Mr. Hodgson's more complete collections prove the idiom of this tribe to be in the main Dravidian. Test words show an identity of language among the Rajmahali on the east: and the Maria in the remote jungles down to the Godavery and the Gond who live along the Satpura as far west as Nimar and Malwa. It is akin to that of the Oraon. Latham says Bedo is one of their gods, and is the same as the Batho of the Boda, the Potlang of the Kuki and Buddha, and their priesthood like that of the Bodo consists of Devian and Dewasi."

It was the Male race, amongst whom Mr. Cleveland so successfully laboured to impart to them settled habits. They have been successfully reclaimed, are quiet cultivators and formed the bulk of the corps known as the Bhagulpur hill rangers. Ghatwall estates are particularly numerous in the Bhagulpur and Bherbhum districts adjoining the Rajmahal hills on either side. The estates pay no revenue, but are held on the condition of guarding the passes against hill robbers, murderers and cattle-lifters.—(*Latham. Campbell, p.* 25 *to* 83.)

The Gond dialect, says Mr. Logan, is Dravidian, hardly at all affected by Gangetic. The Khond, if not identical, probably agrees with it more than with Kol, and the basis of the latter is Dravidian. The Uraon and the Male or Rajmahali dialects are still closer to the Gond and south Dravidian than the proper Kol.

For the Male or Rajmahali, the most eastern dialect, and those which it might have been supposed, were longest in contact with the east Gangetic, we have vocabularies by Major Roberts (A. R. iv. 127) and by Mr. Hurder (in Mr. Hodgson's series, J. A. S. XVIII, 553.) The Uraon vocabulary of Colonel Ousely (Hodgson's series) has so much resemblance to the Male that it may safely be set down as a dialect of the same language. It frequently agrees with the Male where it differs from the co-dialects, with which it is now in contact in Chota Nagpur. This may be considered as confirming the tradition of the Uraon that their original country was Rotas and parts of Rewa, or the hills along the northern bank of the Sone (to the southward of Benares) According to the tradition, they were driven across the Sone by the intrusion of Gangetic hindus into their native land, and ultimately settled in Chota Nagpur, the country of the Kol tribe of Munda or Ho. At a latter period Hindus pushed into this territory, reduced the more civilised Uraon to slavery, drove the wilder Kol into revolt, and eventually forced them to migrate to the southward and eastward into the land of the Bhuians. The more northerly of the eastern emigrants passed out into the low country, and mixing with the Bhumij and Bhuian natives, formed the class called Tamaria. The more southerly moved into Singbhum, and Kolehan, living at peace with the Bhuian pre-occupants until the intrusion of Hindus from Marwar, who first leagued with the Bhuian against the Kol and then with the Kol against the Bhuian, and finally appropriated Singbhum leaving Kolehan or Hodesam to the Kol or Ho, as this southern tribe call themselves (*Tickell, J. A. S.* 1849, *pp.* 694-7.) Remnants of the Kol are still found to the northward nearer Chota Nagpur, and they appear to be also spread to the northward towards Rajmahal. One tribe, the Santhal, is found in Chota Nagpur and in the skirts and vallies of the Rajmahal hills. It is enumerated by Mr. Stirling in his list of the Kol tribes of Cuttack, and according to Captain W. S. Sherwill its range is from Cuttack through Chota Nagpur to Rewa, thus embracing the territory of both divisions of the eastern Vindhyan.

The Male and Uraon languages are mainly Dravidian, and it is remarkable that although the Male are now confined to the N. E. extremity of the Vindhya, where the Ganges washes and bends round the chain, and are separated from the south Dravidian nations by the Kol race, their language is more Dravidian than the Kol itself. The pronouns and numerals, for instance, are Dravidian, while those of the Kol are Gangetic, Himalayan and Ultra Indian. The explanation is probably to be found in the circumstance of the Uraon and Male having, originally, formed an uninterrupted continuation of the Gond tribes and dialects that extended from the Godavery to the N. E. extremity of the Vindhya. The Kol, again, must have formerly had a greater extension either on the north, breaking through the Male Gondian band, into the Gangetic valley, or on the south to the seaboard of Cuttack and the lower valley of the Ganges, where they would be exposed to the influence of maritime visitors and settlers, Ultra Indian and Gangetic. But as both the Kol and the Male-Uraon are physically Ultra Indian more than Dravidian, and the occupation of the Eastern Vindhya and the hills on the opposite side of the Gangetic valley by Ultra Indians implies that the valley itself was at one time possessed by the same race, the simplest conclusion is that the Kol were an extension of the ancient ultra Indo-Dravidian population of the Lower Ganges and the highlands on its eastern margin. The peculiarities of Kol, when compared with the S. Dravidian, and the Male-Gondian or purer north Dravidian dialects, are chiefly glossarial.—*Journal of the Indian Archipela-*

go. No. IV. and V. April and May 1853, *pages from* 196 *to* 198.

Hindustan,—as known to Europe, is a term applied to British India generally. To the people of British India, however, and to Europeans in India the name is restricted to that part of India, which lies between the Himalaya and the Vindhya mountains. But, in considering the ethnological relations of India, the countries from the Indus and west of the five rivers of the Punjab, south easterly to the mouths of the Ganges have been so often in the occupation of so many different races, whose fragments are now found in larger or smaller scattered portions throughout the region indicated, that it will be well to notice the occupants of Central India, Rajputanah, Bengal, Oudh, the N. W. Provinces, and the Punjab as inhabitants of Hindustan, amounting to 136 millions of people.

Bengal is a political division of British India, comprising Bengal proper, Behar, Orissa including the tributary Mahals, Assam, Chota Nagpore, and the native states of Hill Tipperah and Cooch Behar. It extends from the Meridian 82° to 97° E. L. and lies within the parallels of 19° 40' and 28° 10' N. Lat. On the N. West is the Native state of Rewah in Central India, also the districts of Mirzapore, Ghazipur, and Goruckpur belonging to the North West Provinces.

From the Chumparun district as far east as the Bhootan Dooars, the Himalaya range, running through the independant states of Nepal, Sikkim, Tibet and Bhutan, form the northern boundary. Further east, along the northern frontier boundary of Assam, lies a tract inhabited by the Akha, Dafla, Miri, Mishmi and other wild tribes: along the eastern frontier lies a part of the independant province of Burmah; below that is the Munnipore State: still lower are various hill tribes, the Naga, Looshai, Khyen, Mikir, &c, and at the extreme south east is British Burmah. On the south of Chittagong, which is the south eastern district of the province, is the Akyab district of Arakan. Between Chittagong and Orissa is the Bay of Bengal. On the South West of Orissa, is Ganjam in the Madras Presidency; on the west, are the Tributary Mahal estates, and also the Sumbulpore and Belaspore districts of the Central Provinces.

The population is supposed to be near 60,000,000. About two-thirds of the population profess hinduism, in its various sects, and about one-third are mahomedans, with a small number of christians, and inclusive of the hill tribes on its S. W. West, Northern and N. Eastern borders. Many of the higher caste hindus are recognized as former immigrants, but the origin of the vast bulk of the mahomedans is obscure. Calcutta contains about 377,924 inhabitants, amongst whom are many foreigners; viz.

Europeans	11,224	Asiatics	1,441
Indo-Europeans	11,036	Parsees	98
Greeks	30	Africans	53
Armenians	703	Chinese	409
Jews	6,881	Hindoos	239,190
		Mahomedans	113,059

Central Hindustan, or Central India, was the Madhya-desa, of the ancient Aryans, the middle region or Aryavarta, the Arya country. In a slokam in the Sanscrit work, the Amarakosha, the ancient boundaries of it are thus defined

" Ariavartaha punia bhumi hi.
Mad'hiam Vindhya Himava yoho,

i. e the Arian country, the sacred land (lies) between the Vindhya and Himalaya," in this way indicating both the ruling race and the boundaries of the country held by them, at the time that Amara Sinha wrote the Amarakosha. The first known dynasty was the Bharata, so called from the first king Bharata, and the last of the dynasty was Samvarama, who was driven westward by the Panchala of Canouj B. C. 589. The Bharata kingdom seems to have been established between B. C. 2,600 to B. C. 2,200. Central India is a tableland of unequal surface, from 1,500 to 2,500 feet above the sea, bounded by the Aravalli mountains on the west, and those of the Vindhya on the south, supported on the east by a lower range in Bundelcund, and sloping gradually on the north east into the basin of the Ganges. It is a diversified but fertile tract. The *Patar*, or plateau of Central India, is distinct from the Vindhya to the south and the Aravalli to the west, and its underlying rock is trap. Aravalli means the refuge of strength, and these hills have afforded protection to the most ancient sovereign race in the east or west —the ancient stock of the Suryavansa, the Heliadæ of India, or children of the sun, the princes of Mewar, who, when pressed, were wont to retire to its fastnesses, only to issue again when occasion offered. The Aravalli hills are connected by lower ranges with the western extremity of the Vindhya mountains on the borders of Guzerat, and stretch northwards to a considerable distance beyond Ajmir, in the direction of Delhi forming the division between the desert on the west and the central tableland. It would be more correct to say the level of the desert, for the south eastern portion, including Jodpur, is a fertile country. Amarkantak, a great plateau, forms the watershed of the Mahanadi, Son, Tons, Johilla, and Nerbudda. The rivers, though large and full of water even half way from their mouths, are very irregular in the slopes of their beds, and are disturbed by frequent rapids, so that, owing to these impediments, increased still further by the rocky character of the river beds

or their banks, navigation is limited for the most part to the lower portions of their course. Many parts of Central India are covered with dense jungle.—(*Asn. Ind. Ad., V.* XI *p.* 342.)

The Central India, of the British Indian Government, however, is a political division, under the care of a political agent. It has an area of 83,600 square miles, with a population of 7,670,000 and a revenue of 2,612,600. In this political division, there are 71 feudatory or mediated chiefs, of whom 4 are Mahratta, 7 are mahomedans, 17 are Bundela, 33 are Rajpoot, six are brahman, and 4 belong to other races. Of these, six are feudatory states, Gwalior, Indore, Bhopal, Dhar, Dewas and Jowrah, but the 71 states are as under :

Indore Residency, Indore, Dewas, Bagli.

Gwalior Agency, Gwalior.

Bhopal Agency, Bhopal, Rajgurh, Nursingurh, Kilchipore, Koorwai Muksoodingurh ; Mahomedgurh, Basoda, Patharee ; Larawut Gwalior districts, Seronje.

Bheel Agency, Dhar, Jhaboon, Ali Rajpore Jobut ; Mutwarh ; Indore, and Gwalior district British Pergunnah of Mundpore and State of Burwani.

Western Malwa Agency, Jowrah, Ratlam, Goorah and Sillana.

Bundlecund Agency, Sohawal, Jignee, Ajeygurh, Baonee, Beronda, Bijawar ; Chirkary, Chutterpore, Duttia, Kotee, Myhere, Nagode ; Oorcha, Punna Rewah, and Sumpthur. Of the principal states Gwalior, Indore, Bhopal, Dhar, Dewas, and Jowra, Bhopal and Jowra are under mahomedan rulers and the rest Mahratta. The petty states hold under the immediate guarantee of the British Government, but have feudal relations with one or other of the larger states, and occasionally with more than one.—(*Treaties, Engagements, and Sunnuds, Vol. IV. pp.* 195, 196 & 197.)

At the close of the Pindaree war, the districts in Central India and Malwa were left in a disorganized state, the mahratta chiefs had parcelled out amongst themselves the possessions of the Rajput chiefs and the smaller states were all subject to Sindia, Holkar or the Puar, and sometimes to all three. Many of the smaller chiefs had been driven from their possessions, and had sought refuge in the jungles and mountains where they robbed or levied "tankhah" or black-mail from the larger states. These robber chiefs were twenty-four in number in Sir J. Malcolm's time.

Of the feudatory territory, consisting of 71 states, supervised by the Central Indian Agency, the head quarters is Indore, but has three grand divisions. The North East division comprises the native states of Bundelcund and Rewah. The Northern division consists of the Northern and Central districts of the Gwalior States. The South West division comprises the table-land known in modern times as Malwa, though far within the ancient limits of the province of that name, and the submontane territory between it and the Nerbudda, as also a considerable tract south of that river, extending to the Kandesh frontier. The first, or N. East division extending from the Bengal Presidency in the east to the Gwalior State in the west, includes Rewah and 35 other states and petty chiefships. Its area is about 22,400 square miles ; its population about 3,170,000 souls, and its public revenues aggregate about Rupees 63,58,000. The 2nd or Northern division extends from Bundelcund and the Saugor district, and has an area of about 19,505 square miles ; its population is about 1,180,000 souls, and its public revenue about Rupees 67,65,000. The 3rd or South West division goes on, westward, to the Bombay Presidency, and contains the remainder of Gwalior, Holkar's states, Bhopal, Dhar and Dewas and other small states. The area of this division is about 41,700 square miles, its population about 3,320,000 souls and its public revenues about Rs. 1,30,00,000. The states and petty chiefships in Central India, form a political and are in a natural, division of British India, and included in an area of 83,600 square miles and a population of 7,670,000. This territory is divided thus, viz,

	Principal states.	Secondary.	Minor and Petty.	Total.
Mahratta. ...	2	2		4
Mahomedan..	1	2	4	7
Bundela. ...	—	6	11	1
Rajput. ...	1	12	20	
Brahmins &c.	—	1	3	
	4	23	44	71

with a total revenue of Rupees 2,61,23,000.

Bhil.—The desolate wilderness and jungles of the western Sathpura range, and parts of the country which extend from them to the Vindhya hills, are occupied by Bhil tribes, who abhor field labour or manual labour of any kind.

Malwa, Agricultural.—Adjoining this, are the richly cultivated plains of Malwa with occasional intervening tracts of hill and jungle, from the Myhee on the west to Bhilsa on the east, a stretch of nearly 200 miles, and from the crest of the line of the Vindhya to Mundissore and Oomutwarra, a distance of 100 to 120 miles, and occupied by a thrifty agricultural people.

Hilly tract.—This is succeeded by the more hilly and jungly tract of Oomutwarra, Seronge and Keechiwarra, with a scanty population.

Gwalior.—Northwards, towards Gwalior, the country becomes more open, except on the wild border tracts of Kotah of Bundelcund till we

come to the carefully cultivated plain of Gwalior stretching for a distance of 140 miles between the Chumbul, Pahooj and Sind rivers.

Bundelcund : Bundela.—A vast portion of Bundelcund is hilly and unproductive, forming the northern slope of the table land of the Vindhya.

Rewah : Baghel.—The plains of Rewah are fertile ; but the valley of the Sone to the south of the Kymore range is desolate. The people are indolent and untrustworthy : though widely different in other respects, there is one characteristic common to the Baghel of Rewah, the Bundela of Bundelcund and the rajput of Gwalior and Malwa, a dislike to labour or service away from their homes, they generally leave the tilling of the soil to the inferior and servile classes, and are regarded as the heads of the local society. Many of the Rajputs in the states of Central India, give themselves up to sloth and the immoderate use of opium Malwa and Gwalior are great centres of Trade. In Malwa, the towns of Indore, Bhopal, Oojein, Mundipore, Rutlam, Dhar, Jowra, Augur, Neemuch, Shoojawulpoor and Bhilsa are the principal marts.

Indore is the capital of the maharajah Holkar.

Gwalior is the capital of the maharajah Sindiah.

Rajputanah Agency.—Rajputanah stretches from 23° 15′ to 30 N. L. and from 69° 30′ to 78° 15′ E. L. containing an area of 123,000 sq. m., with a population estimated at ten millions and includes eighteen principalities, viz.

15. *Rajpoot.*

Meywar or Oodeypore.	Bikaneer.	Sirohi.
Jeypore.	Kotah.	Doongurpoor.
Marwar or Jodhpore.	Kerowlee.	Banswarah.
Boondee.	Kishenghur.	Pertabgurh.
	Jeysulmeer.	Jhallawar.
	Ulwur.	

2. *Jat.*

Bhurtpore. | Dhollpore.

Mahomedan.

Tonk.

Enclosed in these are two purely British districts, Ajmir and Mhairwara.

Rajputs.—The territory known as Rajasthana and Rajputana, spreads through the Indus deserts and to Sind westward, and southwards to Cutch and Guzerat, and takes its name from the Rajput races ruling in it. But there are innumerable sub-divisions of them in Malwa and extending from Bahar and Benares through the N. West Provinces of India up to the Punjab. The Rajputs claim to have sprung from the ancient solar and lunar dynasties and form themselves into the Suryavansa and the Indra or Chandravansa tribes, and there is a race styled Agni Kula from having sprung from a sacred fire (ignis) which Agastya kindled on Mount Aboo. The three Solar races are the Gehlote, Rahtore and Kachwaha : The four Agni Kula races are the Pramara with 35 Sakha; the Parihara with 12 subdivisions ; the Chalukya and Chauhan, with 24 branches. Of the Pramara, the Mori are best known, and of the Chauhan, the Hara, who give their name to Haraoti, and have the two rajahs of Kota and Bundi. The single lunar race, or that of the Yadu or Jadu, sprung through Krishna, has eight branches, of whom the Jhareja with their raja of Cutch and the Bhatti with their rajah of Jaisalmer are best known.

The *Dogra* of the Jummoo Hills claim to be rajput and there are rajputs in the Kangra and Simla hills.

Rajputs rule in Rajputanah, where they are a numerous and dominant aristocracy, organised on the feudal principles necessary to domination, though the greater part of Rajputanah is ethnologically more Jat than Rajput. Rajputanah lies in the centre of a circuit all round the edge of the more compact mass of the Jat people,—from the Salt Range, through the northern Punjab and adjoining hills, to Rohilcund, Oudh and the Centre Doab : thence by Bundlecund through Sindiah's territory, Malwa, Mewar, Guzerat and Kattywar into Lower Sind. They are not found in any numbers to the north of the Salt Range nor are they in any of the hill country west of the Jhelum. A large proportion of the Rajputs scattered about the Eastern Punjab, Cis Sutlej territory, and Dehli districts are now mahomedans, as are occasional Rajput villages all over Hindustan and a good many Rajput rajas, their conversion having been influenced by the Moghul emperors. But east of Dehli, conversion is quite the exception. But a small Rajput tribe, called Jan-jua, now, mahomedans is found about the Salt Range.

In the N. E. Punjab near the hills, the Rajput population is more numerous, and hindu Rajputs are the dominant race in the Jummoo and Kangra districts of the Himalaya. The Kangra and Jummoo rajahs and their clans claim to be of very pure blood, and they are fine handsome men, the Kangra Rajputs in particular, they wear many jewels and are very fair. The women of the hills are in deserved repute and much sought after in the plains. The Jummoo men, called Dogra Rajputs, are less handsome than those of Kangra, but more robust and brave, quiet, staunch, steady and reliable, without disagreeable hindustani airs. The Rajput population of these hills must be very considerable. East of the Sutlej, in the Simla hills, many of the rajas and their followers are rajputs.

In the valley of the Ganges, the body of the Rajput population lies next to the Jat race to the east : in the Middle Doab, Rohilcund and

Oudh, and still further East the country is shared with a brahman population. In lower Rohilcund, where they are called Thakur, rajput communities are strong and numerous, also numerous in western Oudh, but they have never largely entered the British sepoy army. In the Central Doab, in the districts of Mynpuri, Futtehgur and Etawah, rajputs are numerous, and many served in the British native army, but Eastern Oudh, especially most of the broad tract between the Gogra and the Ganges, is the home of the great rajput population which supplied so large a portion of the Bengal native army. At home, these rajputs are a purely agricultural population. Baiswara, the country of the Bais rajputs lies almost parallel to the Brahman country of the Lower Doab, and furnished many sepoys.

To the east of Oudh, rajputs are pretty numerous in Azimghur and Ghazipur.

In the Gangetic valley, the Rajputs spread over a broad region into a large population, and are essentially the cultivators of that valley. Physically, the rajput and brahman of that region are not different. The modern rajput is quite as strict a hindu and more prejudiced than many brahmans, and upon the whole, was the worst class in the rebellion of 1857-58.

The Rajput in general is illiterate, and they confine themselves to arms and agriculture, they also keep cattle. They every where speak dialects of the ordinary Hindi. They are not supposed, by Mr. Campbell, to be the old Kshatrya race, noticed in the early brahminical books, as existing many hundred years before the christian era, though they have taken the place assigned to the Kshatrya. Rajput, son of a Raja, is not a term used by all Rajputs. In some parts of their country, they call themselves Thakur, which means chief or noble. They are, however, frequently distinguished by the name of their tribe as Chouhon, Rahtor. Their practice is not to marry into their own but into another clan, and this has assimilated the tribes to each other.

The Baghel, also Waghel is a Rajput tribe in Rewah.

Europeans have become acquainted with them as soldiers, but in their own villages, on the plains of the Ganges, they are simple agriculturalists of a constitution very like that of the Jats, only less pure and complete.

Rajputs are falling in the world. The armies they have furnished has exhausted the material; infanticide has diminish their numbers: and their wives, shut up like those of mahomedans, give no aid in agriculture. Over great tracts, the rajput are a feeble minority. In some parts, however, the agricultural Rajput villages are strong and numerous, every Rajput is free and equal, the land is divided amongst them and the commune is administered on democratic principles: wherever this is the case, their institutions resemble those of the Jat race.

They do not greatly revere brahmins, but the Rajput unlike the Jat has adopted fully all the ceremonies and superstitions of hindu caste, are very particular about caste marks, and cook once a day with great fuss and every man for himself. Their daughters are married to men of the best tribes and their widows are not permitted to re-marry, and it is the point of honour as to their daughter's marriages, that led to the practice of infanticide.

The north eastern Punjab and Cis Sutlej districts seem to have first been a Brahman, then a Rajput country and subsequently advanced upon by the Jat. It is not clear whether the Bhatti of Bhattiana, were originally Rajputs or really are Yuti or Jat.

But from Bhattiana northwards, Rajput villages are scattered about in considerable numbers amongst the Jat and there are traces of more extensive Rajput possessions. The Rajputs seem to be here undergoing gradual submersion. But, in the extreme north of the Baree and adjoining Doabs of the Punjab, there is still a strip immediately under the hills which may be classed with the adjoining hill country as still mainly Rajput. Even in Rajputanah proper though it has Rajputs for the dominant race, the population is much more Jat than Rajput, the Jat extending continuously from the Indus to the Ganges. The great seat of Rajput population and ancient power and glory was on the Ganges: since vanquished there by the mahomedans, the principal Rajput families have retired to the comparatively unfruitful country to which they give their name, but where, nevertheless, the Jat forms the most numerous part of the population. Before the Rajputs were driven back from Ajoodea and the Ganges, northern Rajputanah was partitioned into small Jat republics. The more open parts of Rajputanah are shared amongst the Meena, the remains of the Brahman population, the Jat and the dominant Rajput, but the Jat possess the largest share in the cultivation. The southern and more hilly parts of Rajputanah is much occupied by the Meena, the Mhair and Bhil, and the province of Malwa is occupied by Rajput, Kunbi and Jat. Rajputs and Jats occupy the plains south of the Salt Range, and seem later immigrants than the Brahmans.—(*Campbell, pp.* 61 *to* 98.)

Briefly, the Rajput race now occupy from the north and west of the Punjab, south easterly to Behar and Benares, and southwards along the left bank of the Indus to Malwa, Guzerat and Cutch and give to their south westerly holdings the name of Rajasthana or Rajputana. They are no doubt of Aryan origin, and are part of a later movement than the branch who came down by the Saraswati,

and up to the latest dates have shown themselves a brave people, delighting in war and in bloodshed.

The three *Solar Dynasties* are :—

1. Grahilote or Gehlote with 24 sakha or branches, of which the Sisodea is the most distinguished. The rana of Udayapur is a Grahilote.

2. Rahtore, said to be descended from Rama by Kusa, his second son. It has 24 branches, and the raja of Jodhpur or Marwar belongs to this tribe.

3. Kachhwaha, also sprung from Kusa. The rajah of Jeypore is of this tribe. It has 12 kotri or houses.

The *Lunar Dynasty* is sprung from the moon, Soma, or Chandra, through Yadu or Jadu, and is called Yadu or Jadu. It has eight branches, of which the Jhareja and Bhatti in Cutch and Jeysulmur are the most powerful.

The *Agnikula* have four tribes and 87 branches, viz :

1. Primara 35 branches.	3 Chalukya 16 ,,
2. Parihara 12 ,,	4. Chouhon 24 ,,

In the 36 royal tribes are others the origin of which is not known, such as

Chaura or Chawara.	Sarwaya or Sari.	Birgujar.
Tak or Takshak.	Aspa.	Sengar.
Jit or Jat of the	Jetwa.	Sikharwal.
Panjab, Jumna	Kamari.	Bais.
and Ganges.	Dabi.	Dahia.
Hun.	Gor.	Johya.
Katti.	Doda.	Mohil.
Batta.	Garhwal.	Nikumba.
Jhalamakwahana.	Chandela.	Rajpati.
Gohil.	Bundela.	Dahirya.
		Dahima.—

The Rajputs in the south and west of Malwa and in Mewar are called Rangari, a name the derivation of which is obscure.

Almost all hindus who have taken to soldiering, Mahrattas, aborigines and Jats claim a Rajput origin, a recognition of the superior martial qualities of the rajput race.

Rajputs of the N. Western hills are ethnologically a much purer and finer race than those on the plains, but even they assert that their ancestors came from Ayodia or Oudh.

Agnicula Rajputs.—The four Agnikula or fireborn tribes, the Chohan, Solunki, Powar or Prumar, and the Purihar, are now mainly found in the tract from Ujain to Rewah near Benares. The unnamed progenitors of these races seem to have been invaders who sided with the brahmins in their warfares, partly with the old Khetri, partly with increasing schismatics, and partly with Græco-Bactrians, and whose warlike merit as well as timely aid and subsequent conformity, got them enrolled as "fireborn," in contra-distinction to the solar and lunar families. The Agnikula are now mainly found in the tract of country extending from Oojein to Rewah near Benares, and Mount Aboo is asserted to be the place of their miraculous birth or appearance. Vikramajeet, the champion of brahminism, according to common accounts was a Powar.

The Chahuman or Chohan has been the most valiant of the Agnikula, and not of them only, but of the whole Rajpoot race. Its branches (sak'ha) have maintained all the vigour of the original stem; and the Hara, the Kheechee, the Deora, the Sonigurra and others of the twenty-four, have their names immortalized in the song of the bard. The derivation of Chohan is coeval with his fabulous birth from the four-handed warrior *Chatoor-booja, Chatoor-baha Vira.* The Chohan trace their descent from Prithi raj. They are found all over the N. W. Provinces, also in Malwa and Rajasthan, in Central India, in Rajor, Pratapnir, Chakarnagar and Manchana of which last the raja of Mainpuri is the head, and is one of the highest of the Chohan clan.

The Purihara or Pritihara, is scattered over Rajasthan, but do not seem to have any independent chieftainship there. At the confluence of the Cohari, the Sind, and the Chumbul, there is a colony of this race, which has given its name to a commune of twenty-four villages, besides hamlets, situated amidst the ravines of these streams. Mundawur (classically Mundodri) was the capital of the Purihara and was the chief city of Marwar which owned the sway of this tribe prior to the invasion and settlement of the Rahtore clan. The *Purihara* is the least of the Agnikula. They never acted a conspicuous part in the history of Rajasthan. —(*Wils. Gloss. Tod. i. p.* 106. *History of the Sikhs, Capt. Cunningham, p.* 12.)

Guzerat rajputs.—Several tribes of Rajpoots and Kat'hi are found in the peninsula of Guzerat or Kattiwar, within the 66th and 72nd degrees of east longitude, and the 20th and 23rd of north latitude. The inhabitants of the province may be classed under the following heads :—

a. Rajpoot, amongst whom there are several tribes, standing in power and wealth thus : 1. Jharejah ; 2. Jhallah ; 3. Goil, and 4 Jetwah.

b. Kat'hi, of whom there are three families, Walla, Khacher, and Khooman. They are originally of the same stock, but have now their respective districts.

c. Kuli, Kaut, and Sindi, called Bawar.

d. Kunbi, Mar, Ahir, Rhebarri, and the other industrious classes.

The Jhareja, are the most powerful and numerous of the rajpoot tribes of Guzerat and possess all the western part of the peninsula. They are a branch of the family of the rao of Kutch, who in consequence of intestine feuds, left their country about A. D. 800 ; and having crossed the Runn, at the head of the gulf of Kutch, established themselves upon the ruins of the Jetwah rajpoots and a few petty mahomedan authorities which at that time existed in Halar. The Jhareja are, also, said to trace their origin from Jhara, a chief of the mahomedan tribe of the Summa of Sindh. The lands appear to have been divided in common among the whole tribe, the teelat, or eldest branch of the family, reserving to itself the largest portion, whilst the bh'yaud or brotherhood held their respective villages by a pure feudal tenure. The outlaws, amongst them, the Bharwuttia, acted with great violence. If he failed in getting flocks, he seized the persons of such villagers as he could find, and carried them off. These were styled bhan, or captives, for whose release sums of money were demanded. The life of a Bharwuttia was one of blood and rapine, until he was killed, or by the fury of his feud he compelled his chief to grant him redress ; and the security of Charon (religious persons) and Bhat (Bards) races having been given on both sides, the outlaw and his family returned to their homes and occupations in perfect security.

The Bhomea of Kattiwar still preserve a great portion of that spirit of hospitality for which their ancestors were celebrated.

All the inhabitants of Guzerat are much addicted to opium and spirituous liquors. A custom prevails throughout the country, of erecting a stone to the memory of those who have died a violent death ; but it appears to be now common, also, to those who have departed in the course of nature. This stone is called a pallia : it resembles a European gravestone, has the name, date, and mode of death engraven, and is surmounted by a roughly executed figure, representing the manner in which the deceased fell. Thus you see them on horseback with swords and spears ; as also on foot, or on carts, with the same weapons : or on vessels, and this of course is applicable to fishermen. In the upper parts of the pallia are the sun and moon rudely represented.

The practice of " traga," or inflicting self-wounds, suicide, or the murder of relations, formed a strong feature of the manners of the people. This practice, which in Kattiwar was common to the bhat and charon of both sexes, and to brahmans and gossein, has its rise in religious superstition, and although tragas seldom wore a very formidable aspect, still they were sometimes more criminal, by the sacrifice of a greater number of victims. The traga ceremony borders much upon the brahman practice of dharna, but is more detestable. The Charan, besides becoming security for money on all occasions, and to the amount of many lacs of rupees, also become what is called fa'il zamin, or security for good behaviour, and hazir zamin, or security for reappearance. The Bhat are more immediately connected with the Rajput clans, and the Charan with the Kat'hi. The two castes will eat of each other's food, but will not intermarry. The women of the Charan and Bhat are clothed in long flowing black garments, and have a sombre, if not actually horrid appearance. They do not wear many ornaments, and are not restricted from appearing in the presence of strangers, accordingly, in passing a Charan village, the traveller is sometimes surrendered by women who invoke blessings on his head by joining the backs of their hands, and cracking the knuckles of their fingers in that position over their heads. The Kat'hi women are large and masculine in their figures, often dressed in long dark garments like the Charan women, but have the character of being always well looking, and often remarkably handsome. They are more domesticated than the Rajpoot, and confine themselves solely to the duties of their families. They are often brides at seventeen and sixteen years of age, which may probably account for the strength and vigour of the race. A Kat'hi will do nothing of any consequence without consulting his wife and a Charan, and be in general guided by their advice. In the marriage ceremony of the Kat'hi tribe there is a trace of the custom found amongst the Gond and Kolarian races, and in almost all Indian castes. The Katti to become a husband must be a ravisher, he must attack with his friends and followers the village where his betrothed resides, and carry her off by force. In ancient times this was no less a trial of strength than of courage ; stones and clubs were used without reserve both to assault and repel, and the disappointed lover was not unfrequently compelled to retire, covered with bruises, and wait for a more favourable occasion. The bride had the liberty of assisting her lover by all the means in her power; and the opposition ceased when her dwelling was once gained by the assailants, and the lady, then bravely won, submitted willingly to be carried off by her champion. The Katt'hi do not intermarry with any other caste. The Katt'hi follow the hindu religion, although no hindu will eat with them. A Rajpoot will, however, eat food dressed by a Katt'hi. He worships the cow, leaves a lock of hair on his head ; and adores Mahadeo and other hindu deities, although he is more attached to the

worship of the Sooruj (Surya or the sun), and to Ambha and other terrible goddesses. The Kaut, the Mar, the Ahir and the Rhebarri, of Guzerat are cultivators, but until recently some of them plunderers when opportunity offersed.—(*Cole. Myth. Hind. p.* 284.)

In the chief rajput districts of Bikanir, Jesulmeer, Marwar, Mewar, Ajmir, Jeypur, Bundi, Kotah and Malwa, a rajput, even of the humbler people, has a bold and dignified appearance, and their women are singularly beautiful.

Mewar.—the capitals of Mewar, are Chitor and Udayapur, and its rulers, styled "rana," are of the race who ruled in Saurashtra. After the destruction of the Balhara monarchy of Saurashtra, and two centuries sojourn of the family in the Bhander desert, Baph or Bappa conquered Chitor, and founded a new dynasty, in A. D. 727. The hereditary title was changed from Gehlote to Aditya. In 1828, Jewan (Javan) Sinh, the only survivor of the race of Bappa, was on the throne. The hills of Mewar and the neighbourhood are, however, still held by aboriginal tribes.—(*Campbell, p.* 80. *Prinsep, p.* 258.)

Malwa.—The capitals of Malwa, are Ujjayana and Mandor. Its rajahs are known from the writings of Abul Fazl, whose information is supposed to have been furnished from Jain authorities. It would appear that in early ages, Mahahmah founded a fire temple, which was destroyed by buddhists, but restored in B. C. 840 by Dhanji (Dhanan Jaya) a name of Arjun. About 785, before Vikhramaditya, A. D. 866, and A. D. 1390, the country repeatedly changed hands from hindu to mahomedan sovereigns, from the time that, in 866, Maldeva was conquered by Sheikh Shah, father of Ala-ud-din, to 1390, when Dilawar Khan Ghori, viceroy of Malwa assumed sovereignty in A. D. 1390.—(*Thomas' Prinsep, p.* 259.)

The Bais or *Beis* rajputs are one of the 36 royal races and intermarry with the Chohan Kachwaha and others. They claim to have come from Manji Paithan in the Dekhan, and to be descendants of its king Salivahana A. D. 78.

Colehan.—There are four rajput chiefs near the Colehan, viz. the rajahs of Mohurbunj and Porahat, the koer of Seraikilla and the thakur of Khursowan.

The Cuchhwaha tribe, are the ruling race in Ambar of Jaypur, its raja is a Cuchhwaha.

The Bhatti are of the Yadu-Bhansa race and rule in Jeysulmur, and give their name to the Bhatti country between Hisar and Garhi.

The Bundela is a rajput tribe descended from the Garhwar of Kantit and Khairagarh, who settled in Bundelkhand in the 13th or 14th century and gave their name to that province.

The Baghel are a branch of the Sisodhya rajputs of Guzerat, who migrated to the East, and gave their name to Baghelkund or Rewah, but others of the tribe have spread through Bundelkhand Allahabad, Benares, Cawnpore Gorakpur and Furrukhabad.—(*Wils. Glos.*)

The Chahil or Chahira rajpoot tribe, is now for the greater part, converted to mahomedanism. There are a few in the Hissar district and on the borders of Bikaneer. Though mahomedan, they nevertheless retain charge of the tomb of Goga Chauhan, a hindu prince now esteemed a saint.

The Macheri rajput in Mewat were formerly turbulent.

The Chundel rajput tribe are scattered in various parts of the N. W. Provinces, and for the most part came from Muhoba in Bundlecund. Before the mahomedan conquest Muhoba appears to have been the capital of a principality that extended to the Nerbudda, and included the province of Chunderee, which is called after their name. They are styled Sombunsee, but they are not considered to be of pure descent, and their sons are carefully excluded from marriages with the higher clans. This tribe expelled the Baland tribe from Ajoree, Burhur and Mirzapur,—(*Elliot. Supp. Gloss.*)

The Birgujar, one of the 36 royal races of rajputs, are settled along the Jumna from Rohilcund to Matura, some are mahomedans.

The Dogar tribe in the N. W. of India, are predatory and pastoral, following mahomedanism but claiming to be Chohan rajputs. The other converted Chohan, however, believe them to have been Jat and Gujar. The raja of Kashmir is a Dogar. In the 18th century they occupied a considerable tract on the banks of the Sutlej and made themselves formidable to the mahomedan government of Delhi.

Rajputs of the Punjab and adjoining hills are supposed to be not so high on the scale of rajput orthodoxy as the Solar and Lunar races of Ayodiah.

In the lower Doab, the Rajput take the hindu royal designations of Raja, Rao, Rana and Rawat Many Rajputs object to hold the plough. Rajput dominions run south of the Gogra and thence across the Ganges into the Arrah district (Bojpur.)

The ranks of the British Army of Bengal were filled with Rajpoots, Pathans and Brahmins, nearly all from the provinces of the upper Ganges, the inhabitants of which have become greatly modified in character by complete

conquest and mixture with strangers.—(*Cunningham's History of the Sikhs, p.* 183.)

The Charan race, in western and Central India, are Races dwelling under rajput rule and are the bards, heralds, and genealogists of the Katth'i race. The Kachili Charan are carriers of grain, salt and groceries. The Maru or desert Charan do not engage in trade. Their becoming personal security for an agreement is sufficient. They are analogous to the Bard.

The Bhat, or Bard, is the herald, genealogist and chronicler. In western India the Bhat has, like the Charan, the privilege of being security for agreements. In Upper India, there are village communities of Bhat who do not take so high a place.—*Wils. Gloss.*

The Meena constitute a large portion of the population of Rajputanah, especially in the Jeypur country between Ajmir and Delhi. They are supposed to be related to the Mhair, and out of their own country are fine powerful men, principally known as dacoits.—*Campbell, p.* 45. Colonel Tod, writing in the early part of the nineteenth century says the Meena affords an excellent practical illustration of Menu's axiom, that " the right in the soil belongs to him who first cleared and tilled the land." The Rajpoot conqueror claims and receives the tribute of the soil, but were he to attempt to enforce more, he would be brought to his senses by one of their various modes of self-defence-incendiarism, self-immolation, or abandonment of the lands in a body. Throughout India, he adds, where traces of originality yet exist, it will invariably appear that the right in the soil is in the cultivator, who maintains, even in exile, the *huk bapota-ca-bhom*, in as decided a manner as any freeholder in England. The Meena were the prior occupants of Mewar and Jeypoor, till driven out by the Rajputs. The most powerful clans of the Marwar Meena found shelter in a strip of country at the junction of Boonda, Meywar, Jeypoor and Ajmir, called the Kherar. They are a very brave, bold race. The Jeypoor Meena in like manner have their stronghold at the junction of the Ulwur, Jeypoor and British districts. In Serohee, the Meena are still the aborigines. —(*Colonel Brooke, in Literis.—Tod's Rajasthan*, Vol. *II. p.* 672.)

Cheeta-meena, is a branch of the Meena race from whom sprung the Mair or Mera race, the mountaineers of Rajputanah, one of the aboriginal races of India, whose country is styled Mairwarra, or " the region of hills."

The Mair is a branch of the Meena or Maina. The Mair is also called Mairote and Mairawut ; *Mera* is ' a mountain' in Sanscrit ; Mairawut and Mairote ' of or belonging to the mountain;— the name of the Albanian mountaineer, Mairote, has the same signification. Mairwarra is that portion of the Aravalli chain between Komulmer and Ajmeer, a space of about ninety miles in length, and varying in breadth from six to twenty. Rajpootana rises from three to four thousand feet above the level of the sea. The Mair are a branch of the Cheeta, an important division of the Mena, a race which consists of as many branches as their conquerors, the Rajpoots. All these wild races have the vanity to mingle their pedigree with that of their conquerors, though in doing so they stigmatize themselves. The Cheeta-Mena accordingly claim descent from a grandson of the last Chohan emperor of Delhi. Unail and Anoop were the sons of Lakha, the nephew of the Chohan king. The coco-nut was sent from Jessulmur, offering princesses of that house in marriage, but an investigation into their maternal ancestry disclosed that they were the issue of a Mena kept women and their birth being thus revealed, they became exiles from Ajmeer, and associates with their maternal relatives. Unail espoused the daughter of a Mena chieftain, by whom he had Cheeta, whose descendants enjoy almost a monopoly of power in Mairwarra. The sons of Cheeta, who occupied the northern frontier near Ajmer, became mahomedans about fifteen generations ago, when Doodha, the sixteenth from the founder of the race, was created Dawad Khan by the hakim of Ajmer ; and as Athoon was his residence, the " Khan of Athoon" signified the chief of the Mairote. Athoon is still the chief town of the Mair race. Chang, Jhak, and Rajosi, are the principal towns adjoining Athoon. Anoop also took a Mena wife, by whom he had Burrar, whose descendants have continued true to their original tenents. Their chief places are Burrar, Bairawara, Mundilla, &c. The Mena were always notorious for their lawless habits, and importance has been attached to them so far back as the period of Beesildeo, the celebrated prince of Ajmer, whom the bard Chand states to have reduced them to submission, making them "carry water in the streets of Ajmer." Like all mountaineers, they broke out whenever the hands of power were feeble. The *Mhair* country is situated but a very few miles west of Ajmere, and is composed of successive ranges of huge rocky hills, the only level country being the valleys running between them. From the sturdy valour of this race, the rulers of India never made any impression on them, notwithstanding their vicinity to the occasional residence, for a long period, of the emperors of Hindustan. In later times the Mhair were the terror of their lowland neighbours; and even the Rajpoots, perhaps, with the sole exception of the Rohilla, the bravest men in India,

ed their approach. The Mhair of the Mhairwara hills, occupy the Aravali range running towards Ajmir. Their chiefs claim to be of Rajput descent, but the Koli assert their relationship to them, and they admit having intermarried with the Bhil and Meena, and Colonel Dixon says that for hundreds of years, they have been recruited by refugees and all sorts of rascals from Hindustan, and they are probably a very mixed race. They are described as rather good looking. Colonel Briggs states that the Mahrattas and Mhairwara have their origin from Mhair.—*Campbell, p.* 45. *Tod's Rajasthan, V. I. p.* 681. *Cole. Myth. Hind. p.* 299.

The *Baugri*, is one of the predatory tribes of Central India. Several of these tribes the Moghi, Baugri, Bheel, Sondi, and Bheelalah, in the 18th century, were for many years the worst enemies to the prosperity of this country. The two principal were the Baugri and Moghi, who came to Central India originally from the western parts of India, chiefly from the neighbourhood of Chittore. The Moghi hardly passed the Chumbul, but the Baugri settled in the eastern parts of Malwa in considerable numbers: and about the beginning of the 19th century the Solunkee Rajpoots introduced no less than four hundred of them to garrison the small fort of Sattanbaree in Bersiah in which district and others in its vicinity there had been for a long period many settlers of this tribe. The Baugri are a very brave race of men, and though they till the soil and pursue occupations of industry from necessity, their favourite pursuits were thieving and plundering. In these arts they were at once expert and bold. They were also mercenary soldiers, ready to serve any one, and to engage in any cause for prey. The Baugri were foot soldiers, their jamadars or leaders, whom they obeyed implicitly were usually mounted, Whenever they settle, they remain in colonies and even when three or four families fix on a small village, they live distinct from the other inhabitants. This tribe, though scattered, preserved a correspondence, which made them formidable enemies to the internal peace of any country in which they were numerous. There were not more than twelve hundred in the countries of Bagur and Kantul, and their immediate vicinity. The Meenah and Goojur of Hindustan who have settled in Central India (though the greater proportion of them are cultivators) have not forgotten the habits of their ancestors; and many of these classes have distinguished themselves as expert and successful thieves and robbers. The same may be said of the Gond who inhabit its southern frontier.—*Malcolm's Central India, Vol. II. p.* 185.

The aborigines of Central India, reverence in a mild inoffensive way, the sun, moon, tiger and "bhut or household" spirits. They use tiger's claws as charms, heap up cairns, and tie bits of rags to trees, but in these last they resemble the hindu.

The *Naikra*, a tribe in the hills of Udipur are said to be like the Bhil, but less humanized. —*Campbell, pp.* 30 45-6.

The *Goojar*, are a numerous race in the N. Western Provinces of India, formerly notoriously predatory, but gradually becoming more settled to habits of peaceful industry. Their importance may be rated by their having given name to the provinces of Goojerat on the Western Coast of India, and to Goojerat in the Punjab; also, a great part of the district of Seharunpoor was called Goojerat during the eighteenth century. By the Goojar, themselves, it was said to consist of three parts, and the division is known amongst them to this day, and is usually adopted in ordinary converse. They are sometimes considered to be among the prior occupants of India and have been so reckoned by Tod, who, likewise, declares them to be a tribe of rajpoots. Sir R. Jenkins says that in the Nagpur territory, they consider themselves to be Rajpoots, descendants from Lava, Rama's second son, and according to this descent, if authentic they have an undoubted right to be so considered. The Goojur are spread all over the Delhi territory, the Upper Doab and Upper Rohilcund, and they enumerate 84 different tribes. In Delhi, the chief tribes are the

Chumayen,	Khare,	Rowal.
K'hutana,	Bursoee,	

In the Doab,—

Sookul,	Jindhur,	Budkana,
Bysle,	Peelwan,	Kusane,
Mavee,	Butar Adhuna,	Rouse,
Rat'hee,	Cheche Kulseean,	Khoobur,
Bhuttee,	Ramayn,	Moondun,
Kusounee,	Khare,	Kudahun,
Bulesur,	Nagree,	Touhur,
Dede,	Chotkune,	Gorsee
		Kunana.

In Rohilcund,—

Butar	Motle,	Jindhur,
K'hoobur.	Sooradne,	Muhynsee,
K'hare,	Poorbur,	Kusane.
Jattee,		

All these tribes intermarry, on terms of equality, the prohibited Got or clan being only those of the father, mother, and paternal and maternal grandmother. The Goojar race has largely pressed into the central provinces of Central India and have settled down to agricultural pursuits, and those in Hoshangabad and Nimar are good farmers. In 1811, Colonel Tod's duties called him to a survey amidst the ravines of the Chumbul of the tract called

Goojurgar, a district inhabited by the Goojur tribe. Turbulent and independent, like the sons of Esau, their hand against every man and every man's hand against them, about the middle of the eighteenth century, their nominal prince, Sooraj Mul, the Jit chief of Bhurtpore, had pursued exactly the same plan towards the population of these villages, whom he captured in a night attack, that Janmeja did to the Takshac, as described in the Mahabarat, he threw them into pits with combustibles, and actually thus consumed them. During the mutiny and rebellion of 1857-58 in Northern India, many of the Gujars of Hindostan again gave play to their predatory propensities — (*Tod's Rajasthan, Vol.* I.—*Elliot's Supp. Gloss.*)

Oudh,—lies between Nepaul and the N. W. Provinces. It contains no mountains. In the Gondah district, the boundary is on the ridge of the first range of low but abrupt hills of the Himalaya; elsewhere it is in the plains and is a part of the alluvial valley of the Ganges and of some of its tributaries. It consists of 12 revenue districts, in 4 divisions, with an area of 24,060 sq. miles and a population of 11,232,368.

Mahomedans.	
Syed	51,679
Shaikh, Milki, Malik	
Koraishi ...	166,561
Pathan, Khandan Rohilla	191,880
Moghul ...	26,672
Mahomedan Converts from higher Castes.	
Bhale Sultan	1,699
Khanazada ...	2,093
Rajpoot ...	6,775
Mewate ...	2,140
Converts from 36 low Hindoo Castes.	
Brahman	1,397,808
Bengali	128
Jat	10,845
Jain	56
Kshatrya	662,946
Kayath	148,923
Khatri	13,374
Kashmiri	219
Marwari	74
Panjabi	93
Sikh	4,752
Saraok	4
Vaishya	241,466
Ahir	1,167,499
Banya	143,362
Bhat	62,200
Barheire	134,844
Chamar	1,030,467
Dhobi	161,004
Parsee	649,741
Teli	213,999
Kahar	288,263
Koree	360,173
Kurmee	764,422
Lohar	122,573
Lodha	350,907
Mali	107,732
Murao	406,868
Nao	220,759
Aborigines.	
Dom	14,925
Nat	13,093
Pahari and others.	30

There are thirty orders of religious mendicants, amongst whom are,

Goshami ...	40,999	Byragi ...	6,230
Jogi ...	8,642	Sad'hu ...	9,823

At the census there were 3 Arabs, 90 Abyssinian Negroes, 150 Iraki (Turkish Arabia), 185 Jews, 29 Persians, and 10 Turks.

The North West Provinces territory is a political and revenue division of British India, with an area of 83,690 square miles, a population of 30,086,098, and a revenue of 3,942,177, divided into 36 districts. It lies between L. 23° 51′ and 30° 7′ N. and 77° 4′ and 84° 40′ E. The prevailing languages are the Oordoo, Pahari, Hindi and Nagari.

Hindoos	25,675,017, *viz*:	*Mahomedans*	4,105,206
Brahmin ...	3,451,692	Not classified	2,207,576
Kshatrya...	2,827,768	Sheikh ...	1,140,208
Vaisya ...	1,091,250	Pathan ...	515,426
Sudra ...	18,304,309	Syed ...	170,248
Buddhis and Jain	75,629	Moghul ...	41,748
Parsee ...	120	Christians Viz.	30,501
Sikh ...	1,425	European ...	21,831
Other religious sects ...	195,977	Mixed ...	3,968
		Native ...	4,702

Two-thirds of the population are engaged in agricultural pursuits.

Soldiers ...	20,454	Rope dancers.	165
Priests ...	176,701	Bards and acrobats	3,733
Pundits ...	40,344	Servants ...	1,413,987
Doctors ...	11,828	Water carriers	154,622
School masters	5,312	Barbers ...	343,893
Druggists ...	18,497	Washermen,...	207,508
Surgeons ...	17,458	Sweepers ...	206,413
Actors ...	509	Inn-keepers ...	16,405
Conjurors ...	1,970	Buyers, sellers...	954,732
Picture-painters	140	Carriers ...	437,333
Musicians ...	1,320	Land proprietors,	
Dancing girls.	8,065	and tillers	17,517,422
Do. boys.	334	Labourers ...	3,824,956

Weavers chiefly of fabrics and dress	1,500,000 ?
Food and drink makers...	1,000,000 ?
Arts and Mechanics...	333,333 ?
Dealers in metals...	783,038
,, ,, Vegetable substances ...	374,826
,, ,, Animal ,, ...	49,876
Book-sellers...	787
Gold and Silver smiths	135,515

Non-productive and Indefinite.

Beggars	479,015	Ear-piercers ...	18
Prostitutes ...	26,806	Makers of Caste marks	51
Eunuchs ...	251	Wrestlers... ...	2
Pimps	321	Charmers... ...	4
Mourners	29	Sturdy beggars..	35
Alms-takers ...	111	Professional thieves	23
Pedigree makers	28	Informer... ...	1
Flatterers for gain	226	Rangmen... ...	133
Vagabond... ...	1	Fortune-tellers..	3
House-painter.	16	Jesters...	851
Disorderly (badmaash)... ...	974	Astrologers... ...	1,123
Grave-diggers...	97	Mimics	259
		Divers	143
		Miscellaneous ...	22,534

The Punjab has 32 revenue districts in an area of 101,829 square miles, with a population of 17,611,498 more than half of whom, or 9,403,810 are agricultural, and 8,190,127 are not directly connected with the land. The population is 173 to the square mile, ranging from 596 in Jullundhur to 77 and 73, in the Derajat and in desert Mooltan.

Christians, 23,554, viz.	
European ...	17,574
Eurasian ...	3,379
Asiatic... ...	2,601
Mahomedans, 9,337,685, viz.	
Miscellaneous... ...	5,070,231
Syud... ...	2,12,540
Moghul ...	99,026
Pathan... ...	?
Belooch.....	?
Rajpoots Bhatti, Chib, Jungna Tewana; Sirgal; Gheba, Ranghar, Miscellaneous.	
Jat... ...	1,309,399
Ghakkar ...	27,683
Dhund ...	26,414
Sati... ...	11,498
Kharal ...	28,815
Kural ...	17,329
Kat'hia ...	2,715
Wuttu ...	18,217
Meo... ...	130,385
Mina... ...	45
Gugar ...	424,095
Paracha ...	12,784
Khoga ...	54,969
Kashmiri ...	230,850
Hindoos and Sikhs, viz.	
Various ...	2,138,122
Brahmins.	800,547
Khattri ...	384,829
Rajpoots, Hill	213,163
Rajpoots, Plains...	121,129
Banya ...	267,953
Arora ...	477,269
Bhatya ..	26,543
Kayath ...	14,273
Sudh ...	17,799
Labanah...	47,690
Jat... ...	1,876,091
Tagah ...	9,212
Gujar ...	112,319
Ahir... ...	112,488
Kamboh....	57,181
Kalal... ...	26,405
Kaneyt ...	86,269
Ghirath ...	115,257
Chang ...	57,795
Other Creeds, viz. Buddhist and Jain.	
Bhoti ...	278
Bhabah ...	14,091
Various ...	21,821
Parsee ...	414
Sansee ...	40,869
Baoriah ...	19,141
Harnee ...	3,179

The Chamar are included amongst the Hindoos and Sikh and are 654,406 in number.

Bhil or *Bheel*.—The Bhil are one of the many tribes who entered India prior to the Aryan race and the rajput, and been forced by the later emigrants into the secluded forest tracts. There are many such tribes in Central India, the Bhil, Kol, Gond, Meena, Mera, Chooar, Serya, Sarja, Ahir, and Goojur, many of them dwelling in the forest tracts of the Son, Nerbudda, and Mahanuddy, the mountains of Sargooja, and Chota Nagpore, a number of them being still but little removed from savage life, and whose dialects are as various as their manners. These are content to be called the 'sons of the earth,' or 'children of the forest,' while their conquerors, the rajpoots arrogate celestial descent.

Colonel Tod writing in the early part of the 19th century, tell us (*Travels*, *p*. 84) that taking a section of about sixty miles in the alpine Aravalli, from the ascent at the capital of Oodypoor (Udipur), passing through Oguna, Panurna and Mirpoor, to the western descent near Sirohi, the land is inhabited by communities of the aboriginal races, living in a state of primeval and almost savage independence, owning no paramount power, paying no tribute, but with all the simplicity of republics, their leaders, with the title of rawut, being hereditary. The rawut of the Oguna commune, in Colonel Tod's time, could assemble five thousand bows, and several others could, on occasions, muster considerable numbers. Their habitations are dispersed through the valleys in small rude hamlets near their pastures or places of defence.

The Bhil inhabit the northern part of the chain of ghauts running inland parallel with the coast of Malabar. On one side they are bordered by the Koli, and on another by the Gond of Gondwana. They came prominently and unfavourably before their British rulers, in the early part of the 19th century. During the contests for supremacy in Khandesh between the Mahrattas and the mahomedan Moghul, from which in A. D. 1803 a fearful famine resulted in the country north of Ahmednuggur, the whole of the Bhil race formed into gangs of plundering assassins, and settling them occupied the British Government from 1825 to 1833. But their readiness to become predatory has marked them as bold, daring, and predatory marauders, and occasionally mercenaries, but invariably plunderers. The northern part of the chain of ghauts, and the country at its base, is inhabited by the Bhil; that part to the south of Bauglan and the country at its base, as far south as Bassein, is inhabited by the Koli, a tribe somewhat resembling the Bhil, but more civilized and less predatory. The Bheel possess the eastern part of the range, and all the branches that run out from it towards the east, as far as south of Poona; they even spread over the plains to the east, especially north of the Godavery, and the neighbourhood of the Wurda. On the north, they extend beyond the Taptee and Nerbudda. Both the Bheel and the Koli are numerous in Guzerat. south of Poona the Bheel are succeeded by the Ramusi, a more civilized and subdued tribe, but with the same thievish habits as the Bhil. They have no language of their own, are more mixed with the people, and resemble the Mahratta in dress and manners; whereas the Bhil differ from the rest of the people in language, manners and appearance. Of the latter Mr. Elphinstone remarks, that, although they live quietly in the open country, they resume their wild and predatory character whenever they are settled in a part that is strong, either from hills or jungle. The Ramoosi do not extend farther south than Kolapore, or further east than the line of Bejapoor. The Bhil, the Kuli of Guzerat and the Gond are considered to be remains of aborigines of India. The two latter classes here alluded to, have maintained more of their original character than the Bheels: they have probably been less disturbed.

The Bhil clans are now in a state of great moral transition; but those of Kandesh, nearly to the early part of the 19th century continued to sally from their fastness and committed great ravages upon the villages of the plains. When

measures were taken by the Bombay Government in 1818 to reclaim the Bhils of Kandesh Sir John Malcolm considered that success would only be partial unless corresponding measures were adopted for reclaiming the Bhils of Burwani and this view was given effect to.

Fire-arms, says Tod, are only used by the chiefs and headmen; the national weapon being the *kumpta*, or bamboo bow, having the bow-string *(chulla)* from a thin slip of its elastic bark. Each quiver contains sixty barbed arrows, a yard long. The Bhil, from ancient times, use the fore and middle fingers of their right hand to the string of their bow holding the arrow between the two fingers. Although they claim descent from every race of rajpoot, and prefix the tribe, as Chohan Bhil, Gehlote Bhil, Pramar Bhil, &c., their origin is evinced in the gods they worship and their prejudices as to food. One tribe the Oojla Bhil or pure Bhil will eat of nothing white in colour, as a white sheep or goat; and their grand abjuration is, by the white ram.

Their ancient position is well illustrated by the circumstance of their claiming the right to instal rajput princes when Bappa fled, the companions of his flight were two, one of Oondree, in the valley of the present capital; the other, of Solanki descent, from Oguna Panora, in the western wilds. Their names, Baleo and Dewa, have been handed down with that of Bappa, and the former had the honour of marking the teeka of sovereignty with is own blood on the forehead of the prince, on the occasion of his taking the crown from the Mori. The descendants of Balco of Oguna and of Dewa the Oondree Bhil, still claim the privilege of applying the teeka on the inauguration of the descendants of Bappa.

Oguna Pancra, says Colonel Tod, is the sole spot in India which enjoys a state of natural freedom. Attached to no state, having no foreign communications, living under its own patriarchal head, its chief, with the title of rana, whom one thousand hamlets scattered over the forest-crowned valley's obey, can, if requisite, appear at the head of five thousand bows." He is a bhoomia Bhil of mixed blood, from the Solanki rajpoot, on the old stock of pure (oojla) Bhil, of Mewar. Besides making the teeka of blood from an incision in the thumb, the Oguna chief takes the prince by the arm and seats him on the throne while the Oondree Bhil holds the salver of spices and sacred grains of rice used in making the teeka.

The Bhil have now no separate language, and have been largely converted to mahomedanism.—*(Tod's Travels, p. 34. Tod's Rajasthan, Vol. I. p. 724.)*

Dhimar of Central India, are fishermen, boat men and palki-bearers.

Moghya, a low tribe in Sagur.

Golur, a tribe in Bhandara.

Chamar, is a tanner, a currier, a leather worker, shoe-maker, and has his name from chamra, leather. The Chamar race have many divisions, and form a large part of the non-hindu and non-aryan races of Hindustan. In the Peninsula, they are few and reside outside villages. They are generally said to be divided into seven classes: viz. the "Jatooa," in the North-West, Dehli, Rohilcund and the Doabs; the "Kateean," in Bundelcund and Sagur; "Kooril," in the Central and Lower Doab; the "Jyswara," near Allahabad, Jounpur Mirzapur and Benares; the "Jhooseea" in Ghazipur and Behar; the "Azimghurea," in Azimghur, and Gorukpur, and the "Birberea," and "Kori" or "Korichamra" in Oudh.—*(Elliot. Supp. Gloss.)* These seven do not eat together nor intermarry. The Jatooa are chief in the North West; the Dehli territory, Rohilcund, and the Upper, and part of Central Doab are their seats. The Kaean are in Bundlecund and Saugor. The Kooril occupy the greater part of the Central and Lower Doab. The Jyswara meet them in the neighbourhood of Allahabad, and extend through Jounpoor, Mirzapoor, and Benares, to the neighbourhood of Sydpoor Bhitree, where they are met by the Jhoosea. who occupy Ghazeepoor and Behar. The Azimgurhea have their seats in Azimgurh and Goruckpoor; and the Koree or Korobamra in Oudh. The last are generally engaged in the occupation of weaving.

Other names are mentioned besides these seven, as the Jatlote of Rohilcund; the Ahurwar, Sukurwar and Dohur, of Central Doab; but as these latter avow some connection with the Kooril, they may perhaps be included in that tribe. In Behar we meet also with subdivisions of Gureya, Megahi, Dukshinia, Canoujea as well as the Jl[illegible] and Jyswara above-mentioned; all tendi[illegible] Wre[illegible]ow that the division into seven clans [illegible] Char[illegible]nary.

The Dohur are me[illegible]ued in "Steele's Summary," p. 128," as existing in the Deccan along with Kutnee (coblers) and Duphgur (Dubgar maker of oil bottles); but he does not include them amongst Chumars, of whom he enumerates the following classes; Sultangar, Mara't'he, Paradosh, Purdesee, Huralbhutel, Dubalee, Woje, Chour. The race are deemed unclean,

Kurea Brahmin gor Chumar,
In ke sath na ootriye par—

that is, go not in the same boat with a black brahmin or a white chumar, both objects being considered of evil omen. Many of the Chumar of Central India have joined the reformed Sat-nami sect. The Chumar of Hindustan, in respect to numbers and avocations, are

in the same position as the pariahs of the south of the peninsula. The general belief as to the non-Aryan races is that they are a section of the great Turanian stock, who have been subdued and depressed by the Aryan and by origin and nature are averse to caste distinctions and brahminism. In Central India, there has been a great spiritual movement of the non-Aryan races, the Chamar, the Dhobi and others, who have been joining the reformed sects of the Kabir Panthi, Satnami and others. The Chamar of Chatis-ghur have become Sathnami sectarians and have raised themselves in the social scale. The Chamar of northern India perform all the labours to which the Dher or pariah of Southern India attend, as also the work of the Chamar, and the Dhor of the South of India. The Chamar are the labourers of hindustan, in addition to their own profession of curing skins. They are the sudras of modern hindu society. The Chamar form a large proportion of the population of Hindustan, and are labourers, cultivators, leather-workers and shoe-makers : most of the syce, or horsekeepers of Hindustan are Chamar. The Chamar of Bengal is dark, rather small, but active and well knit. They have never been soldiers. They often are village watchmen, and they act as coachmen, coolies and hired labourers. In Chatesghar in the Central Provinces a colony of Chamar of the reformed faith have acquired landed rights and occupy quite an aristocratic position. In Bengal the lower people of the Chamar race eat the dead cattle which they skin and they are much addicted to drink. In the great isolated plain of Chattisgarh, where the jungle has not even yet been thoroughly mastered by man, the Chamar, who make up some twelve per cent. of the population, are nearly all cultivators. The creed adopted by them is the "Satnami" or "Rai Dasi" a branch of one of the most celebrated dissenting movements in Indian religious history. (*Rost, Edition of Wilson's Essays on the religion of the Hindus, Vol. I. p.* 113 (1862). No images are allowed, it is not even lawful to approach the Supreme being by external forms of worship, except the morning and evening invocation of his pure name (Sat-nam), but believers are enjoined to keep him constantly in their minds, and to show their religion by charity. Even if the creed be weak as a moral support, it is strong as a social bond, and no longer weighed down by a sense of inferiority, the Satnami hold together and resist all attempts from other castes to re-assert their traditional domination over them. They are good and loyal subjects, and when they have grown out of a certain instability and improvidence, which may be the natural result of their long depressed condition, they will become valuable members of the community.—(*Elliot. Campbell, pp.* 11, 107, 123, 124.)

In Bastar, the leaf-ordeal is followed by sewing up the accused in a sack and letting him down into water waist deep ; if he manage, in his struggles for life, to raise his head above water he is finally adjudged to be guilty. Then comes the punishment. The extraction of the teeth is said in Bastar to be effected with the idea of preventing the witch from muttering charms, but in Kumaon the object of the operation is rather to prevent her from doing mischief under the form of a tiger, which is the Indian equivalent of the loupgarow.

Hadi, is a helot race spread over all Bengal, and take their name from the aboriginal Santali word for man, "*had*," and from their name has been supplied such terms as "*hadd*," base low-born ; "*had-duk*" a sweeper : "*hundu*," hog, blockhead, imp ; hudduka, a drunken sot, &c., also, "*Hadi*," in low Bengali, "*Hadicath*," is the name of a rude fetter or stock, by which the landholder used to confine his serfs until they agreed to his terms. It means literally the helot's log and it was also used for fastening the head of the victim in the bloody oblations which the Aryan religion adopted from the aboriginal races, especially in the human sacrifices to Kali, to which the low castes even now resort in times of special need. In an account of the last human offerings to Kali, during the famine of 1866, it was mentioned that the bleeding head was found fixed on the "har-cat," *i. e.* helot's log.—(*W. W. Hunter, p.* 30.)

The Kurmi, are the semi-aboriginal cultivators north of the Kumbi, but to the south of the Rajput and Jat. They form the bulk of the population in the part of Manbhum, near the Damudah river. (*Dalton, p.* 157,) and are a very industrious class of quiet cultivators in considerable numbers in all the central and eastern parts of the N. W. Provinces or in Hindustan generally, who there attend to the finer garden style of cultivation much more than the Jat and Rajput, but, like the Jat race are assisted by their industrious women who have passed into a proverb for industry-Bhalé jat, Koonbin ki, K'hoorpi hat'h, K'het nirawen apne pi ke sat'h.

They dwell to the south of the Rajput and Jat, have villages of their own, and are also spread in detached families or groups. Mr. Campbell considers them to be identical with the Kunbi and to occupy from 23° or 24° N. to 16° N. and from the western frontiers of Guzerat to the countries watered by the Wynganga, the middle Ganga, and upper streams of the Nerbuddah. Very few of these become soldiers, and in the valley of the Ganges, they are looked down upon as mere humble tillers of the soil. They are more nu-

merous towards the Jubbulpore and Saugor territories where they mingle with the Lodha. Thence, westwards, as on both sides of the Ner buddah, in Malwa where they meet the Jat, and throughout the southern borders of Hindustan, there are numerous Kurmi who speak Hindi. Those in Hindustan, are darker and less good looking than brahmins and rajputs, but Mr. Campbell states (p. 93, 94) that they are quite Arian in their features, institutions and manners. Other authorities, however, mention that there is no similarity in the physiognomy of the Kurmi and Kunbi. The Kurmi sub-divisions are

Jeshwár.	Pātān.	Patrihu.
Dhāviai.	Adhonda.	Ghora Charhao,

but Sir H. Elliot says the seven sub-divisions are usually enumerated as K'hureebind, Puturya, G'horchurha, Jyswar, Canoujea, Kewut and Jhooneya.

Wilson, also, says they have seven sections and that in Central and Eastern Hindustan, West and N. West provinces they are the great agriculturists. He says that they are occasionally seen as predial slaves to which they have sold themselves or been sold.

The *Ghameta* of Behar are a sub-division of the Kurmi. They form, says Elliot, a large class of the cultivators in the Eastern and Central portion of Bengal, few in Delhi and the Upper Doab. A race, or races, under the different names of Coormee, or Koormee, Kunbhi, Kunabi, or Koombhee, extend throughout the greater part of Hindustan, Berar and the western Deccan. They are famous as agriculturists, but frequently engage in other occupations. The Kurmi, Kunbi, Jat and Rajput, are chief territorial tribes of Northern India.

The Koormi are supposed by Tod to be the Koolmbi of the Dekhan and to be perhaps the most numerous, next to the Jat, of all the agricultural classes.—*Tod's Rajasthan, Vol. II. p.* 371.—*Elliot's Supp. Glossary.*

Hun or Hoon.—Amongst the Scythic tribes who have secured for themselves a niche with the thirty-six races of India, is the Hun. At what period this race, so well known by its ravages and settlement in Europe, invaded India, we know not. D'Anville, quoting Cosmas, the traveller, informs us, that the white Hun occupied the north of India; and it is most probable a colony of these found their way into Saurashtra and Mewar. It is on the eastern bank of the Chumbul, at the ancient Barolli, that tradition assigns a residence to the Hoon; and one of the celebrated temples at that place, called the Sengar Ghaori, is the marriage hall of the Hoon prince, who is also declared to have been possessed of a lordship on the opposite bank, occupying the site of the present town of Bhynsror. In the twelfth century the Hun must have possessed consequence, to occupy the place he holds in the chronicle of the princes of Guzerat. The race is not extinct. One of the most intelligent of the living bards of India pointed out to Colonel Tod the residence of some in a village on the estuary of the Myhie, though degraded and mixed with other classes. —(*Tod's Rajasthan, Vol. I. p.* 109, 110.

Bhomia, from bhom land, a landed proprietor, in Rajputanah, the allodial proprietor of Mewar, offshoots of the earliest princes. The term bapota implies the inheritance or patrimony, and its holder, if a military vassal, is called 'Bhomia,' meaning one actually identified with the soil (bhom). It is the mahomedan term wuttun-dar, or meeras-dar and the Cuniatchi of Malabar is the Bhomia of Rajasthan. The Bhomia is vested with the rights of the crown, in its share of the bhog or rent. But when their own land is in the predicament called 'gult'has,' or reversions from lapses to the commune, he is 'seized' in all the rights of the former proprietor, or by internal arrangements, they can convey such right by cession of the commune. The bhom is exempt from the jureeb (measuring rod); it is never assessed, and his only sign of allegiance is a quit-rent, in most cases triennial and the tax of khur-lakur, a war imposition, now commuted for money. These allodial tenants, are the yeomen of Rajasthan, and as in the districts of Komulmer and Mandelgurh, constitute the landwehr, or local militia. The Rajpoot vaunts his aristocratic distinction derived from the land; and opposes the title of 'Bhomia Raj,' or government of the soil, to the 'Bania Raj,' or commercial government, which he affixes as an epithet of contempt to Jeipoor; where "wealth accumulates and men decay." 'Bhom rakhwali or land [in return for] preservation, is one kind of Bhom, the crown itself holds 'bhom rakhwali' on its own fiscal demesnes consisting of small portions in each village. In S. 1782, the turbulent Bhomia on the western frontiers were checked by the Rajput chief on their borders and the Sindil, the Deora, the Bala, the Bora, the Balecha and the Soda were then compelled to servitude. The ancient clans, prior to Sanga Rana, had ceased, on the rising greatness of the subsequent new division of clans, to hold the higher grades of rank; and had, in fact, merged into the general military landed proprietors of the country under the term 'bhoomia.' The Bhoomia, the scions of the earliest princes, are to be met with in various parts of Mewar; though only in those of high antiquity, where they were defended from oppression by the rocks and wilds in which they obtained a footing, as in Komulmir, the wilds of Chuppun, or plains of Mandelgurh, long under the kings, and where their agricultural pursuits maintained

them. Their clannish appellations, Kombawut, Loonawut, and Ranawut, distinctly show from what stem and when they branched off; and as they ceased to be of sufficient importance to visit the court on the new and continually extending ramifications, they took to the plough. But while they disdained not to derive a subsistence from labouring as husbandmen, they never abandoned their arms; and the Bhoomia, amid the crags of the alpine Aravalli where he pastures his cattle or cultivates his fields, preserves the erect mien and proud spirit of his ancestors, with more tractability, and less arrogance and folly, than his more courtly, but now widely separated, brethren. They form a considerable body in many districts, armed with matchlock, sword and shield. In Mandelgurh, when their own interests and the prince's unite, four thousand Bhoomia could be collected. They held and maintained without support the important fortress of that district, for their prince, during half a century of turmoil.—(*Tod's Rajasthan, Vol. I. pp.* 169, 498.—*Campbell.*)

Cheru, a tribe near Palanow, mentioned by Buchanan of whom nothing is known (*Campbell, p.* 39.)

Cheroo, aborigines in Ghazeepur, in part of Gorukpur, the southern part of Oudh, Benares Mirzapur and Behar. They are sometimes said to be a branch of the Bhur. They seem to be the same as the Sivira or Seorce, but Buchanan considered them distinct. The Cheroo declare themselves to be descended from the great serpent, from which they may be supposed to be the Nagbunsi of Magadha. Remains of buildings attributed to them are found near Buddha Gya, Sasram and Ramghur, and the images of Siva and Hanuman found in them indicate that they belonged to the hindu religion. They appear to have been expelled from their ancient abodes by the Pramara of Bhojpur, the Hyobun of Hurdi, and the Bhoonhar, a little before the first mahomedan invasion, about which time there seems to have been a general convulsion in India, during which several tribes acquired their present possessions. The features of the Cheroo are said to resemble the occupants of the Vindhya mountains. They live by cutting timber, collecting drugs, and killing game, and though their numbers are very low they continue to create a rajah for every five or six houses, and invest him with the tilak in due form. The emperor Sher Shah subdued Muharta, a Cheeroo zemindar of Behar, which seems to have been a last but strong effort of the Cheeroo race. The chief of Singrowli in Mirzapur is a Cheeroo, though he calls himself a Benbans. Sir. H. Elliot suggests that the Sivira, Seori and Cheroo, may perhaps be the Sauraseni. In the Harivansa is the following passage, "From this race came the Sauravira, and Saurasena. The great king Saurasena has given his name to the country over which he reigned."—(*Elliot. Glos.*)

Bhur, an aboriginal race who settled in parts of Oudh, Benares and Behar—*Campbell, p.* 21.

The Lodhi came from Bundlekhund three centuries ago. The *Kurmi* from the Doab about A. D. 1620.

Rajawar, a widely spread aboriginal tribe in Palamow and Singruli and Rewah, westward in parts of Sirgujah and Jashpore, and numerous to the N. E. in the parts of the plains adjoining the hills. They are the chief labouring class in the Gya district, near the hills. They live in villages as a kind of serfs and bearers of burdens, carry palanquins, and when out of employ are apt to be thieves and robbers.—*Campbell, p.* 37-8.

Badava-hrita, a man who becomes a slave that he may marry a female slave in the family. —*Wils. Glos.*

Chuyar are a tribe of mountaineers inhabiting the mountains bordering on Bengal in the West, in Ramgurh and the neighbouring districts.—*Wils.*

Marwari, the various tribes who are known as banker, soukar and sarraff or shroff, are the Marwari, the Bhattya, the Vesya Komati, the Modi grain seller, and the Bania. The Marwari arrange themselves into twelve tribes, amongst whom are the Mestri, Agrwala, Urwar, Oswal, Sarogi, Kandelwal, Bijabargi Porwal, some of whom are hindus, and some are Jain. The Mestri, the Urwar, Bijabargi, Kandalwal and Porwal are of the vaishnava sect of hindus; the Agrwala are partly vaishnava and partly Jain, but the Sarogi and the Oswal are wholly jain and it is from amongst the Ossi tribes that the jain priests of Abu are chosen. They never use animal food, their offerings are fruits and sugar, and the Oswal and Sarogi never eat the prasadh, or meat offered to the idols.

The banking races are less frequently of the sect; they are distinct races, altogether dissimilar in personal appearance, the Marwari from the desert being tall, bulky, yellow men while the Wani or banya of the peninsula are smaller and dark coloured. The Banya or Komati are generally vaisya hindus, though some of them worship saiva and some of them vishnu. The Banya are most numerous in Tilingana and in Madras: in the north and west of Dekhan there is not perhaps one of them in seventy villages, their places then being taken by the Marwari and Gujerati. There are, however, many in Punderpore, and Sholapore. Those who die unmarried, are buried, all others are burned whether belonging to the saiva or vaishnava sects. Their language in their families is Telugu, and it is spoken by them as far as Bombay. But as the west is approached, mahratta becomes mixed with it.

The Banya are essentially shop-keepers of dry grains, but do a little in mercantile business, and cultivate, but do not hold the plough. They are mostly dark men, of short stature. In their marriages the bridegroom is before or after puberty but girls are under age ; the ceremonial is performed at the house, by a brahmin. The death shradha are conducted by brahmins. Their Janami is put on and the mantrum taught when married. The Wani do not marry nor eat with the Komati Banya. They are in considerable numbers in the northern part of the Nizam's dominions adjoining Berar, Gorakpoor, Cawnpore and Farakhabad.

Baghelcund, a territory in Central India, also known as Rewa, whose princes are of the Baghel or Baghela race. The *Baghel*, according to Wilson are a branch of the Sisodhiya rajputs of Guzerat, who migrated eastwards. Sub-divisions of the tribe, under different denominations are widely spread through Bundelcund, Allahabad, Benares, Gorakpur, Cawnpore and Farakhabad. They are also said to be of the Chouhone race, descended from Komarphal (died A. D. 1166) sovereign of Guzerat. The princes of Baghelcund are of this race. In Guzerat there are many petty chieftains of this tribe, as Lunawarra, Mandvie ; Mahera ; Godra ; Dubboye, &c., &c. Another account makes the Baghela rajput race, descendants of Sid Rae. They gave their name to Baghelcund, an entire division of Hindustan. They also occupy Peetapoor and Theraud in Guzerat.

Buchgoti.—A rajput tribe in Jonpur and Gorukpur formerly notorious for turbulence, part of them became mahomedans prior to Sekundar Lodi's rule. The Bilk-huria, the Rajwar, and the Rajkumar are off shoots from the Buchgoti.—*Elliot.*

Bagri, according to Wilson, is the race occupying Bagar the tract lying between the S. W. borders of Hariana and the Sutlej. The tribe are regarded as of the Jat race. Bagar is also a tract on the S. W. Malwa ; and a robber race called Bagri have settled in the eastern parts of Malwa, Hissar and Bhattiana. Sir H. Elliot says they were originally Rajputs, but are now classed as Jats. Some Bagri are professed robbers.—*Wilson's Glossary. Elliot Supplement.*

Bagadi, a servile race in Bengal and Cuttack, who follow unclean, out of door, avocations. They are one of the most numerous of the non-mahomedan castes of Bengal. They are cultivators, fishermen and watchmen, but addicted to dacoity.

The Yadu of Jessulmer, who ruled Zabulisthan and founded Guzni, claim the Chaghtai as of their own Indu stock ; a claim which, Colonel Tod deems worthy of credit.

Bawari, a predatory tribe, scattered throughout India. Wilson describes them as robbers by profession and known in different places by different appellations, but calling themselves Bawari. He says that they are all hindus, and use a peculiar dialect, which is said to be spoken in some parts of Guzerat. They seem to be the Bhaora of Peninsular India, who are styled Harn-pardi and Harn shikari and are the wild hunters of the jungles and forests.

Bauri of Bengal, swine herds by avocation. —*Wilson.*

Bunturia, a class of wood-rangers, in the northern parts of Goruckpur, they are now cultivators.

Choola, a tribe of Tuga in Baghput, so called from having come from Chooloo or Chooro in Bikanir.—*Elliot.*

Gandhila, Hind. A low vagrant caste in the N. W. Province, who make mats, and exhibit feats of activity, they are also thieves.—*Wilson.*

Gadaria also Gaduria, from Gadar or Gadur, a sheep, are shepherds of the N. W. Provinces. They have several divisions who do not eat together nor intermarry. The younger brother marries the widow of the elder brother. The elder brothers do not marry the widow of a younger brother.—*Wilson.*

The Koeri of Hindustan are gardeners and in Bahar grow the poppy.

Malli or Garden Malli are supposed by Mr. Campbell, p. 105-6. to be a considerable and widespread people.

Between Umballa and Delhi are a good many Malli villages, and they are scattered about the N. W. provinces as gardeners. They are common about Ajmir, and on the southern frontier of Hindustan : South of Jubbulpoor, they are many and mixed with the Koormi, and extending with the Kurmi far to the east, the Malli into Orissa and the Kurmi into Manbhum and other districts of Chota Nagpore all through the Mahratta country, they are mixed with the Kumbi, and most of the potails are either Kunbi or Malli.—*C. p.* 106-108.

Mallial, very industrious cultivators and gardeners, on the north-west frontier of British India, above the Salt Range, and extending up into Peshawar. They now profess mahomedanism.—*Campbell, p.* 108.

Rai or Raian, are a fair good-looking class of men dwelling throughout the plains of the Punjab in villages of their own or holding divisions of villages on equal terms with the Jat and others, and under a similar constitution. They are not martial, but apply the finer cultivation to the best lands, for which they pay a high revenue and are much appreciated by native Governments. They are the best cultivators in the province.

Punjab, in the Persian language, means literally the five rivers, and is a geographical term

applied to the territory on the north-west of India, watered by the rivers Sind or Indus ; the Jhelum or Hydaspes ; the Chenab or Ascesines ; the Ravee or Hydraotes, and the Gharra or Hyphasis. In the time of Runjeet Singh, the Punjab revenues were estimated at £3,250,000, of which, in 1844, the customs and excise duties amounted to £240,000. In the time of Baber, the rhinoceros was hunted on the plains of Attock and wild animals are still very numerous. The whole population of the Punjab, both high and low, is above the average Arian type. The Punjabi is tall, handsome, high featured and long bearded. The plains of Upper India, in which as Colonel Cunningham remarks (*Hist. Sikhs, p.* 4) the Brahmin and Kshutree races had developed a peculiar civilization, have, however, been overrun by Persian or Scythic tribes, from the ages of Darius and Alexander to that of Baber and Nadir Shah, and the prominent changes introduced by them have been alterations in the nature worship and polytheist religions of the earlier occupant races, the subsequent introduction of the mahomedan creed, and the long antecedent immigration of hordes of the Jut from the plains of Upper Asia. The several civilized nations in the Indian plains still differ from each other in manners and language, nearly as much as those inhabiting the corresponding portion of Europe.

The Hindi tongue has several dialects. One of these, the Brij-Bhasha or Brij-Bhaka is the form spoken near Mathura, and takes its name from Brij, the tract about Mathura and Brindban, where Krishna sported with the Gopin.

The *Rangari* or Rangri dialect of Hindi is spoken in the western parts of Hindustan. It is bounded by the Indus on the west, Bundelkund on the east, the Satpura hills on the south and Javpur Jodhpur and Jeysulmer on the north.—*Wilson's Glossary of Indian terms, Elliot's Supp. Gloss.*

The Hindustani race, on the Ganges are the tallest, fairest and most warlike and manly of the natives of British India, they wear the turban, and a dress resembling that of the mahomedans, their houses are tiled, and built in compact villages in open tracts ; their food is unleavened wheaten bread.—*Elphinstone's History of India, p.* 323, 325.

The Bengali, are in many respects different from any other people of India. Most of the population of Bengal have the appearance of being Arian, though dark, but some are very dark, and have thick lips with features either aboriginal or Indo Chinese. Some have curly hair, as if related to the black woolly headed aborigines, who may have stretched across from the Rajmahal to the Garrow hills, others of the Bengali people, especially the Uria, with the Bhuya seem rather to have straight hair, with high cheek bones, and complexions not very dark, suggesting an Indo-Chinese element stretching from Burmah across the Sunderbuns, (*C. p.* 106.) Though good looking, the Bengali are small, black, and effeminate in appearance, remarkable for timidity and superstition, as well as for subtlety and art. Their villages are composed of thatched cottages, scattered through woods of bamboos or of palms ; their dress is the old hindu one, formed by one scarf round the middle and another thrown over the shoulders. They have the practice, unknown in Hindustan, of rubbing their limbs with oil after bathing, which gives their skins a sleek and glossy appearance and protects them from the effect of their damp climate. They live almost entirely in rice, and, although the Bengali and Hindustani idioms are more nearly allied than English and German, the Bengali language is quite unintelligible to a native of Hindustan.

The native of Bengal, alike hindu and mahomedan, in physical organization, is feeble even to effeminacy. His pursuits are sedentary, his limbs delicate, his movements languid. During many ages, he has been trampled upon by men of bolder and more hardy breeds. Courage, independence and veracity are qualities to which his constitution and his situation are equally unfavorable. His mind is weak, even to helplessness, for purposes of manly resistance, but its suppleness and its tact move the children of sterner climates to admiration, not unmingled with contempt. Large promises, smooth excuses, elaborate tissues of circumstantial falsehoods, chicanery, perjury, and forgery are the various weapons offensive and defensive of the lower Ganges. All its millions do not furnish one sepoy to the native army. In Bengal and Bahar the work of labourers is done by Bhui, Rajwar and other aboriginal tribes, but Chandal, Dosad, Hari, Bhumali are names of other outcaste races.—(*Campbell, p.* 106, 124. *Elphinstone's History of India, p.* 325.)

The Buinal, in Bengal, is the lowest or sweeper class.

The Rajwar are out-caste labourers of Bengal and Bahar.

The Kolita race in the west of Bengal and in Assam, are good looking and considered to be high caste hindus.—*Campbell, p.* 54.

Nafr.—In the west of Bengal the Nafr and his offspring are slaves for ever and are transferable and saleable. In Purneya the Nafr is sometimes a domestic slave, sometimes an agricultural slave.

Raj-bansi is a name used by the people of Cooch Bahar to designate themselves. They have adopted many hindu customs.

The Praja of Cooch Bahar are cultivators almost in a state of serfdom, and in Cuttack, the barber, washerman, fisherman, weaver,

leather-worker, and tari-gatherer are classed as Praja and often sell themselves and families into slavery.—*Wils. G. C. S.*

The Bagdi of Bengal and Cuttack are a servile race who follow unclean out of door avocations. They are one of the most numerous of the non-mahomedan castes of Bengal. They are cultivators, fishermen and watchmen, but addicted to dacoity. These seem identical with the Bagri of Malwa. —See p. 148.

Agriculturists.—Many of the cultivators in Bengal are mahomedans; and in all eastern Bengal where mahomedans are numerous, the majority are cultivators.

Goali.—Amongst the hindus of Bengal, the Goali are the most numerous; after them, the Brahmin and Kaist races, are the Bagdi, an aboriginal people, and a class of cultivators called Kyburto.

The best specimen of the hindu character, retaining its peculiarities while divested of many of its defects is found among the Rajputs and other military classes in Gangetic Hindostan. It is there we are most likely to gain a clear conception of their high spirit, their enthusiastic courage and generous self-devotion, so singularly combined with gentleness of manners and softness of heart, together with a boyish playfulness and almost infantine simplicity.—*Elphinstone's History of India, p.* 375-376.

Pastoral races, of whom the Ahir, and the Gujar are the chief.

The Ahir, also styled Abhir and Abhira, distinguish themselves as the Nand-bansa, Jad or Yadu-bansa and Gwal or Go-wala-bansa. These intermarry and eat together, and sometimes, as near Delhi, they eat with the Jat, Gujar, and Rajput. The Ahir are spread in different proportions all over the N. W. provinces, west of the Jumna, in the Upper, Centre and Lower Doabs, in the province of Benares, in Rajputanah and the Punjab. Some of the Jadbansi have been converted to mahomedanism and are known as Rangar. Those of the Dehli district who eat with the Jat and Gujar, conform to the usage of the marriage of the widow of an elder brother, with the next in seniority. The Ahir succeed the Gujar as cattle keepers to the east and south. They seem to be the pastoral people of the rajput and brahman countries as the Gujar are of the Jat districts. The Ahir are not strict hindus, they are a good looking people like those of the upper class of Hindustan, and in addition to cow keeping, they have villages, in considerable tracts are almost the principal landholders, and are fair agriculturists. The Ahir are not found in the countries occupied either by the Jat or the Gujar, and do not extend generally east into Bengal, but there are many of them in the tract just between the proper Jat and the Rajput country about the Ganges, to the east of Merut and Alighur, in part of Rohilcund, they seem to extend into the S. E. of Rajputanah and of the Dehli country, are found about the Jumna near Muttra and in many places further east, and there are many of them in the Benares and Behar divisions. They are said to have been well known in ancient times in Guzerat and the Mahratta country, about Asirghir, and to be numerous still in Katyawar. Indeed, the western country was Abhira or the country of the Ahir, and they are said once to have been powerful in Guzerat. Asirghir derives its name from Asa Ahir, a noted leader of the tribe.—Abhira, the country of the Ahir was the ancient name of the western countries of Guzerat and Katyawar.

In Hindustan, the term is now professional; but in the Mahabarata, the Ahira are mentioned as a shepherd or pastoral race in Saurashtra, and the Abhira are mentioned as a pastoral shepherd race, settled near the lower course of the Indus, in a tract known to classical writers as the Abiria of Ptolemy, lying north of the Sahyadri mountains and of Syrastrene.—*Wils. Gloss. Campebell, pp.* 102-4.

Gujar, the name of a race spread through Hindustan who are supposed to have given their name to the Gujerat districts of the Panjab and to the peninsula of Gujerat. They are well known agriculturists in the North Western Provinces. Whether of the hindu or mahomedan faith, they everywhere prefer pasturage to the plough. The Gujur, are numerous everywhere in the Sikh territory. The Gujuru, in Kashmir, are shepherd proprietors, said to have come from Guzerat in the Punjab. They live in loghouses, in recesses at the foot of the Panjab, and in the woods. The Gujur are numerous in the Punjab and probably of primitive antiquity. They have not lost the pastoral habits of their race; but they devote much attention to agriculture, and they are more industrious and less predatory than their brethren of Hindostan.—(*Records of Govt. of India, No. VII.*)

In 1857, in the Revolt in India the whole of the Gujar villages all around Delhi, after fifty years of compulsory quiet, broke out and plundered all over that district within a few hours of the outbreak of the mutiny; whenever any fugitive, during the mutiny, came to a Gujar village they were invariably plundered. The instant the strong arm of a Government was removed, these and other predatory races resumed their ancient habits. They are now cultivators and keepers of cattle and buffaloes living in separate villages of their own, numerous about Delhi, and in the Merut and Saharunpur districts of the Doab.

Professor Wilson says they profess to descend from Rajput fathers by women of inferior castes. Mr. Elliot considers them as having

given their appellation to the principality of Guzerat, in the west of India, and to the district of the same name in the Punjab. Sir John Malcolm says the Gujar, who are also Hindus have raised themselves to power by means not dissimilar to those used by the Jat. Almost all the thieves in Hindustan are of this tribe. They are numerous in Punjab, on the Northern frontier of British India, in Swat and the adjacent hills, and in the hills about Kashmir and they are said to have preceded the Swat tribe as the inhabitants and owners of part of the Hazarah district, east of the Indus. In the hills about Kashmir, the Gujar have pastoral vagrant habits. They are very numerous in the Punjab country and give their name to the town and district of Gujerat, in the plains of the Punjab, where, also, names from the same race are frequent. In all the northern, if not in all the Jat country, the Gujar are much mixed with the Jat and form a considerable part of the population. They are numerous in all northern Rajputanah, and extend into Malwa and the adjoining parts of Central India as far east as Bundelcund, one of the chiefs in which is a Gujar. The last Nagpore prince is stated to have been a Gujar, but there are at present, no Gujar in Guzerat and according to Mr. Campbell, the origin of the name of this district is not known. Those located in the east in hindustan, trace their origin from the west.

The Gujar are generally a fair good looking people especially those towards the N. W. frontier of India, and have no resemblance to the pre-Arian races. Those to the North of Delhi are mahomedans, but to the East and South they are sometimes half mahomedans sometimes half hindus, but so very lax as to be considered a sect apart.—(*Campbell, p.* 1013. *Wilson's Glossary: Malcolm's Sikhs, p.* 136. *Elliot's Supp. Glos.*)

Sikh.—The Sikh are not a race, but a body of religionists, who take their name from the hindi word, "sikhna" to learn, Sikh meaning a disciple. For a short time, the sect rose into a great nation in the country lying between India and Affghanistan. During the 16th and 17th centuries, Nanak and Govind, of the Khutree race, with their succeeding gurus, obtained a few converts to their religious views among the Jat peasants of Lahore and the southern banks of the Sutlej. Towards the close of the 18th century, they grew to be a great nation, with an influence extended from the Karakorum mountains to the plains of Sind, and from Delhi to Peshawur. Their dominions were included between the 28th and 36th parallels of north latitude, and the 71st and 77th meridians of east longitude. This tract consists of broad plains slightly above the sea level, or mountain ranges two or three miles high. The Sikh population of the Punjab has commonly been estimated at 500,000 souls, but Captain Cunningham considered a million would be the more correct number. The total in all India is 1¼ million. In the former Sikh territory, all were not of the Sikh religion. The people and dependent rulers of Ladakh profess Lamaic Buddhism, but the Tibetans of Iskardo, the Durdoo of Gilghit and Kuhka and Bimba of the rugged mountains, are mahomedans of the shia sect. The people of Kashmir, Kishtwar, Bhimbur, Pukhli, and of the hills south and west to the Salt Range and the Indus, are mostly sunni mahomedans, as are likewise the tribes of Peshawur and of the valley of the Indus southwards, as also the inhabitants of Mooltan, and of the plains northward as far as Pind-dadun-khan, Chuneeot and Depalpoor. The people of the Himalaya eastward of Kishtwar and Bhimbur, are hindus of the brahminical faith, with some buddhist colonies to the north and some mahomedan families to the southwest. The Jat of the Manjha and of the Malwa districts, in the Panjab, are mostly Sikh, but perhaps not one-third of the whole population between the Jhelum and Jumna, has as yet embraced the tenets of Nanak and Govind, the other two-thirds being still equally divided between mahomedanism and brahminism. Most of the modern Sikh in no way separate from their tribes and are known as Jat, or Khatri, or Brahman Sikh, one member of a family being frequently a Sing'h while others are not. Their written character in use is called Gurumukhi. It is the Devanagari, in form, but with different powers to the letters. The Sikh are the only sect whose religion teaches them not to smoke tobacco. They have, however, no objection to other narcotics, opium and bhang,—snuff taking is not so common. Smoking was first prohibited by the tenth Guru, Govind Sing'h, whose chief objection to it appears to have been that the habit was promotive of idleness, as people would sit smoking and do nothing.

Jat, a great race along the banks of the Indus from the Punjab to Sindh and to the banks of the Jumna, in Hurriana, in the N. West provinces, Bhurtpor, Dholpor, and Bikanir, some of whom, according to Wilson, claim to have come from Ghuzni and the far West, and others, claim to be descended from Yadu, an ancient prince, eldest son of Yayati. They are supposed to be the descendants of the Getæ or Yue Chi of antiquity. They are a bold, industrious people, and the rajah of Bhurtpore is a Jat. There are two sub-divisions of them, the Dhe and Hele, or Rachhade and Deswale, but there are many tribes. They are partly of the Sikh, partly hindu and partly of the mahomedan religions.

The Jat race is regarded by Mr. Campbell as belonging to the Arian family, but to have appeared in India later than the brahminical

hindus. The Jat are hindu in much of their speech laws and manners, but have some grammatical forms of speech not to be traced in the earlier brahminical writings. The Jat tribes present the most perfect example of the democratic and more properly Indo-Germanic races. They constitute, over a great part of India, an upper and dominant stratum of society, and have, to a great degree given their own tone and colour to many provinces. In great part of Jat land, the great body of the free people are Jat, and retain their original institutions in the greatest purity, little modified by modern brahminical laws. In the west country their name is pronounced Jat, but in the Punjab and in the east country, it has the long sound of Jat.

Some of the Jat are of the mahomedan religion some of the hindu faith in the west and in Sindh: of the Sikh sect in great part of the Punjab, and some in the east and near Bhurtpore, assimilating in their dress to their religious confreres. This has impressed many with the belief that these religionists differ from each other also in race, but by tracing this population, the differences in the type disappear and the one extreme is found to merge into the other. There may, however, be a different race on the west, and those on the west are pastoral and predatory, while Captain Burton mentions without quoting his authority, that a wandering predatory tribe bearing their name is found on the western parts of Central Asia, about Candahar, Herat and Meshad.

The *Jat* of the lower Indus, appear to be of the same race as the Brahui and are almost black.

The Jat are not found in Afghanistan, but in Beluchistan in proceeding eastwards by the Bolan Pass and other routes, there, they succeed the Tajik and Dehwar of the west of Afghanistan and the vicinity of Candahar, and occupy the plains and the hilly country, descending into the plains, spread to the right and left along the Indus and its tributaries, occupying upper Sindh on one side, and the Punjab, on the other. But in the Punjab, they are not found in any numbers north of the Salt Range, and in the Himalaya, they are wholly unknown, which would seem to show that the Jat did not enter India by that extreme northern route. Also, the Jat does not occupy lower Sind and they are not found in Guzerat. The Jat is, however, the prevailing population in all upper Sind and their tongue is the language of the country. They were once the aristocracy of the land, but latterly have been dominated over by other races and thus have lost somewhat of their position as the higher classes of the society. In the south and west of the Punjab, too, they have long been subject to mahomedan rulers. But latterly, as the Sikh, they became rulers of the whole Punjab and of the country beyond as far as the upper Jumna, in all which territories they are still, in every way, the dominant population. Over great tracts of Hindustan, three villages out of four are Jat, and in each Jat village, this race constitute perhaps two-thirds of the entire community, the remainder being low caste predial slaves, with a few traders, and artizans. The Jat extend continuously from the Indus over Rajputanah. The great seat of Rajput population and ancient power and glory was on the Ganges; but since vanquished there by mahomedans, the chief Rajput houses have retired into the comparatively unfruitful countries now known as Rajputanah where, however, the Jat is the most numerous part of the people. They share the lands with the Meena, the remains of the Brahmin population and the dominant Rajput, but they have the largest share of the cultivation. The northern part of Rajputanah was partitioned into small Jat republics before the Rajput were driven back from Ajoodiah and the Ganges. The southern and more hilly parts of Rajputanah are not Jat, but are occupied by the Mhair, Meena and Bhil; but in Malwa, again, the Jat are numerous and seem to share that province with Rajputs and Kunbi. Those of Beluchistan are described by the people of Candahar, as fine athletic men, with handsome features but rather dark. Those in Upper Sind, up the course of the Indus, and in the south-western Punjab, are for the most part of the mahomedan religion. They have been long subject to foreign rule and seem to be somewhat inferior to their unconverted brethren. In all the east of Beluchistan, the Baluch are but a later wave and upper stratum. There, about the lines of communication between India and Western Asia, in the provinces of Sewestan and Kuch Gandava. The Jat form probably the largest portion of the agricultural population and claim to be the original owners of the soil. In the west, advancing through Rajputanah, we meet the Jat of Bhurtpore and Dholpore. Gwalior was a Jat fortress belonging, as is supposed by Mr. Campbell, to the Dholepore chief. They do not go much further south in this direction. From this point, they may be said to occupy the banks of the Jumna, all the way to the hills. The Delhi territory is principally a Jat country and from Agra upwards, the flood of that race has passed the river in considerable numbers and forms a large part of the population of the Upper Doab, in the districts of Alighur, Merut and Muzafarnagar. They are just known over the Ganges in the Moradabad district, but they cannot be said to have crossed that river in any numbers. To sum up, therefore, the Jat country extends on both sides of the Indus from L. 26° or 27° N. up to the Salt Range. If from the ends of this line two lines be drawn nearly at right angles to the river, but inclining south, so as to reach

Lat. 28° or 24° N. in Malwa, and L. 80° on the Jumna, so as to include Upper Sind, Marwar, part of Malwa on one side, and Lahore, Umritsur and Umballa on the other, then connect the two eastern points by a line which shall include Dholpore, Agra, Alighur and Merut, and within all that tract the Jat race ethnologically predominates, excepting only the hills of Mewar and the neighbourhood, still held by aboriginal tribes. Advancing eastwards into the Punjab and Rajputanah, we find hindu and mahomedan Jats much mixed and it often happens that one-half of a village or one branch of a family are mahomedans and the other hindus. Further east, mahomedan Jats become rarer and rarer, and both about Lahore and all that part of the Punjab along the line of the upper Sutlej and Jumna, the great mass remain unconverted. In the Punjab, the Jat all take the designation of Singh, and dress somewhat differently from ordinary hindu Jats; but for the most part, they only become formally Sikhs, where they take service and that change makes little difference in their laws and social relations. The Jat of Dehli, Bhurtpur, &c, are a very fine race, bear the old hindu names of Mull and such like and are not all Singhs. In Rajputanah, the Jat are quiet and submissive cultivators. They have now long been subject to an alien rule and are probably a good deal intermixed by contact with the Meena and others.—(*Campbell, pp.* 77 to 81.)

The Jat Singh of the Punjab and upper Sutlej may probably be taken as the best representative type of the race. Compared to northern races, they are dark; they are tall, large and well featured, with plentiful and long beards, fine teeth and a very pleasant open expression of countenance. They are larger and taller than the Afghan Pathan with the upper part of the body especially well developed but not so stout limbed or quite so robust. They are a fine, remarkably handsome, race of men, not excelled by any race in Asia. In courage, energy, and military qualities, they excel the more beautiful non-Pathan races of the northern hills and they are as energetic in the peaceful arts as in that of war. They are good cultivators, hard-working and thrifty; they let little land lie waste and pay their land tax punctually. Their women work as well as the men and make themselves generally useful. They are not learned, though many men and some women can read and write. They have a great craving after fixed ownership in the soil. They are essentially agriculturists, seldom gardeners, and in Hindustan are never pastoral. They breed cattle largely, and sometimes rear camels when the country is suitable, and in Jat countries both ordinary carts and large mercantile waggons are usually plentiful, and as waggoners they not unfrequently carry their grain and other produce to distant markets on their own account. The Jat formerly dwelt in Rajputanah in republics, such as, in the time of the Greeks, were alluded to as democratic institutions, and one recognised republican state, that of Phool or Maraj, came down to the present day, and was the last recognised republican state in India. It was a Jat republic, and gave the chiefs who founded the states of Patialah, Nabah, Jheendca. The old territory of the Phoolkian race was recognised by the British and treated amongst the protected Sikh States, but has recently been brought under the general rule of British dominion. Every Jat village, however, is, on a small scale, a democratic republic, every man having his own separate and divided share of the cultivated land. The union in a joint village community is rather the political union of the commune, so well known in Europe, than a common enjoyment of property. A father and son may cultivate in common, but commensality goes no further. The village site, the waste lands and grazing grounds and, it may be, one or two other things belong to the commune, and the members of the commune have, in these, rights in common. For all the purposes of cultivation, the remainder of the land is in every way separate individual property. The government is not patriarchal, but a representative communal council or punchayet. Re-marriage of widows is permitted. All the Jat are subdivided into many Gentes and Tribes, after the usual fashion of the peoples of the Arian or Indu Germanic stock, and the usual fashion is to marry into another Gens. The Jat have little of the hindu ceremonial strictness, and in Punjabi regiments, they mess freely like Europeans, and have their two or three meals a day comfortably. The Jat, Rajput and their congeners are branches of one great stock. Brahmans of Kashmir and the frontier hills are hindus in an earlier stage of brahminical developement. The Jat country is just such as would be occupied by a large stream of people issuing through the Bolan Pass, in Lat 28 or 30° north, and the Rajput are ranged in a semi circular form around the eastern and northern and south edge of the Jat area, the mass of them occupying the richer valley of the Ganges. Mr. Campbell's conjecture is that the Rajput are an earlier wave from the same source as the Jat who came in by the same route, have farther advanced and been completely hinduised, while the Jat have come in behind them. Punjabi is the language spoken by the Jat, but which, in upper Sind, is called Jati Gul or the Jat tongue, and Mr. Masson calls it Jetki. It is an Indo-germanic tongue allied to the Sanscrit. In its main grammatical and essential features it is not widely different from the Hindi of the Rajput and

other Hindustan people. It is one of the most prácrit of Indian vernaculars.—(*Campbell, pp.* 82 to 85.) The Jat, Jot, Jet Jut, or Jhut, thus occupy the North West and bordering provinces, also the Punjab, and Sind. They are partly hindu, partly Sikh, and partly mahomedan. They all refer to the west of the Indus and to Ghazni as their original seats, and the Dhe or Pachhade reached India from the Punjab about the middle of the 18th century. The other section is the Hele or Deswale. The Jat seem to have entered by the Bolan pass, occupied the high pastoral lands about Quettah and thence descended into the plains which they still occupy. The Jat is the great agricultural tribe in the Punjab and in the Punjab parlance, Jat and zamindar or cultivator are synonymous. There are no Jat in Kashmir or within the hills. The Aodi tribe of Jat dwell in Paniput and Soneput. The Aolania Jat in Paniput claim to be above other Jat by having had the title of malek or king conferred on them. The race, however, spread from Herat, Kabul and Kandahar, throughout the Panjab, down the Indus into Kach Gandhava, and eastwards to the Jamna and Ganges, is the same, and wherever spread, they retain a dialect of their own to which, in Sind, has been given the name of Jetki. Mr. Masson seems to imply that they are descendants of the Getæ who, he says, once possessed the whole of the countries immediately east and west of the Indus. The zamindars, or cultivators of the soil, at Jell as throughout Kachi, are Jet, who there seldom move abroad but on bullocks and never unless armed. A Jet may generally be seen half naked—seated on a lean bullock, and formidably armed with matchlock and sword, and to the north and west of Kach Gandhava, as also in Herat, Kandahar, and Kabul, they are seen as itinerant artizans, like gypsies. In the Panjab, they are not found west of the Jilam, but east of that river the Jet cultivators use waggons. The Jet has been so long settled in Kach Gandhava, as to appear the aborigines. Amongst their numerous subdivisions are the Kalora, Kokar, Hampi, Tunia, Abrah.—(*Masson's Journeys, Vol. ii. p.* 125, *Masson's Kelat, p.* 352.) According to Mohan Lal, the Sikh Jat are polyandrous, and one brother takes his brother's wife; but in saying so, he seems to allude to the custom among the Jat, of Curao, also written karao seemingly from "karana," to cause to do, the term given among the Jat, Goojur, Ahir, and other races and tribes in western Hindustan to concubinage generally; but more especially to marriages of widows with the brother of a deceased husband. The practice which is also known to the eastward by the name of Ooorhuree, in the Deccan of Butt'hhee; and, in other provinces, by the name of Dhureecha, is followed among the races, but is not very openly confessed even among them, as some degree of discredit is supposed to attach to it. It is only younger brothers who form these connections, elder brothers being prohibited from marrying their younger brother's widows, but among the Jat of Delhi even this is not prohibited. The practice has been common among several nations of the East. The Jews followed this custom, and in Egypt it was admitted for a childless widow to cohabit with a brother of the deceased husband. When the laws of Menu were enacted, Curao appears to have been a recognized institution. But as is not unusual with the Institutes, there is much contradiction between the enactments relating to it. From a consideration of all the passages on the subject, it appears that failure of issue was the point on which the legality turned. He who was begotten according to law on the wife of a man deceased, or impotent, or disordered, after due authority given to her, is called the lawful son of the wife (Ch. IX., v. 176.) From the fact of Draupadi marrying the five Pandoo brothers, we learn that polyandry must have prevailed amongst the heroes of that period; and if polyandry, the practice of Curao was, no doubt, not uncommon: indeed, the compiler of the Mahabharata, Vyasa, was himself appointed to raise up offspring to his deceased brother. There is perhaps no circumstance which so strongly shows the northern descent of the deified Pandava heroes, as this marriage. Herodotus tells us that polyandria prevailed among the nomadic Scythians as it does at present among the Bhotia. The practice is adopted also by the Nairs of Malabar, between whom and the people of the Himalaya, Wilson traces the obscure vestiges of a connection. Amongst the Jat, Goojur, and Ahir, children born Curao are considered legitimate, and are entitled to inheritance accordingly. Children begotten by the woman previous to Curao, except in the case of fraternal Curao, are known by the name of Kudhelura, and do not inherit the property of the father-in-law.—(*Elliot Sup. Gloss. Recherches Phil. surres Egyptiens et les Chinois, Selections from the Mahabharata, pp.* 8 *and* 66.)

Captain Postans tells us that the Jut, in Sind, like all the tribes in the Sind countries, are divided into innumerable sub-divisions called "Koum," and are a hard-working oppressed race, occupying themselves in rearing camels, feeding flocks, or cultivating the soil. They are invariably found in large communities, often living in temporary huts or "wand," and migrate all over Sind and its confines, as shepherds, in search of pasture. Where this is not the case, they are farm servants either of the Biluchi chiefs or wealthy zamindars, who repay their labour

with a modicum of the produce. The Jut in Sind, are a quiet inoffensive class, and exceedingly valuable subjects, but have hitherto been much depressed. Their women are, throughout the country, noted for their beauty and, to their credit be it also spoken, for their chastity. They work as hard as the men, and the labour of tending, driving home their flocks, milking the cattle, &c. is fairly divided. The Jut are very numerous and form a large division of the population of Sind, though seldom found in its towns, being dispersed over the whole face of the country particularly eastward to the desert tract which separates Sind from Cutch, known as the Runn on which this tribe rear large flocks of camels. There are other pastoral and peaceable classes besides the Jut, of mahomedan persuasion, such as the Khosa in Upper Sindh, Sikh Lohana in the Delta, and emigrants from the Punjaub, who have in many instances become amalgamated with the people of the country. The Khosa become a predatory tribe on the eastern confines of Sind, verging towards the Cutch terrritories, where Rajputs are located: they are very troublesome. They are also on the eastern boundaries, as wandering herdsmen. The Daood Putra, who inhabit generally the country, of that name in the north, are to be met with in various parts of Sindh. The Sumah are Jut, though they are generally known by the former title. Such, also are the Machi and numerous other subdivisions of the Jut tribes. The Jut is as inseparable from the camel throughout Sind, as the Arab from his horse in Arabia; they are invariably camel drivers and feeders, and are consulted on every occasion where the health or efficiency of this valuable animal are in question. The Jut of Sindh and Kach Gandhava have become mahomedans. The Jetki is, everywhere, according to Mr. Masson, the language of the Jet.—(*Masson. Vigne. Postans.*)

According to dictionaries, Jat means a race, a tribe, while Jut means a manner, a kind, and likewise matted hair: also throughout the Punjab, Jut implies a fleece or fell of hair, and in Upper Sind a Jut means a rearer of camels or black cattle, or a shepherd in opposition to a husbandman. In the Punjab generally, Jut means, a villager and husbandman in opposition to an artist or handicraftsman. The Jat, latterly, acquired great power. The Birk or Virk is one of the most distinguished of the Jat tribes. The Sindhoo, Cheeneh, Vuraitch, Chhuttheh, Sidhoo, Kurekal, or Kurreeal, Gondul, &c., are Jat sub-divisions in the Punjab and their numerous sections, added to their following varied religious sects, have given rise to doubt as to the unity of the race. The Jat in the north and west of India are industrious and successful tillers of the soil, and hardy yeomen, equally ready to take up arms as to follow the plough. On the Jumna, their general superiority is apparent, and Bhurtpoor bore witness to their merits. Some of the Jat are said to be descendants of the Kahkar of the Salt Range.—(*Cunningham's History of the Sikhs, Masson, Vigne, Postans.—Campbell, p.* 5.

Godara, a Jat tribe near Hariania.

Guddee, a race in the Kangra hills.

Sauree, the low castes of the Punjab, are the Sauree, Bouria and Hurni.

Purbia.—A Sanscrit term applied to the natives of the eastern countries of India, or those lying on the east of the Ganges, beginning from Behar. At the commencement of the revolt of 1857, the Purbia of Oude and Hindustan in general, constituted three-fourths of the regular army of Bengal, and all of them, from community of country, although of different races, castes, and religions, had so strongly united together that the army had become quite a close service, open only to the few favoured classes. The strength of this feeling only became known when the Government tried and failed to introduce two hundred Sikhs into each regiment of the line.

The *Kori*, Koli, or weaver and the Tili or oilmen of northern India take a low place amongst the castes. All the weaver caste throughout Hindustan are stated by Colonel Tod to be Koli. They call themselves Julai, but are sometimes styled Kori. The Koli of the Simla hills are merely inferior castes living amongst the other populations.—*Tod.*

Rajkumar, a numerous and wealthy agricultural race in the N. W. provinces long notorious for the murder of their infant daughters.

Lodha of the N. W. provinces are husbandmen.—(*Wils. Gloss.*)

Tanti or weavers are a prosperous class of cultivators and own a good deal of land.—(*Campbell, p.* 107.)

Teli, oil-manufacturers and oil-sellers, throughout India, are part of the agricultural community.—*Campbell, p.* 107.

Bhuinhar, in the district of Gorakhpur, Azimghur and Benares, is an agricultural tribe who call themselves Bhuinhar or Bhun-har. They claim to be brahmans, and take the titles of Thakur, Misr, and Tewari; the raja of Benares belongs to them.—*Wils. Gloss.*

Rawat also Raji, a small savage tribe in the Rohilcund Terai.—*C. p.* 47.

Nat, or *Nut*, in Bengal, is a wandering tribe, who are dancers, actors, athletae. They resemble the gypsies in habits.

The Nut called also Sirki bash (dwellers under mats) met with in the Dekhan are not distinguishable from Dher.

Kahar, a sudra race of Bahar, who follow agricultural pursuits and are palanquin bearers, many of them are slaves and are considered impure. The Kahar palanquin-bearers of Hindustan are found all through Hindustan and the east of the Punjab, are a considerable class, and are strong, hard working, rather good looking, men. They are water carriers, fishermen and cultivators. Hindus drink water from their hands. Near Gya, they are also employed as palanquin bearers —*Wils. Gloss. Campbell, p.* 120.

Dhimar are fishermen, a branch of the Kahar, but are sometimes considered offshoots of the Malla.

Hardoul in the villages of Upper India may be seen the Khardour or Hardoul mounds studded with flags to avert disease.

Hela, a division of the Bhangi, but eat the leavings of hindus only.

Dom of Kumaon is merely an inferior caste dwelling amongst the general population. In the north of India, under the Himalaya and in the Kumaon Hills, the Dom were once a considerable tribe. They are still a numerous helot section of the population, being in fact the only inferior class and ordinary labourers as well as artizans. The Dom are very black with curly hair and altogether aboriginal in appearance, the Dom or Domar in the labour market of Northern India take the place of the Mang of the south of India. The Dom of Northern India are rope, fan, basket and mat-makers. In Oudh and Bengal the Dom are sweepers, and carry dead bodies. The Dom are also musicians. The Mirasi Dom are mahomedans and called Mir and Mirasi.—*Campbell, pp.* 16, 124. *Wils. Gloss.*

Dhanuk in Bahar and Hindustan, a tribe who are fowlers and archers and live on their prey: they are also employed as house guards and Dr. Buchanan describes the Dhanuk of Bahar, Bhagalpoor and Puraniya as engaged in agriculture like the Kurmi. Many of them however are agricultural slaves.—*Wils. Gloss.*

Hari, semi-aboriginal tribes of Bengal.

Chungur.—A wandering houseless race in the Punjab, probably the same as the Chinganeh of Turkey, the Italian Zingaro, the Spanish Gitano, and the English Gipsy. About Delhi, the race is called Kunjur, a word which, in the Punjab, implies a courtesan dancing girl. See Zingarro.

The Cheroo, aborigines in Ghazeepur, a part of Gorukpur, the southern part of Benares and Mirzapur and Behar. They are sometimes said to be a branch of the Bhur. They seem to be the same as the Savira or Seoree, but Buchanan considers them distinct. The Cheroo declare themselves to be descended from the great serpent, from which they may be supposed to be the Nagbunsi of Magadha. Remains of buildings attributed to them are found near Buddha Gya, Sasram and Ramghur, and the images of Siva and Hanuman found in them indicate that they belonged to the hindu religion. They appear to have been expelled from their ancient abodes by the Pramara of Bhojpur, the Hyobun of Hurdi and the Bhoonhar, a little before the first mahomedan invasion, about which time there seems to have been a general convulsion in India, during which several tribes acquired their present possessions. The features of the Cheroo are said to resemble the occupants of the Vindhya mountains. They live by cutting timber, collecting drugs, and killing game, and though their numbers are very low, they continue to create a rajah for every five or six houses, and invest him with the tilak in due form. The emperor Sher Shah subdued Muhartu, a Cheeroo zemindar of Behar, which seems to have been a last strong effort of the Cheeroo race. The chief of Singrowli in Mirzapur is a Cheeroo, though he calls himself a Ben-bans. Sir H. Elliot suggests that the Sivira, Seori and Cheroo, may perhaps be the Saura, descendants of the Suraseni. In the Harivansa is the following passage:—From this race came the Sauravira and Saurasena. The great king Sourasena has given his name to the country over which he reigned.—*Elliot's Supp. Gloss.*

Sivira or Seoree, a race in Ghazepur, Gorukpoor, Behar, Benares and Mirzapur, whom Buchanan thinks identical with the Kol and the Cheru.—*Elliot.*

Bhinar, an aboriginal tribe of the upper Doab, called in the Doab, Bheimhar and in Rohilcund, Behar. They were expelled from Nirauli and the neighbouring districts by the Bir Gujar rajputs.

Bhar of northern India, called also Bharat, Raj-bhar and Bharpatwa, an aboriginal race following the meanest of avocations, especially that of swineherds. In the hills east of Mirzapur, there are some Bhar rajas. Tradition ascribes to them the whole country from Gorapur to Bundlekund and many old stone forts. Prof. Wilson supposes it possible that the name comes from Bharata an ancient name of India.—(*Wils. Gloss.*)

Boksa, a forest tribe in western Rohilcund, and in part of the forests or Sewalik hills of Dehra Dhoon. They are of short stature and spare habits with broad faces, depressed noses, prognathous jaws, thick lips, very scanty beard and mustaches, but not darker in colour than the ordinary hindus of the country. They are reputed to be skilful in witchcraft. They are very ignorant and indolent, but simple, inoffensive and good humoured. They have a scanty rude cultivation, and collect forest produce and wash gold, but they have no caste,

eat almost anything. They have no separate language. They are supposed to be dying out. They are said to enjoy a wonderful immunity from the efforts of malaria.—*Campbell, p.* 47.

Baori, the vagrant Baori of the Bhatti country and west of Delhi subsist chiefly by stealing. The Baori of the Jangal Mahal, are a low caste of cultivators and palankin-bearers.

Bagari, a tribe inhabiting the district of Bagar, between the South West borders of Hariana and the Sutlej. Said to have been Rajputs but also supposed to be Jat. A robber race of this name is settled in Malwa.—(*Wils Gloss.*)

Mewati, a thieving tribe of cultivators who seem to have come from somewhere in Rajputanah. They are found here and there along the S. West borders of the N. W. Provinces of India. The Alwar country near Delhi seems of late to have been called Mewat, but they extend further east than the Gujar, and in Malwa are common as regular soldiers and depredators. They are supposed to be mostly mahomedans.—*Campbell, p.* 103.

The Chura, of the Panjab, are serfs. They are the direct descendants of the Chaura or military outcastes of the Mahabarata.—*Dr. W. W. Hunter.*

Ghosee, also g'hosi, herdsmen, said to be descended from the Ahir race. Most of them have now been converted to mahomedanism; indeed, the name is generally considered, according to the dictionaries, to be exclusively applied to mahomedan milkmen. The name is derived from a sanscrit word signifying a cattle-pen. The eastern G'hosi who have been converted are called Bundee G'hosi. In many parts of the country, as in Delhi, the G'hosi are those who trade in milk, without any reference to their caste or religion.

Guddee, a tribe resembling the G'hosi. They are now mostly mahomedans, and have a few scattered communities in several pergunnahs, such as in Gurhmooktesur and Surawa of Meerut, and the Rampoor territory. It is not unusual to call any converted hindoo a Guddee, which is looked on by a mahomedan as a term of reproach.—*Elliot's Supp. Gloss.*

Gudurea, a shepherd, also written gadaria. There are several sub-divisions of the Gadaria in Hindustan, Neek'hur; Tusselha or Puchhade, Chuck, Dhangur, Bureyea, Pyhwar and Bhyeatur. Of each of these there are also many divisions.—*Elliott's Supp. Gloss.*

The Dilzak, are the predecessors of the Pathan tribes in the Peshawar valley, seem to have considerable Pathan blood, and are supposed by some to be earlier Pathans.—*Campbell, p.* 96.

Mahomedans.—The Syed race of Barh in northern India, furnished many persons of note to the courts of Delhi from the reign of Akbar to that of Ferokser. They are still numerous in Mozuffernugger.

Kamin, in the North West provinces is the term applied to the artificers and servants of a village.—*Wils Gloss.*

Batti of Bhattiana, west of the Sutlej, a tribe of fine handsome people, whose origin is obscure.—*Campbell, p.* 97.

NORTH-WEST BORDERS.—These notices of the races occupying British India have brought us to its north-west borders.

The characteristics of race are, perhaps, more deep seated and enduring than those of religion; but, in considering any people, the result of birth and breeding, of descent and instruction, must be held jointly in view. The Jut or Jat are known in the north and west of India as industrious and successful tillers of the soil, and as hardy yeomen equally ready to take up arms and to follow the plough. They form, perhaps, the finest rural population in India. On the Jumna their general superiority is apparent, and Bhurtpoor bears witness to their merits, while on the Sutlej, religious performances and political ascendancy have each served to give spirit to their industry and activity and purpose to their courage. The Raien, the Malee, and some others, are not inferior to the Jut in laboriousness and sobriety, although they are inferior in enterprise and resolution. The Rajpoot are always brave men, and they form, too, a desirable peasantry. The Goojer, whether of the hindoo or mahometan faith, everywhere prefer pasturage to the plough. The Baluch do not become careful cultivators even when long settled in the plains, and the Baluch tribes adjoining the hills are of a turbulent and predatory disposition, they mostly devote themselves to the rearing of camels, and they traverse Upper India in charge of herds of that useful animal. The Afghan are good husbandmen when they have been accustomed to peace in the plains of India, or when they feel secure in their own valleys, but they are even of a more turbulent character than the Baluch and they are everywhere to be met with as mercenary soldiers. Both Baluch and Afghan are, in truth, in their own country little better than freebooters, and the mahomedan faith has mainly helped them to justify their excesses against those of other persuasions and to keep them together under a common banner for purposes of defence or aggression. The Khuttee and Urora of the cities and towns are enterprising as merchants and frugal as tradesmen. They are the principal financiers and accountants of the country; but the ancient military spirit frequently reappears amongst the once royal "Khshutree," and they become able governors of provinces

and skilful leaders of armies. The industry and mechanical skill of the stout limbed, prolific, Cashmiri are as well known as their poverty, their tameness of spirit, and their loose morality. The people of the hills south and east of Cashmeer, are not marked by any peculiar and well determined character, excepting that the few unmixed Rajpoots possess the personal courage and the pride of race which distinguish them elsewhere, and that the Gukker still cherish the remembrance of the times when they resisted Baber and aided Humayun. The Tibetans, while they are careful cultivators of their diminutive fields rising tier upon tier, are utterly debased in spirit, and at present they seem incapable of independence and even of resistance to gross oppression. The system of polyandry obtains among them, not as a perverse law, but as a necessary institution. Every spot of ground within the hills which can be cultivated, has been under the plough for ages; the number of mouths must remain adapted to the number of acres, and the proportion is preserved by limiting each proprietary family to one giver of children. The introduction of mahomedanism in the west, by enlarging the views of the people and promoting emigration, has tended to modify this rule, and even among the Lamaic Tibetans any casual influx of wealth, as from trade or other sources, immediately leads to the formation of separate establishments by the several members of a house. The wild tribes of Chibh and Buhow in the hills, the Jun and Kathee, and the Dogher and Bhuttee of the plains, need not be particularly described, the idle and predatory habits of some, and the quiet pastoral occupations of others, are equally the result of position as of character.—(*Cunningham's History of the Sikhs, p.* 18.)

The Sikh owes his excellence as a soldier to his own hardihood of character, to that spirit of adaptation which distinguishes every new people, and to that feeling of a common interest and destiny implanted in him by his great teachers. The Rajput and Puthan are valiant and high-minded warriors; but their pride and their courage are personal only, and concern them as men of ancient family and noble lineage; they will do nothing unworthy of their birth, but they are indifferent to the political advancement of their race. The efforts of the Mahratta in emancipating themselves from a foreign yoke, were neither guided nor strengthened by any distinct hope or desire. They became free, but knew not how to remain independent, and they allowed a crafty brahmin to turn their aimless aspiration to his own profit, and to found a dynasty of "Peshwa" on the achievements of unlettered sudras. Ambitious soldiers took a further advantage of the spirit called up by Sevajee, but as it was not sustained by any pervading religious principle of action, a few generations saw the race yield to the expiring efforts of mahomedanism, and the Mahratta owe their present position, as rulers, to the intervention of European strangers. The genuine Mahratta can scarcely be said to exist, and the two hundred thousand spearmen of the last century are once more shepherds and tillers of the ground. Similar remarks apply to the Goorkha, that other Indian people which has risen to greatness in latter times by its own innate power, unmingled with religious hope. They became masters, but no peculiar institution formed the landmark of their thoughts, and the vitality of the original impulse seems fast waning before the superstition of an ignorant priesthood, and the turbulence of a feudal nobility. The Sikh looked before him only; the ductility of his youthful intellect readily receives the most useful impression, or takes the most advantageous form, and religious faith is ever present to sustain him under any adversity, and to assure him of an ultimate triumph.

The Rajput and Pathan will fight as Pirtheerai and Jenghiz Khan waged war; they will ride on horses in tumultuous array, and they will wield a sword and spear with individual dexterity: but neither of these cavaliers will deign to stand in regular ranks and to handle the musket of the infantry soldiers, although the mahomedan has always been a brave and skilful server of heavy cannon. The Mahratta is equally averse to the European system of warfare, and the less stiffened Goorkha has only had the power or the opportunity of forming battalions of footmen, unsupported by an active cavalry and a trained artillery. The early force of the Sikhs was composed of horsemen, but they seem intuitively to have adopted the new and formidable matchlock of recent times, instead of their ancestral bow and the spear common to every nation. Mr. Foster noticed this peculiarity in 1783, and the advantage it gave in desultory warfare. In 1805, Sir John Malcolm did not think the Sikh was better mounted than the Mahratta; but in 1810, Sir David Ochterloney considered that, in the confidence of untried strength, his great native courage would show him more formidable than a follower of Sindhia or Holkar, and readily lead him to face a battery of well served guns. The peculiar arm of the contending nations of the last century passed into a proverb, and the phrase, the Mahratta spear, the Afghan sword, the Sikh matchlock, and the English cannon became a proverb.

In the valley of the Upper Indus, that is in Ladakh and little Tibet, the prevailing race is the Bhot subdivision of the great Tartar variety of the human race. Lower down that

classical stream, in Ghilghit and Chulass, the remains of the old and secluded Durdoo and Dungher races are still to be found, but both in Iskardo and in Ghilghit itself, there is some mixture of Toorkaman tribes from the wilds of Pamer and Kashkar. The people of Cashmeer have, from time to time, been mixed with races from the north, the south, and the west; and while their languages is hindoo and their faith mahomedan, the manners of the primitive Kush or Kutch tribes, have been influenced by their proximity to the Tartar races. The hills westward from Cashmeer to the Indus are inhabited by Kukka and Bumba, of whom little is known, but towards the river itself the Eusofzye and other Afghan tribes prevail; while there are many secluded valleys peopled by the widely spread Goojer, whose history has yet to be ascertained, and who are the vassals of Arabian "syeds," or of Afghan and Toorkaman lords.

In the hills south of Cashmeer, and west of the Jehlum to Attock and Kalabagh on the Indus, are found Gukker, Goojer, Khatir, Awan, Junjooh and others, all of whom may be considered to have, from time to time, merged into the hindoo stock in language and feelings. Of these, some as the Junjooh and especially the Gukker, have a local reputation. Peshawur and the hills which surround it, are peopled by various Afghan races as Eusofzye and Momund in the north and west, Khuleel and others in the centre, and Afreedee, Khuttuk and others in the south and east. The hills south of Kohat, and the districts of Tank and Bunnoo are likewise peopled by genuine Afghans, as the pastoral Waziri and others, or by agricultural tribes claiming such a descent, and indeed, throughout the mountains on either side of the Indus every valley has its separate tribe or family, always opposed in interest, and sometimes differing in speech and manners. Generally it may be observed, that on the north, the Afghan on one side, and the Toorkaman on the other, are gradually pressing upon the old, but less energetic Durdoo.—*Cunningham's History of the Sikhs, p.* 6-7.

The languages spoken in the north-western border of India, between it and Afghanistan, and those of India adjoining Afghanistan, are dialects of Hindi, but sufficiently distinct to be called Sindi, Panjabi and Kashmiri. The late Lieut. Leech indeed, has given vocabularies of seven languages spoken on the west of the Indus. The western border tribes are still mostly under patriarchal governments. In the south are the various Belooch tribes in the territories to which they give their name and whose language is said by Captain Raverty to be a mixture of Persian, Sindi, Punjabi, Hindi and Sanscrit. The Brahui tribes in Saharawan and Jhalawan, whose great chief is the Khan of Kelat, ethnologists looking at their language, consider to be of the same Scythic stock as the Dravidian races in the south, and infer from this that the passage of Dravidian tribes from Turan was along the valley of the Indus.

Further north, in the Derajat, are warlike Baluch and Afghan tribes, the most unyielding of whom are the Waziri, who have continued to resist the efforts made by the English to restrain their inroads on the plains. Still further north and west are the numerous tribes of Afghanistan of whom may be mentioned the powerful Durani race and the Tajik tribes. The Mongols of Kabul, Persia and Herat, called Kalmuks in Herat and Afghanistan and Eimak and Charmak in the Hazara, dwell north of Kabul and Herat. In the Bunnu valley, there are mixed races, and we may notice the Durdu in Giljit and Chulas.

According to Captain Raverty, the people who dwell about Kabul and Kandahar, Shorawak and Pishin are designated B'r-Pushtun or Upper Afghans; and those occupying the district of Rob, which is near India, are called L'r-Pukhtun or Lower Afghans. Persian is the official language of Afghanistan, but colloquially the Pushto is alike the common tongue of the uneducated people, of the families of the Sadozye kings, and of the dwellings of the Amir. There are, however, two divisions of the Afghans, termed Pushtun and Pukhtun, who speak Pushto and Pukhto respectively. The Pushto being the western dialect with affinity to Persian, and the Pukhto the eastern with many Sanscrit and Hindi words. The Pushto is spoken, with slight variation in orthography and pronunciation, from the valley of Pishin, south of Kandahar, to Kafiristan on the north; and from the banks of the Helmand on the west, to the Attok, Sindhu or Indus river, on the east; —throughout the Samah or plain of the Yuzufzye—the mountainous districts of Bajawar, Banjhkora, Suwatt and Buner to Astor, on the borders of Little Tibet,—a tract of country equal in extent to the entire Spanish peninsula. Also, throughout the British districts of the Derajat, Banu Tak, Kohat, Peshawar and the Samah or plain of the Yuzufzye, with the exception of Dera Ghazi Khan, nine-tenths of the people speak the Afghan language. Since the invasions of Mahmud of Ghazni, in the twelfth century, there has been a constant influx into India of Afghans, as conquerors and settlers and this has been so great from particular districts that some tribes have altogether disappeared from Afghanistan. In some localities in India, the Afghan settlers have preserved the Pushto, almost in its purity, up to the present day, having from the outset married amongst

themselves. In some parts of Bundelkund and in the territory of the nawab of Rampur, whole towns and villages may be found in which the Afghan language is still almost exclusively spoken and is the medium of general communication. Captain Raverty considers that although, on numerous points, the Pushto bears a great similarity to the Semitic and Iranian languages, it is totally different in construction and idiom also from any of the Indu-Sanscrit dialects.—(*Capt H. G. Raverty's Grammar and Dictionary of the Pushto, Pukhto, or Afghan language.)*

AFGHANISTAN.—Afghan is a name applied to the various peoples who occupy Afghanistan. They are supposed by some to be descendants of some of the lost tribes: by others to form part of the descendants of the Greeks of Alexander the Great, but they are doubtless of mixed, perhaps of Scythian, origin. The language spoken is called Pushtoo or Pukhta which is believed to be connected with the Zend, and Pehlavi and the Hebrew. They are mahomedans, having been converted to this creed within half a century from the first promulgation of that religion.

From the middle of the tenth century, the boundaries of Afghanistan have fluctuated with the vicissitudes of war. At the date of the invasion of the country by the British, in A. D. 1838 the kingdom consisted of four sub-divisions, Cabul, the Hazara country, Candahar, and Herat. Taken in this extent, Afghanistan is bordered on the north by Bokhara, Kunduz, and Kaferistan; on the east by the British province of Peshawur and the Soliman range of mountains; on the south by Beloochistan; and on the west by Persia. Its greatest length from north to south is about six hundred miles; its breadth measures about the same distance.—(*Townsend's Outram and Havelock's*, *p.* 85.)

The population of Afganistan is divided into two very distinct portions, first the Afghan, properly so called; secondly, the Tajik, descendants of the ancient conquerors of the country, and who may be subdivided into two classes, the Parsivan or inhabitants of the towns and the Eimak or nomade races. The following is an approximation to the actual numbers. In the province of Herat, 300,000 Afghan and 600,000 Parsivan or Eimak. In the province of Kandahar, 600,000 Afghan and 300,000 Beloochi. In the province of Kabul, 1,600,000 Afghan and 800,000 Parsivan and Kuzzilbash. Total, 500,000 General Total 4,200,000 inhabitants.

The Afghans are at present the dominant race and the Tajik are subject to them both in Herat and Kandahar. The Kuzzilbash or Persians established in Kabul by Nadir Shah, and numbering 12,000 families, hold to the Tajik, to whom they assimilate in religion, both races being shiah mahomedan.

After the death of Alexander, his Lieutenant, Seleucus, succeeded to the sovereignty of Afghanistan and the other Asiatic conquests. Under his grandson, Afghanistan was taken from the Seleucidæ, by the aboriginal chiefs, and soon after, formed, with Bactria, an independent state which existed during 150 years. Subsequently the Tartars made themselves masters of Afghanistan and appear to have held possession of it up to the death of Mansoor when one of his officers, Sabaqtagin, established an independent dominion over all the southern parts of Afghanistan, making Ghizni his capital. His son Mahomed, who died A. D. 1028, enriched Afghanistan, with the spoils of India. In the reign of the cruel Bahram, one of the Tartar's descendants, the Sabaqtagin dynasty were deprived of all but the Punjab, and this too, in A. D. 1160, they lost. Although the tribes known by this name speak the Pushtoo as a common language, the tribes are not all of the same origin, they are distinguished by marked characteristics, moral as well as physical. The Afghans of Kabul consider themselves as Indian Afghans, whereas those of Herat say they are Khorssani Afghans: one tribe repudiates another, and denies its Afghan origin. The names of Patan, Rohilla, Afghan, which serve at the present time to designate the Afghan nation, are really those of so many distinct races blended together. In our day, in their own country, they make no matrimonial alliances except among themselves, indicating their feelings, as an [illegible]apported race. Their origin is involved in obscu[illegible]d the soldiers left by Alexander the Gre[illegible]ve ad[illegible]Copts of Egypt, the Chaldæans, and even t[illegible]Armenians, have been at various times supposed to be their ancestors. But several writers consider them to be descendants of one of the ten tribes of Israel,—and this is an opinion of some Afghans themselves. Mr. Ruffin considers that they had their origin in the Albanians of Asia, who in consequence of their numerous revolts were transported from one extremity of Persia to the other and driven into Khorassan. They were a warlike people and known as Aghvan or Avghan. He says that Aghvan is the Greek word AB, and considers it to be a proof of their Albanian origin. On the other hand, M. Eugene Bore, considers them to have been an ancient people dwelling in the mountains and valleys of the provinces of Daghestan and Shirvan, bordering on the Caspian Sea, and first brought to our notice by Pompey at the time of his expedition into the Caucasus. Afghan is only the arabic plural of the word *feghan*, which was applied to them about the time of

sultan Aboo-Seid of the race of Chengis Khan, because of their constantly disunited state among themselves. The primitive tribe of the Afghans, was called "taifeh," a word which corresponds with that of nation. The first division of this primitive tribe are called "firqa," a tribe; and the subdivision of this "tireh" or branches.—(*Bunsen. Chesney. Latham.*)

Khyber, a formidable pass 18 miles in length, leading from Peshawar to Kabul. Its water is prejudicial to health. As it approaches the Kabul territory, it becomes more formidable. Nadir Shah paid a sum of money to secure his passage through it.

The tribes exact tribute from travellers. Some live in miserable caves and the *Momuzye Afridi* are said to sell the wives and children of a deceased brother and interchange their own wives. The Khyber valley is of an irregular form, but the average breadth is about fifteen hundred paces; the hills which border it may be about seven hundred feet high. When Moorcroft passed, each house was enclosed by a high wall, in some part of which was a tower for look out and defence. They are tall for mountaineers, and of a singularly Jewish caste of features: some of the young women whom he saw, had in arch, lively look, but he saw none that could be regarded as pretty. The men were dressed in long cotton tunics of a kind of plaid, in which blue was the prevailing colour: the women wore an imitation of chintz. He occasionally saw [redacted] in groups of fifty or sixty, but whether numerous or few, they were impudently urgent in their demands for sheep, by which they intended money. They were glad to give them a trifle in general to be rid of them, but on one or two occasions were obliged to reject their demands, even at the risk of an affray.—*Moorcroft's Travels*, *Vol.* II, *p.* 352.

Amongst neighbouring tribes, *the Waziri*, although notorious robbers, in common with other lawless tribes, regard the descendants of their prophet with awe and a feeling of respectful reverence, and esteem themselves fortunate to receive their benedictions and other little aids, which their superstition teaches them to think essential.—*Masson's Journey*, *I.* 101. Further south a tribe, called the *Suliman Khail*, occupy the district which ranges from north to south on the Ghuzni side of the pass. There are said to be about twelve thousand of them, nearly all thieves, but not so. blood-thirsty or formidable as the Waziri of the mountains near Derabund. They will not kill a man in cool blood without reason, and their attacks rather resemble those made by the nightly prowlers of India, who creep into your house or tent, and steal a ring from your finger, or take a sheet from under you, without waking you. The Suliman Khail were in possession, Vigne was told, of a million of sheep and they paid a yearly tribute of one camel, for every forty men, to Dost Mahomed Khan. Their country extends from north to south, for seven or eight caravan marches, between Ghuzni and Kandahar and for two or three from east to west. Once a year, in the winter season, they send a kafila of three or four hundred camels into the plains of Derabund and Derah-i-Ismael Khan.—*Vigne's, a personal Narrative*, *p.* 106-7.

Shenwari Khyberi, are a race even more infamous for their robberies than the Afridi Khyberi.—*Moorcroft's Travels*, *Vol.* II. *p.* 354.

Thus, in the *Khyber pass*, itself, and stretching away on the north and south, along the north-west frontier of the Punjab, are tribes of barbarous, warlike and predatory habits,.

INDEPENDENT TRIBES.—Dwelling along the outer face of the north-west Punjab frontier and inhabiting hills.

Adjoining frontier of Hazara District.—Hussunzye.

Adjoining frontier of Peshawur District.—Judoon, Bunoorwall, Swatee, Raneezye, Osmankheyle, Upper Momund.

Adjoining frontier of Peshawur and Kohat Districts.—Afreedee.

Adjoining frontier of Kohat District.—Buzotee, Sepah, Orukzye, Zymoosht Affghan, Tooree.

Adjoining frontier of Kohat and Dehra Ishmael Khan Districts.—Wuzeeree.

Adjoining frontier of Dehra Ismael Khan District.—Sheoranee, Oshteranee, Kusranee, Bozdar.

Adjoining frontier of Dehra Ghazee Khan District.—Khutran, Kosah, Lugharee, Goorchaniee, Murree.—Boogtee.

BRITISH TRIBES.—Tribes within the frontier, and British subjects, inhabiting partly hills and partly plains.

Hazara District.—Turnoulee, Gukkar, Doond and Suttee, Kaghan Syud and other tribes of Hazara.

Peshawur District.—Eusufzye, Khaleel, Momund of the plains.

Peshawur and Kohat Districts.—Khuttuk.

Kohat District.—Bungush.

Dehra Ishmael Khan District.—Bunnoochee, Murwutee, Butanee, chiefs of Tank, chiefs of Kolachee, chiefs of Dehra Ismael Khan, Nootkanee, Loond.

Dehra Ghazee Khan District.—Dreshuk, Muzaree.

General Ferrier gives the following approximately as the amount of the population in Af-

INDIA.

ghanistan. In the Provinces of

Herat.....	300,000	Afghan.
,,	600,000	Parsivan or Eimak.
Kandahar.	600,000	Afghan.
,,	300,000	Parsivan and Baluch
Kabul.....	1,600,000	Afghan.
,,	800,000	Parasivan and Kazzilbash.

Total 2,500,000 Afghan, and 1,700,000 Parsivan, Eimak Baluchi and Kazzilbash making a General Total of 4,200,000 inhabitants.

Though the population of the Afghan states is not numerous, they are all above the English standard in height, and are brave to recklessness. Of the races in Afghanistan, the Afghan properly so called, are at present the dominant race, and in Kandahar, Kabul and Herat, hold the Tajik in subjection. The Tajik are the descendants of the ancient conquerors of the country, and may be sub-divided into the Parsivan or inhabitants of towns, speaking Persian, and the Eimak or nomades. The Uzbek are in numbers; the Hazara, of Tartar, perhaps a Turkoman origin, and the Eimak who graze their flocks in the Parapamisus, are brave and relentless, and Afghans when travelling, whether proceeding from Balkh, Kabul, Kandahar or Herat, never enter into the mountain districts of these intrepid nomadic tribes. One of the Eimak tribes is known as the Feroz Kohi after the city of that name about 63 miles from Teheran. Timur exasperated at the depredations which they committed, transported the whole of them into the mountains lying between Persia and India. The races occupying Afghanistan are distinguished by marked characteristics, moral as well as physical. General Ferrier tells us (*p.* 5) that the Afghans of Kabul consider themselves as Indian Afghan, whereas those of the Herat say they are Khorassani; one tribe repudiates another, and denies its Afghan origin, and there is not the least sympathy between them. The names of Patan, Rohilla, Afghan, which serve at the present time to designate the Afghan nation, are really those of so many distinct races now confounded in one. That officer further says that the reason of their success against the other Asiatic hordes up to this day has been their clan in the attack, their courage, but not any clever disposition or a knowledge of military operations. He mentions that for the theatre of combat between their armies the Afghan always select large plains, in order that their numerous cavalry, on which they place a blind reliance, may be able to deploy freely. Though they are entirely ignorant of the art of attack and defence of towns and fortresses, the Afghans are remarkable for the obstinacy of their resistance and the correctness of their aim when they are behind walls. The arms of the Afghan are the firelock, the carbine, the swivel-gun, or a pair of lead pistols; sometimes a bow, or a lance with a bamboo handle.

The Afghan, are tall, robust, active and well formed; their olive and sometimes sallow complexions and strongly marked hard features give their countenances a savage expression; the lids of their black eyes, which are full of fire, are tinged with antimony, for this, in their opinion, gives force and adds beauty and a dazzling brilliancy to them; their black beard is worn short, and their hair, of the same colour, is shaved off from the front to the top of the head, the remainder at the sides being allowed to fall in large curls over the shoulders. Their step is full of resolution, their bearing proud, but rough. They are brave even to rashness, excited by the smallest trifle, enterprising without the least regard to prudence, energetic, and born for war. They are sober, abstemious, and apparently of an open disposition, great gossips, and curious to excess. Courage is with them the first of virtues, and usurps the place of all the others: Their principle is "Give or I take." Force is their only argument, and it justifies everything; an individual who is merely plundered considers himself extremely fortunate, as, generally speaking, life is also taken. There is no nation in the world more turbulent and less under subjection, and the difficulties in rendering them submissive to a code of just laws would be almost insurmountable. Afghans are as incapable of a continuous course of action as of ideas; they do every thing on the spur of the moment from a love of disorder or for no reason at all, it matters little to them who give them laws; they obey the first comer directly they find it is to their advantage to do so. Their cupidity and avarice is extreme; there is no tie, they would not desert to gratify their avidity for wealth. This surpasses all that can be imagined; it is insatiable, and to satisfy it they are capable of committing the greatest crimes. For it they will sacrifice all their native and independent pride, even prostitute the honor of their wives and daughters whom they frequently put to death after they have received the price of their dishonor. Gold in Afghanistan is, more than anywhere else, the god of the human race; it stifles the still small cry of every man's conscience, if, indeed, it can be admitted that an Afghan has a conscience at all; it is impossible to rely on their promises, their friendship, or their fidelity. They enter into engagements, and bind themselves by the most solemn oaths to respect them, only to depart from them if they see advantage in so doing.

Captain Burton, on this point, says that the Afghans and Persians are, probably, more formidable liars than the Sindhi, both on account of superior intellect, more stubborn obstinacy

and greater daring in supporting the falsehood.—(*Richard T. Burton's Sindh, p.* 404.)

Excitement, says General Ferrier, the clash of arms, and the tumult of the combat are to the Afghan life ; repose is for an Afghan only a transitory state of being, during which he leads a monotonous existence ; the sweets of domestic life, mental quietude, the endearments of his family, have no charms for him, and a life without commotion and agitation loses all its poetry. He is only really a man when he is fighting and plundering ; then his eye is full of fire. There is no shade of difference between the character of the citizen or the nomade ; a town life does not soften their habits ; they live there as they live in a tent, always armed to the teeth, and ready for the onslaught, devoid of a right-minded feeling, and always animated by the most ferocious instincts. Though they are full of duplicity, their greatest anxiety, is to ascertain how they can get their daily bread without having to pay for it.

Language, the Persian is met with all over Afghanistan ; the great families speak it, and other correspondence is carried on in that tongue : the people are acquainted with it, but they prefer speaking the Pushtoo, the language of their nation, which is a mixture of ancient Persian, Arabic, and Hindi. They have a few works in this language, but they read Persian authors by preference, and have through them formed imperfect ideas of geography, astronomy, medicine, and history ; but these works, full of fictions and deficiencies, have not materially assisted in developing their faculties.

Religion, the Afghans are sunni mahomedan with the exception of the tribe of Beritchi, who are shiah. The Parsivan and Eimak who are subject to the Afghans, profess mahomedanism. Besides the two sects just mentioned some of them are of the Ali-illahi sect.

The lower valleys of the Kabul country were once occupied by hindu races, and the Pathan tribes have advanced into the north-east corner of Afghanistan within comparatively recent historical times and the peaks of the Safed Koh, between Jelalabad and Kabul, bear such hindu names as Sita Ram. The Afghan have never migrated in large bodies, but have accompanied the mahomedan rulers of India, all of whom have entered from Afghanistan and brought bodies of the Afghan with them, and they are known, in India by themselves and others by the name of Pat'han. Some of these have settled in many places throughout northern India and in some parts of the south, some of them in villages, where they own and cultivate the soil. These have been in considerable numbers in the native army of British India, and particularly in the corps of irregular cavalry, and in northern India, in the Civil Service of Government. A few Pathan settlements are found in the Punjab and about Delhi, they are numerous in the upper Doab and Rohilcund, and all over India, Pathan principalities, jaghires and families are met with. All the Pathan, to the west of the Indus, as well as a few to the east of it, in the north of the Hazarah district and west of that of Rawal Pindi speak Pushtu. The Pathan are the only people of Central Asia who in comparatively recent times have come to reside to any considerable extent in India. The *Tajik* are the original agricultural class of all the west of Afghanistan and Baluchistan.

The term *Afghan*, is hardly known to the people when Europeans so designate.

Physically, the Afghan people are among the finest on the earth with a broad, robust, ruddy, manly look, and they are hardy and bold. They have a pleasant frank, simple, unaffected way. About Kabul, they are fair, many with red hair and blue eyes, but some of the tribes in the lower and hotter hills and valleys near India, have somewhat dark skins. The majority are astute, intriguing, ambitious and faithless, avaricious, fickle, uncertain and crafty, and in bold unblushing lying, a hindu is a mere child to an Afghan. They are not trusted as mercenaries. The eastern tribes are politically quite independent and the amir of Kabul does not pretend to any authority over them. These have been largely employed in the native army, and been becoming more and more the military retainers of British India.

The purer Afghan are quite illiterate, The Euzufzye and other tribes in the north are comparatively recent conquerors of the northern hills and valleys, where they have mixed with a free hindu people and are fairer than the other Afghan tribes,

The government of the tribes is a democracy, their representation and self government being by their Jirgah and Ulus, but like most rude people no man's nationality extends beyond his own clan. Mr. Campbell supposes them to be Arian and probably of similar origin to the Jat. The Afghans in Peshwar and Kohat are British subjects. A tribe, somewhat mixed, called Dehwar are found about Candahar.—(*Campbell, p.* 78 *to* 145.)

Afridi, Waziri, and others, whose previous occupation was rapine and plunder, have, since the inauguration of British rule, sold their horses and bought oxen, and taken to agriculture with zeal. The Rajput has an inveterate contempt of the plough, yet multitudes indolent as they are, have been forced by sheer necessity to till or die. The tea cultivation in the Kohistan has given employment to many

more.—(*Powell's Hand Book, Econs. Prod. p.* 254 *and* 255.)

The Afghan, properly so called, are at present the dominant race throughout Afghanstan, and in Kandahar, Kabul and Herat, hold the Tajik in subjection. The Tajik are the descendants of the ancient conquerors of the country, and may be subdivided into the Parsivan or inhabitants of towns, speaking Persian, and the Eimak or nomades.

The Persian language is met with all over Afghanistan, the great families speak it, and their correspondence is carried on in that tongue ; the people are acquainted with it, but they prefer speaking the Pushtoo, the language of their nation, which is a mixture of ancient Persian, Arabic, and Hindi. They have a few works in this language, but they read Persian authors by preference, and have through them formed imperfect ideas of geography, astronomy, medicine, and history, but these works, full of fictions and deficiencies, have not materially assisted in developing their faculties.—*Ferrier's Hist. of Afghans, p.* 290.

Derajat, is a portion, about two-thirds, of a narrow strip of land, which lies between the Indus and the Suliman mountains, and extends from the hills and valleys of the Kohat district to the Sind frontier. A thin fringe of cultivation and jungle extends along the bank of the great river, and terminates, as you advance into the interior, in a flat desert country where a precarious supply of water from the hills affords a poor cultivation in the vicinity of the thinly scattered villages. Lower down, the hill streams become smaller, and the aspect of desolation still greater, so that for miles not a human being is visible, nor can a drop of water be procured to quench the thirst produced by these scorching plains. The Pathan and Baluch tribes who inhabit the hills, have the same attachments to their chiefs, internal hereditary feuds, dislike to combination, and predatory habits, which distinguish so many mountain races, but have withal a martial bearing and love of independence. The scarcity of water limits cultivation, and their wealth consists in their herds which find a scanty pasturage at the foot of the hills ; amongst the mountains occur a few fertile patches : the country being traversed by footpaths known only to themselves, the hill tribes were accustomed to issue from it in raids on their wealthier neighbours in the plains, harrying their cattle and retreating in safety to their impracticable mountains. To stop this, in the beginning of 1857, after one of such inroads, the Punjab Government sent an expedition from amongst the troops of the Punjab Irregular Force, to reduce the Bozdar tribe, and names known to fame, in the Indian mutinies, Chamberlain, Coke, Nicholson, Hodson, Probyn, Watson, Wylde, and Green, were all trained in this school of warfare, involving severe marches, incessant fights and exposure to all the seasons of the year. (*Medley's Year's Campaigning, p.* 1 *to* 5.) The hills are inhabited by predatory Pathan and Belooch tribes, who cultivate little fertile patches, called *kuchee*, lying within the mountains.

Bozdar, a border tribe with about 2,500 fighting men, west of the Derajat. They dwell in the hills opposite Mungrota, about 50 miles north of Dera-i-Ghazi Khan, and were given to make troublesome inroads on the plains.

Butani, an Afghan tribe dwelling in the Dehra Ismail Khan district. They were a robber tribe until they beeame British subjects.

The Awan are the most numerous and the best of these frontier tribes, and there is no better people in India. They are settled in large agricultural communities on the "Chuch" plain, on the Eastern side of the Indus, and in smaller bodies further east, on the Jhelum, Guzerat and Sealkot Districts. They are good soldiers.—*Campbell, p.* 96.

Dhund, Tanaoli, Alpial, Kural, Awan, and Gukkar, petty tribes known only by their tribal names without any common appellation living north of the Salt Range, who are described by Mr. Campbell as the finest and handsomest men in India perhaps in the world. They profess mahomedanism and have fanciful mahomedan genealogies, but are wholly Indian in their language, manners, habits and constitutions. Their language is Punjabi. They have no connection with the Pathan races, and they claim none with the Jat and Rajput, the Dilzak alone claiming to be of Hindustan origin. Their features would seem to show that they have kindred with the Kashmiri, or with the pre-hindu congeners of the earlier Indians found in the hills far west, but their language and character, dress and the architecture of their houses would indicate that they are nearly allied to the Punjabi.

The Dhund, a very handsome race and the *Tanaoli*, dwell to the north in the outer range of the Himalaya, and about the Indus near Torbela, but they are not considered to be brave or trustworthy. The Awan of the lower lands and *Dhund*, &c. of the higher lands have democratic village institutions.—*Campbell, p.* 97.

The Durani Afghans on the west, are an agricultural, but chiefly a pastoral, race, who term their summer and winter ground, Eilak and Kishlak, dwelling in their coarse black camlet tents, called Kishdee, the same with the Kara ulli of the Turks and Siah-chader of the Persians. The number of Durani tribes are nine, the names of seven of which end in "zye," which means the same as the beni, or

walad of the Arabs, and the mac of the Scotch. The names are the

Mauku.	Populzye,	Noorzye,
Khongani.	Allekzye.	Alizye, and
Barukzye.	Achikzye.	Ishakzye.

The Durani are stout and well made, with long hair and beards, many of them being above the standard of Indo-Germanic races of Europe. Some have round and plump faces. With others, the countenance is strongly marked, and with most the cheek bones are prominent. When a family is by itself, the men and women eat together ; but few restraints are put upon the female, and her influence is considerable. The Durani tribes, all but the Achikzye, are religiously given, but not intolerant. They are of the Suroni sect. Their national dance, called Attun, is danced almost every evening with songs and tales to accompany it. They have a strong love of country.

They are fond of tales, fond of the chase, and except the Achikzye about 5,000 in number, all are religious. The Durani, especially the men of Kandahar, have a powerful love of country. The Durani is rarely a merchant or adventurer. They are hospitable and brave, and are the most important of the Afghan tribes.

The Ghilzye is next to the Durani tribe in importance. It has eight divisions or subtribes, or clans, viz. the

Houtuki,	Ali Kheil,	Turruki, and
Tohki,	Subak,	Kharoti,
Suliman Kheil,	Under,	

Of these, the Suliman Kheil is the most important numbering from 30,000 to 35,000 families.

Buruki, a race who claim to be of Arab origin, occupying Logur and Butkak, who are said to have been settled there, S. of the Kabool river, by the sultan Mahmood in the 11th century. Their number is about 8,000 families, but they arrange themselves into tribes with chiefs. They are good soldiers. The Buruki tribes of Loghur and Butkak, reside in the Ghilzi portion of the Afghan country. —*Latham.*

The Stanizye are an agricultural, and the Ahmedzye a pastoral tribe, as also the Kaiser Kheil and Summulzye or Ismail Zye, who have migratory habits, but dwell to the south and east of Ghizni, are sub-divisions of the Suliman Kheil. The *Shirpan* are an associated body, formed out of the other kheil. Ghizni is a Ghilzye town.

Berdurani, are Afghan tribes on the north-eastern part of Afghanistan, occupying the lower course of the Kabul river, and the parts between the Indus, the Hindu Coosh and the Salt Ranges, touching the Ghilzye on the west, the Siahposh on the north, and the Indians of India on the east, the Indus being their boundary, but Peshawur is a Berdurani town.

About Peshawur, lie the Mahmudzye, Dawudzye in Hastnuggur, Momund, Guggiani in Hastnuggur and the Khalil.

The Momund are arranged into those of the hills and those of the plains.

The Khuttuk, under the British, lie to the south of the Kabul river and to the west of the Indus, though some extend into India.

The Bungush occupy the Bungush valley, and are British subjects.

Khyberi of the pass, are divided into the Shainwari, Urukzye and the Afridi. The Khyber pass is 25 miles long. The people are lean, but muscular and dark skinned with prominent cheek bones and high noses. They live in mud huts or huts of mat, as also in excavations of the rock : dress in a dark turban, dark blue tunic and straw sandals. Their arms are a sword, a short spear and a matchlock.

Urukzye are herdsmen who pass the winter in the lower levels of the Kohat and the Tiri hills, and in summer drive their flocks and herds to the mountain tops. The Shikhan, Mishti and Rakew-Kheil occupy districts in the British territory.

The Afridi lie between Peshawur and Kohat, and the road runs through the Kohat and the Gulli or Jewaki passes. The Afridi are fierce, factious and strong, and with the Bungush, the Jewaki, Bari, Bussi Kheil and Busti Kheil, as also the Sipah and Buzotu are border tribes with more or less independence.

The Eusofzye, are the least controlled and most quarrelsome of the Afghans. While the Durani are a feudal tribe, the Eusofzye are democratic and in small communities, with patriarchal government. They are agricultural, lying in warm and fertile valleys, touching the Indus on one side and the Punjkora, on the other, extending on the south to Kabul, occupying the northern part of the plain of Peshawar, Bunir, Swat, Punjkora and Chumla. The Swat, Bunir, Punjkora and the Euzofzye part of the Kabul valley, are the lands of the Akhozye, the Mullezye and the Lawezye— The clans of the Eusofzye and Mahmudzye have a system of periodical interchange of lands called Waish. The numbers of the Eusofzye are estimated at from 700,000 to 900,000 souls, and are of Afghan, Indian and Cashmir blood, with the old occupants of the land, the Dehkani and Swati. Many Eusofzye have fair complexions, grey eyes and red beards, are stout and brave, quarrelsome and proud, and those in the plains are very immoral.

Turkaun—Next to the Eusofzye, are the Turkaun or Turcolani, in Bajour, and the Othmankheil in the hills between Bajour and Swat.

Afghans on the Punjab Frontier, are those in the Daman or skirt of the Solimani range, the Shiah Turi, the Jaji, and the Esakheil. The Jaji dwell in houses with a teh-khana or excavation in the earth. The Esakheil occupy the banks and islets of the Indus, engaged in the cultivation of wheat, but are also robbers.

Bunnu valley is held by mixed races, who dwell in walled villages. They are undersized and sallow skinned. They are quiet, orderly and regular in revenue matters, but immoral, capable of reckless perjury and deliberate assassination.

The Afreedee of the Khyber Pass, among faithless tribes, are considered the most faithless. Thieves and robbers from this vicinity, despite all precautions, long continued to infest nightly the Peshawur cantonment. A section of these Afreedee named the Kookeekheyl, early manifested symptoms of a friendly spirit towards the British. The Afreedee on the south-western corner of the Peshawur border have not signalized themselves.

The British Government has been concerned chiefly with the Afreedee of the Kohat Pass or Gullee and the Jewakee Pass. For the guardianship of these passes the Afreedee received some kind of consideration from successive dynasties, Ghiznivide, Mogol, Doorance, Barukzye, Sikh, and British; and have broken faith with each and all. These mountaineers are great traders and carriers. They convey salt from mines in the Kohat district to the Peshawur market. They also cut and sell the firewood of their hills. By these means they procure a comfortable subsistence, which cultivation on their rugged hill-sides would not alone suffice to afford. In controlling them, this was deemed a fortunate circumstance, inasmuch as the British authorities can, by blockading the mouths of the Passes stop the trade and reduce the Afreedee to sore straits.

These passes are of importance. The Gullee or Kohat Pass is the direct and best route from Kohat to Peshawur. The government post between these two important stations runs usually by this route.

The Afreedee of the Jewakee Pass, even among the Afreedee clans were considered particularly daring and ferocious. When the Afreedee of the Kohat Pass misbehaved, the Jewakee Afreedee offered to engage for that pass, or to conduct the communication through their own pass. The Jewakee pass was actually used for a short time, but the Jewakee Afreedee soon proved themselves to be worse even than their neighbours. They committed numerous raids and murders in the Peshawur and Kohat districts and even robbed boats on the Indus. They also murdered a British officer, named Dr. Healy, who was travelling towards Kohat, for no other reason than that he was a defenceless christian with a little property about him.

The Bungush tribe of the Kohat valley, and British subjects, offered to guard the Kothul, and asserted that they had a claim stronger than that of the Afreedee to hereditarily occupy the ridge. The Kothul was then made over to them, and as the Afreedee refused to open the pass, it was resolved to establish a blockade; so again the Afreedee were debarred from entering the Kohat and Peshawur valleys.

While these arrangements were progressing, the Gullee Afreedee suddenly attacked the Bungush people on the Kothul, and seized that post. Several Bungush chiefs were killed in the encounter, and Major Coke who was present, was slightly wounded. Upon this check, the Bungush people obtained the alliance of two small, though warlike tribes, named Buzotee and Sepah. These were independent and dwelt in the hills near the Pass. The southern section of the Jewakee Afreedee also joined the league.

Sepah and Buzotee are small, but very brave tribes, numbering :—Buzotee 500, Sepahs 300 fighting-men. They live in tolerably close connexion with their more powerful neighbours, the Afreedee, and manage to hold their own. They have acted up to their engagements in regard to the Pass and have generally behaved well towards the British.

Orukzye, country extends from the Sepah tract (which adjoins the Afreedee hills) round the North western corner of the Kohat district, and then nearly onward to the top of the Meeranzye valley (which belongs to Kohat) till it joins the country of the Zymoosht Afghans. The tribe is one of the largest on the frontier, and numbers 20,000 fighting-men, most of whom are good hill soldiers. The Orukzye hills stretch a long distance to the west. In the interior of these hills, there is the cool table-land of Terah, where the clansmen resort in the summer with their cattle, and in the winter return to the pasturage grounds of the lower ranges near the British frontier. The sections of the tribe that have come in contact with the British, are the Shekhan, the Mishtee, and the Raabeuhkheyl. In the portions of the Kohat district adjoining the Orukzye hills are the sub-divisions of Samilzye.

Zymoosht.—After the Orukzye are the Zymoosht Afghans, they are a small, but brave tribe, numbering about 5,000 fighting men, some of whom are well mounted. They inhabit a valley leading from western Meeranzye onward, towards the crest of a range called the "Powar Kothul." Their country of

right belongs to the Cabul kingdom. They are usually ready to combine for mischief with the Tooree and Orukzye, and to threaten Meeranzye; they hold some land in the plains, which holding affords some pledge for their good behaviour.

Tooree, a warlike tribe, occupying a portion of the valley of the river Khoorrum; they can muster 5,500 fighting men. They are nominally subjects of Cabul, and belonged to the jagheer of sirdar Azim Khan, one of the ameer's sons, but they are under no real control. They have repeatedly leagued with other tribes to harass the Meeranzye valley. They would sow among the Meeranzye people, they would harbour fugitives from either party, they would encourage all to resist the British, they would attack some villages in force. They frequently committed raids on the Bungush and Khuttuk villages of the Kohat district. In August 1853, Captain Coke seized a Tooree caravan on its way to the salt mines, taking the property as security for repayment of value of plundered property, and the men as hostages for their tribes. This measure was soon followed by an embassy from the tribe, and an agreement was concluded with the tribe from the commencement of 1854. The value of plundered property was made good, the prisoners were released, and five Toorce were made over to the British as hostages, but within one month the tribe again gave way to "evil counsels," and in the following March (1854) a serious attack was made by the Tooree with 2,000 men (foot and horse,) on a Meeranzye village.

Wuzeeree, is one of the largest and most important tribes, brave, warlike, but predatory. They hold the rugged and lofty hills adjoining the south-west portion of the Kohat district (that is the western part of the Meeranzye valley and the hills round Bahadoorkheyl,) and the north-western border of the Dehra Ismael Khan, that is, the valley of Bunnoo, and the plains of Murwut and Tank. These hills run down to the point where the great Suleeman range commences; near this point the Goomul range debouches from the hills almost opposite Tank. The valley of the Goomul forms the Golaree pass through which a large portion of the traffic to and from Afghanistan and Central Asia enters into India, and scarcely inferior to the Khyber pass of Peshawur or the Bolan pass of Sindh. The hills on either side of this pass are held by Wuzeeree, the Wuzeeree hills form the western limit of the Joorduk pass, which is the main line of communication between Bunnoo and Kohat. Just to the east of this pass lies Buhadoorkheyl and also the villages of Kharrah and Lutumur at which three places the Trans-Indus mines are situated. The Wuzeeree hills also command the outlets of the Koorum and Goombelie rivers into the Bunnoo valley. The Wuzeeree are a numerous tribe, sub-divided into various sections. The birth-place of this race would seem to be the snowy range, which runs to the south-east of the Jelallabad and Cabul. From this range they appear to have moved downwards towards the Derajat border. They are noble savages, of pure blood, pastoral habits, fierce disposition, and wild aspect. They can muster probably (were the whole tribe united), as many as 20,000 or 30,000 fighting men, and if combined might make themselves formidable. But though they are less addicted to internecine contests than other hill tribes, and are so far united, they are yet not apt to join all these forces together against an external foe. They are bold and ferocious: but, as soldiers, not equal to the most martial tribes. Many of them live in tents, or in temporary dwellings resembling tents; in the winter frequenting the more genial clime of the lower ranges, and in summer retreating to feed their flocks in higher altitudes. Some of them have engaged in cultivation and have encroached on the weaker tribes of the plains; of these, again, many will only cultivate during the cold months; and as the heat approaches will reap their crops and retire to the mountains. But the tendency to extend their cultivation, and even to settle in the plains, has of late years, been increasing among the Wuzeeree. The tribe generally is quite independent, both of the Kabul and the British governments; but some members of the clan who have taken up their abode as cultivators in the Bunnoo valley have become British subjects. Many sections of Waziri ever since British connexion with the frontier, maintained peaceable relations with the British. These people, driving the aborigines of Bunnoo before them, have occupied pasturage grounds on the western border of the valley, and have taken possession of cultivated lands in the same vicinity, amounting to about one-third of the culturable area of the valley. Under the Sikh regime, there were constant disputes between these Wuzeeree and the government (inasmuch as revenue could in those days only be collected by force of arms), and also between them and the Bunnoo people, who asserted claims they could not enforce, to a patrimony which had been gradually usurped. In 1848, Major Edwards effected a settlement with these Wuzeeree and with all the inhabitants of the valley on behalf of the Sikh government; he confirmed them in their possessions and arranged with them for the regular payment of their dues to the ruling power. These Wuzeeree continued, as valued agriculturists and taxpayers. The condition of these people is satisfactory to themselves and creditable to British rule, three sections of the Wuzeeree tribe, mis-

behaved, namely, the Cabulkheyl, the Mushood Wuzeeree, (both of which entirely dwell in the hills and have no possessions in the plains,) and the Omerzye Wuzeeree, which latter clan originally cultivated in Bunnoo and afterwards rebelled. The Cabulkheyl Wuzeeree inhabit the northern portion of the Wuzeeree hills, not far from the right bank of the Koorrum. They are near neighbours of the Tooree. They overlook the western portion of Meeranzye and they adjoin the Bahadoorkheyl sub-divisions of the Kohat district. They were a wild lawless set, always ready to join with the Tooree, Zymoosht Afghans, and Orukzye, in any mischief or annoyance if the term may be used, such as raids on the Bungush and Khuttuk villages of the Kohat district. In the autumn of 1850 they signalized themselves by an audacious attack on Buhadoorkheyl and its salt mines. For this purpose they assembled in considerable force and induced many of the Khuttuk villages round Buhadoorkheyl itself to league with them. The affairs with the Omerzye have been serious. Like other Wuzeeree, they at first cultivated in the Bunnoo valley lands which had been wrested from the Bunnoochee of the neighbourhood. The head of these Bunnoochee was a local chief named Bazeed Khan. The Omerzye used to pay their revenue through this man, who was responsible for the collection. Some of the Omerzye used to reap the harvest, go off to the hills, deserting their land, and leaving Bazeed Khan to pay instead of them.

The Mushood section of Wuzeeree is strong and mischievous. They inhabit the most southern of Wuzeeree hills. It is the section which occupy both sides of the Goleeree Pass. Even they are hardly strong enough to attack the caravans of hardy well-armed traders from central Asia. But they plunder any travellers they can, and they perpetually carry off the herds of camels chiefly belonging to merchants that graze near the foot of the hills.

Valley of Dour.—Surrounded by the Wuzeeree hills, and adjoining the western border of Bunnoo, is the small valley of Dour, inhabited by a distinct race, and containing about 8,000 inhabitants. This valley originally belonged to the Dooranee kingdom. It was, together with other outlying tracts, formally ceded to Runjeet Singh by the tripartite treaty of 1838; but afterwards, in 1847, the British relinquished all claim to it on behalf of the Sikhs. The people of Dour more than once expressed a wish to come under British jurisdiction, but the offer was not accepted. During the treaty negotiations of 1855, the ameer's representative urged that the valley once formed an integral portion of the Dooranee empire, and that His Highness now wished to take it provided that the British did not claim any title. The government replied that the British did not desire to assert any claim, nor to interfere with the ameer, if he chose to re-annex it to his kingdom. The ameer was thus left free to occupy Dour.

Sheoranee.—Below the Wuzeeree limits, a little south of the Goomul river, are the Sheoranee hills, stretching from the latitude of Dehra Ismael Khan downwards to nearly the latitude of Dehra Futteh Khan, a distance of fifty miles. In these hills is the lofty square-shaped mountain called "Solomon's Throne," the Tukht-i-Suliman, which gives its name to the Suleemanee range, running parallel for 300 miles to the Indus and forming the British western frontier. At the base of this mountain runs the important Zerkunnee Pass, the high road for caravans to and from Kandahar. The Sheoranee are of Pathan lineage, of inferior stature to the Wuzeeree; they are warlike and predatory, and quite independent. The number of their fighting men has been set down at 10,000; but this is found to be high. They can muster 1,000 men within a day's notice; in the course of three or four days they will muster 3,000 more. They adjoin the British tracts of Tak (partially) in the north, then Kolachee then Durrabund and lastly Choudwan—all in the Dehra Ishmael Khan district, and forming the border plains of the Upper Derajat. With all the above tracts the Sheoranee have been at feud. They would be the aggressors, attacking town, burning villages, carrying off prisoners and cattle. The people of the plain would make reprisals and retaliation, and thus the feud would be inflamed. The Sheoranee, however, were so much feared, that the arable lands skirting the base of the hills were all left untilled and the neighbouring villages in the plains paid them regularly one-fourth of their prod[illegible] to buy off depredation: such was the sta[illegible] numbers up to annexation, the Sikh gover[illegible]m are [illegible]g unable to restrain them.

Oshteran[illegible] st[illegible]e.—South of the Sheoranee hills, on the conti[illegible]ninous of the Dehra Ismael Khan and Dehra Ghazee Khan districts, there dwell the small Puthan tribe of Oshteranee mustering about 1,000 fighting men. They are brave and pugnacious, but not predatory. They dwell chiefly in the hills, and are so far independent; but many of them possess and cultivate lands in the plains at the foot of the hills, and consequently within British territory. Before annexation they used to be quite as violent as their neighbours, especially during the continuance of a deadly feud with the Kusranee. The quarrel was, however, composed by Major Edwardes before annexation, subsequently they evinced a good and friendly disposition.

Vooch or Korah pass, on the border of the Oshteranee hills, and nearly opposite to Dehra

Futteh Khan, is the Vooch or Korah Pass, faced by the British outposts of Doulalwalla and Vehoa. This point is of some topographical importance, as constituting the boundary line between the Pathan and Belooch tribes.

The Belooch tribes extend along the lower half of the Derajat frontier, they are less warlike and interesting, but even more predatory. The Pathans are almost entirely independent; very few of these people are British subjects. The head quarters of Belooch tribes and the majority of the clansmen will generally be in the independent hills, beyond the British territory, the boundary line of which runs along the base; but a large number of each tribe also hold lands in the plain and are British subjects. Some of the chiefs will also be found residing there. The Beluch of the plains, for the most part since annexation, behaved as well-disposed subjects, but the Belooch of the hills continued their old habits of plundering. All the tribes are at feud with each other; they not only fight in the hills, but they carry their contests in the plains; they attack all villages in the plains, except those belonging to their own tribe. The men of the plains usually resist the attacks with spirit at the time, but they are not allowed to retaliate afterwards, as they used to do under the Sikh rule, and as they would do still, were they not prevented by the British Government To guard our villages and people from their constant aggression a strong cordon of military posts has been fixed along the base of the Suleemanee range. Raids and forays are not, however, entirely repressed, and even the posts are sometimes attacked. The marauding parties are 50, 100, 200, 300, occasionally even 500, strong. They are often mounted and will fly if hotly pursued for 15, 20, and even 30 miles. Many of the villages and much of the cultivation is close to the hills and in front of the posts, so that the plunderers can in the shortest time, carry off their booty to the hills before the detachment comes up.

Kusranee tribe.—Their hills extend from the Korah pass downwards for a distance of about fifty miles; about half the tribe own lands and villages in the plain, a portion lead a wandering life in the front range of hills nearest the plain and the half desert tract at its base, and the remainder live in the hills. The hill Kusranee can muster some 1,200 fighting-men, of whom 50 are horsemen. They are very thievish, and were in the habit of proceeding through the land of their brethren in the plain to plunder in the villages near Dehra Ishmael Khan. The country round Dehra Futteh Khan was also harassed by them.

Murwut, an agricultural and pastoral race of frontier Affghans within the British territories, stout active men.

Sherani, a tribe who occupy the Takht-i-Suliman, with hard features, grey eyes and high cheek bones. They marry late and receive a dowry with the bride. They are engaged in agriculture.

Baraich Afghans.—Seistan lies on the rivers Helmund and Furh-rud. Shorabak, lies due east of Seistan, on the banks of the Lora, and is occupied by the Baraich Afghans, great camel breeders and acknowledging the supremacy of the amir of Kabul.

Terin.—The *Tor* or black Terin tribe occupy Pishin.

The Spin or White Terin tribe reside in the valley of Zawura, and in the open plains of Tull and Chutialli. They stretch into Cutch Gundava and nearly touch the British frontier.

Gukkar or Kahkar, or Ghakar, a warlike tribe in the time of Mahmud of Ghazni, inhabiting the Salt Range or Johd mountains between the Indus and the Behut (Hydaspes.) They are the ancestors of the modern Jat. The Gukker, Gugger, and other aborigines of Hazara have most of them been mastered by Pathan invaders from beyond the Indus. The Mogul, and subsequently the Durani, failed to master them, but the Sikh ruler having been frequently foiled, at last nominally accomplished their subjugation by stirring up internal faction and the perpetration of acts of cruelty and treachery. (See Kahkar. Khyber.) These seem identical with the Ghikar, a Scythic race inhabiting the banks of the Indus; at an early period of history they were given to infanticide. It was a custom, says Ferishta, "as soon as a female child was born, to carry her to the market place and there proclaim aloud, holding the child in one hand, and a knife in the other that any one wanting a wife might have her; otherwise she was immolated." By this means they had more men than women which occasioned the custom of several husbands to one wife. When any one husband visited her, she set up a mark at the door which being observed by the others, they withdrew till the signal was removed. They are supposed to be the descendants of the mountaineers whose chief Ambisaces sent ambassadors with presents to Alexander. Baber writes the name Guker, but it is also written Ghuka and Khaka.—*Tod's Rajasthan*, Vol. I. p. 636. (See Afghan; Kabul; Khetri; Jelam.)

The *Gukkur*, are not distinguishable from the Awan, in personal appearance, both being very large fine men, but not exceedingly fair, inhabiting as they do, a dry, bare, rather low country, hot in summer.—*Campbell, p.* 96.

Kaker.—The country of this tribe is in the head waters of the Lora, wild and inaccessible. It forms a square of about 180 miles between the Achtickzye country, the Spin Terin, the Suliman range and Beluchistan. But Kakers named Casia occupy in part the valley of Shal. The Punni clan, in Sewi and Sewistan is Kaker. Their manners and habits vary.

Nasiri, a nomade race who occupy the Tohki and Hotuki countries in summer, and the Daman or skirts of the Suliman range in winter. In their migrations, they appoint the Chehlwasti or Captains of Forty, and a Khan or Director General.

Pashai, a race mentioned repeatedly by Leech as one of the most numerous tribes in the Panjshir valley and adjoining passes. These are supposed to be mahomedans, but as the name is mentioned also by Elphinstone as that of one of the Kafir tribes part of them in the inountains may have retained their heathenism and independence.

Purmuli or *Fermuli*, or *Hurnuli*, a brave and warlike race, about 8,000 in number, residing south of the Kabul river near Orglum in the Kharaoti country, and to the west of Kabul. They carry on an unceasing hostility with the Kharaoti tribes around them. Some are soldiers in the Amir's army, and some engage in trade.—(*Latham.*)

Bimba, a race who occupied the rugged mountains along with the Kukha. They were under the Sikh rule, but are shiah mahomedens.

Mean Kheil tribe, on the Punjab frontier is partly Afghan, partly Bakhtiari.

Sirdehi, a small tribe, at Sirdeh, South east of Ghizni.

Biluchi are more or less migrant and predatory, particularly in the west. In habits they resemble the Iliyat and Kurd. They have dark skins; they live in mud houses, in forts, and in their black felt tents called gedaun, which is stretched over a tamarisk frame work; an assemblage of gedaun, forms a tuman or village, inhabited by a kheil, and a tribe consists of a certain number of kheil. The khan of Khelat is the chief Biluch.

Storiani, a frontier tribe whose winter station is in Baluchistan and summer station in the high country belonging to the Musa-kheil.—(*Latham's Descriptive Ethnology.*)

Kohistan.—The Kohistan region commences from Kaghan, which is a narrow glen stretching upwards from the northernmost point of the Huzara district for a distance of nearly 90 miles, and separating the maharajah of Kashmir's territory from the independent mountaineers. Adjoining Kaghan and reaching the Hussunzye country, separating the Huzara border from the Indus, and adjoining the Agrore fiefship in Huzara, is the country of some Hill Tribes named Kohistani and Swati, who originally came from the Swat valley.

The *Kohistani* of Kabul, occupy partially the valleys of Ghoribund, Punjir, Nijron, Tagow, Alishang, Alighur and the lower Kuner.

Hussunzye.—Between the extreme northern frontier of the Huzara district and the Indus is a somewhat narrow strip of rugged and mountainous territory—inhabited by the Hussunzye, who therefore dwell in Cis-Indus, that is, on the left bank of the river. They could number, perhaps, 2,000 fighting-men. The principal hill is known as the "Black mountain" from its dark and gloomy aspect. In the adjoining tract, within the Huzara border, lies Western Turnoulee, the fief of a chief politically dependent on the British.

Judoen of Muhabun,—inhabit a tract below the Hussunzye country and on the right bank of the Indus opposite the British town of Torbeila, and thence stretching westward. In this tract the most notable place is Mount Muhabun, of classical celebrity. The Judoon have been suposed to be Rajputs, but they are Pathans who speak Pushtoo.—*Campbell, p.* 87.

Sitana.—Near the base of Muhabun, and on the bank of the Indus, is the fanatic colony of Sitana. The Syuds of this place are the remnant of the followers of that extraordinary adventurer, Syud Ahmed, who, gathering a handful of "Ghazi," (warlike devotees,) from various parts of India. raised a formidable rebellion in Peshawur. After winning and losing Peshawur and Eusufzye, the Syud was eventually slain at the mouth of the Kaghan glen by Sheer Sing, the son of maharajah Runjeet Sing. Most of his adherents, chiefly foreigners to the Punjab, dispersed, and the remainder settled at Sitana. These Sitana people are evil-intentioned and ill-conditioned. They endeavour to rouse the bigotry of the surrounding mahomedan tribes, and especially of the Swati. They endeavour to intrigue with Wahabees and such like fanatic religionists among the mahomedan population in various parts of India. The ferry over the Indus close to Sitana has been frequently harassed by the fanatics.

Booner or Bunoor, is beyond the Judoon country on the north-west. It is a rugged country, extending from the lower range of the Hindoo Koosh downwards to hills which command the Chumla valley and the central plain of Eusufzye. On its western frontier again, lies the Swat territory. The Booner people are strong; they could muster a force of some thousands. Their neighbours are the Swati.

Bunair are the elder branch of the Eusufzye Afghan.

The Eusufzye are democratic and agricultural, lying in warm sheltered fertile valleys, touching the Indus on one side and Panjkhora

on the other, extending on the south to Kabul, occupying the northern part of the plain of Peshawar, Bunir, Swat, Panjkhora and the Eusufzye part of the valley. About the year 1865, they opposed the British army in an attempt to move up the Umbeylah pass towards the Mahaban, but they suffered severely and afterwards lent their aid against Mulkah, situated on one of the spurs of the Mahabun mountain where fanatics from Hindustan had assembled. Of the *Swat* Raneezye and Lower Osman-kheyl tribes, the two latter are subordinate to the former.

Chumla.—A valley near the Bunere or Bunnoor country in Afghanistan. The valley and the central plain of the Eusufzye are commanded by hills that descend from the Hindoo koosh.

Swati, a pre-hindu people driven out of Swat by the Euzufzye, but seemingly of the blood which supplied the earlier Indians.—(*Campbell, p* 96.)

The Swat country consists of a long fertile, valley, running downwards generally in a south-westerly direction, but turning half round from east to west as it nears the British frontier, from which it is separated by a lofty range. It is difficult of access to a force moving from British territory. The Lundye or Swat river flows right through and fertilizes the valley, and then debouching through a gorge in the hills, enters the Peshawur valley and joins the Cabul river near Charsudda. The Swat valley contains 300 villages and upwards; and its inhabitants may number 1,00,000 souls, of whom 20,000 might be fighting men. As soldiers, the Swati rank below several of the most martial tribes. Politically, the Swati consist of various clans, united under a loose federal government, at the head of which is an elective chief, styled padshah or king. In 1855, the king was a Syud, named Akbur, from the fanatic colony of Sitana. The High priest is called the "Akoond" (equivalent to the term doctor or reader) and is held in great veneration. Up to 1856 the king and the priest were sometimes said to be well-disposed persons, but they had never restrained their people from mischief.

Raneezye and Osmankheyl.—Towards the lower extremity of the Swat valley, a formidable range of hills bounding the valley runs for many miles from east to west, nearly parallel to the British frontiers; and at the eastern extremity of this range stands the Mora mountain. Between this range and the frontier, however, intervene two tracts, named Raneezye and lower Osmankheyl, both *quasi* dependencies of Swat. The best of the passes leading into Swat is one named Mullakund, which opens from Raneezye. A little further to the eastward of Raneezye also there are some passes, leading into the Loondkhore valley, which belongs to British Eusufzye. These latter passes are not available for passage from Swat to British territory, because leading into Loondkhor, they can be stopped by any party holding that valley. The passes *via* Raneezye and Osmankheyl, *if the people of those tracts accord a passage*, lead straight on to the British plains of Hushtnuggur. Above the Loondkhor valley, just beyond the British frontier, is the strong village of *Pullee*.

The sub-divisions of the Peshawur district, adjoining the tribes above described, are Loondkhor or north-west corner of Eusufzye, and then Hushtnuggur.

The Upper or Hill Momund, occupy the hill range between the Punjakora and the Kuner rivers, and possess the Kurrapa pass. Two of their kheils are nomadic and in summer move to the waters of the Helmund. The country extends from the south-western Swat border to a little beyond the Cabul river. Both banks of this river are in their possession, and their capital, Lalpoora, where the head of their tribe resides, is situated near the left bank. They own allegiance to the Cabul government, though subject to an almost nominal control; and at the treaty, with the ameer Dost Mahomed Khan he undertook to restrain them from hostilities against British subjects. Their militia can muster about 12,000 fighting-men. There are tolerably good soldiers, though not equal to the men of the most martial tribes. Their hills overhang the fertile strip of British territory, enclosed between the Swat and Cabul rivers near their confluence, known as Doaba, and this portion of the border is not more than 25 miles distant from Peshawur.

The three sections of the tribe that have come in contact with the British are the Pindee Alee Momund, the Alumzye Momund, and the Michnee Momund.

The Michnee Momund, after annexation, were allowed to hold from the British Government, a fief or jagheer in Doaba, the fertile triangle near the junction of the Swat and Cabul rivers, of which they collected the revenue. A portion of the lands they cultivated themselves, the remainder they farmed out to other tribes of the plains as tenants. Many of their clansmen dwelt in the plains of Michnee and some in the neighbouring hills. They traded in the Peshawur valley. *The Alumzye Momund*, whose head-quarters are at Gundao, in the hills, also had a fief of Punjpao in British Doaba, chiefly cultivated by tenants. A few of their men lived in the plains and the majority in the hills. These also traded in the valley. *The Pindee Alee Momund*, at a former period, had held a similar jagheer in Doaba;

but not since British rule. These have few relations either with the Government or the people of the Peshawur valley. They inhabit a very strong locality in the Hills. The fiefs were originally granted by preceding Governments to the Momunds as black mail to buy off depredation.

The Afridi come after the Momund and is the most important tribe of all on the Punjab frontiers. Their territory, commencing in the hills between the Cabul river and the Khyber pass, forms the western boundary of the Peshawur valley; then it stretches round the south-western corner and skirts a portion of the southern boundary of the Peshawur district till it approaches the Kuttuk lands. It thus projects abruptly into the British frontier, separates the Peshawur district from that of Kohat, and forms the northern boundary of the latter district. The Afridi hills, intervening between the Kohat and Peshawur districts, are crossed by two principal passes communicating from one district to the other, the best of which is the well-known Kohat pass or Gullee and the other the Jewakee pass. The frontage of the Afreedee hills towards British jurisdiction extends over a total length of 80 miles, and this territory stretches far back in a westerly direction towards Cabul. Thus the Afreedee hold a large geographical area and have a long border conterminous with the British. The Afreedee are entirely independent. Their hills are lofty, steep and rugged, most arduous for military operations. The villages are strongly posted and difficult of access. The Afreedee are fierce by nature. They are not destitute of rude virtues, but they are notoriously faithless to public engagements. They are split up into factions. The sub-divisions of this tribe are numerous. They can muster 15,000 or 20,000 fighting men. As soldiers, they are among the best on the frontier. They are good shots. Their tactics resemble those of the other tribes. They retreat before the foe as he advances and press upon him as he retires. From the size of their country, and their numbers, the Afreedee are powerful.

Buzoti.—The Sepah and Buzoti are small, but very brave Afghan tribes, numbering the Buzoti 500, and the Sepah 300 fighting-men. They live in tolerably close connexion with their more powerful neighbours the Afreedee, and manage to hold their own. After the British acquisition of the Punjab they generally behaved well towards the British.

Ghilji.—An Afghan tribe which with the Abdali, form the bulk of the Afghanistan population, but chiefly dwelling in Kandahar and Kabul. The Ghilji tribe occupy the principal portion of the country between Kandahar and Ghazni, and are the most numerous of the Afghan tribes. These people are also found between Farrah and Herat, and again between Kabul and Jalalabad, but, in either position, being under due control, they are little heard of. The Ghilji between Kandahar and Ghazni comprise the great families of the Ohtak, the Thoki, the Tereki and the Andari with their sub-divisions. Of these, the three first are independent, and the last, residing at Mokar, are subject to the government of Ghazni. The Ohtak are acknowledged the principal of the Ghilji families, and furnished the chief, or padshah, in the period of their supremacy. The Ghilji are both an agricultural and a pastoral people and dwell in villages and castles as well as in tents. They are a remarkably tall fine race of men, with marked features, the Ohtak and Thoki peasantry being probably unsurpassed, in the mass, by any other Afghan tribe, for commanding stature and strength. They are brave and warlike, but the generality of them, have a sternness of disposition amounting to ferocity and their brutal manners are not discountenanced by their chiefs. Some of the inferior Ghilji are so violent in their intercourse with strangers that they can scarcely be considered in the light of human beings, while no language can describe the terrors of a transit through their county, or the indignities which are to be endured. The Ghilji although considered, and calling themselves Afghan, and, moreover, employing the Pashtu, or Afghan dialect, are undoubtedly a mixed race. The name is evidently a modification or corruption of Khalji or Khilaji, that of a great Turki tribe, mentioned by Sherif-ud-din in his history of Timur. The testimony of Ferishta, while clearly distinguishing the Ghilji tribes from the Afghan, also establishes the fact of their early conversion to mahomedanism, still there is a tradition that they were, at some time, christians of the Armenian and Georgian churches. This tradition is known to the Armenians of Kabul; and they instance, as corroborating it, the practice observed by the Ghilji of embroidering the front parts of the gowns or robes, of their women and children, with figures of the cross, and the custom of their house-wives, who, previous to forming their dough into cakes, cross their arms over their breasts, and make the sign of the cross on their foreheads after their own manner.

East of Ghazni, in the province of Zurmat, are the Suliman Kheil Ghilji, exceedingly numerous, and notorious for their habits of violence and rapine. These have no positive connexion with the Thoki or other tribes, neither have they one acknowledged head, but are governed by their respective malek, who are independent of each other. Dost Mahomed

khan reduced them to the condition of tributaries, after having destroyed a multitude of their castles.

The Ghilji women cannot boast of beauty, which they strive to supply by ornament. The girls, from the age of eight to twenty, are not much veiled, but they twist their hair, and tie it like a cake, which hangs over their forehead and a little below their eyebrows. The centre of the lock (or hairy cake) is adorned by a gold or silver coin, which, in black hair, shines prettily. This is the sign of virginity amongst the Ghilji. The women allow their twisted locks to hang upon their ears, and even as far as their arms.

Moorcroft met with a part of wandering Ghilji; their tents were nothing more than flimsy black blankets, stretched over forked sticks about four feet high; within, they had some more blankets, sacks, and packsaddles, and without, a few loads of mats, ropes, and netting, for the formation of their packages: both men and women were robust, with strongly marked features.—(*Moorcroft's Travels, Vol. II. p.* 360. *Masson's Journeys, Vol. II. p.* 198 *to* 212. *Pottinger's Travels in Beloochistan and Sind, p.* 200. *Mohun Lal's Travels, p.* 323. See Abdali; Kaffir; Kalmuk; Kandahar.)

Hazarah.—This tribe of Afghans live principally in houses. They are said to lend their wives to their guests; their numbers are given at 1,56,000 souls. Monsr. Ferrier, mentions (Caravan Journeys, pp. 194, 237,) that he fell among the Ei-mak Hazara on the Murgab river, and other tribes about Dev-Hissar, more to the north and east. Their women take part in every war, manage the horse, the sword, and the firelock. Their courage amounts to rashness, and they are more dreaded than the men for cruelty and fierceness. He himself saw them under fire in the foremost rank. It is, and so far as they know, has always been a national custom. Here we have an intelligible explanation of the Amazons of Alexander, and the "female hosts" of Namuchi.—(*Cal. Review, No.* 64, *p.* 433.) The Hazarah of the hill country near Ghazni and Kandahar, are Turanian in a marked degree and are without doubt of Mongolian blood. They seem to be in many ways like the Brahui, and at one time they possessed the country on the Kelat side of Candahar, and were then nearer to the Brahui than they now are. The Hazarah from beyond Kabul and Ghazni come to Peshawar and the Panjab as labourers and they are industrious and independent. They speak Persian, and are shiahs in religion but have decidedly Mongol features. People of a Turk race dwell north of Ghilghit.—*Mr. Campbell, pp.* 54, 157.

The Hazara, or Hazarajat, are so called from the innumerable Taifah, or tribes, into which they are divided—Hazar signifying in Persian a thousand. They occupy the whole range of the Parapamisus, or the mountains extending between the Hindu Kush, or Caucasus, and the city of Herat, to within a few days march of Kandahar. In appearance, they very much resemble the Ghurka; they have the same high cheek-bones, the same small eyes, very little beard, and no doubt are of Tartar origin. The Ghurka, however, follow hinduism, mahomedanism, whilst the Hazara are shiah mahommedans.—(*Vigne's Personal Narrative, p.* 167, 169.)

Kazzilbash, a term applied in Kabul and Herat to a Turk race, principally of the tribe of Jawanshir, who were fixed in the country by Nadir shah. Under the kings of Kabul they served as body guards and still retain their own language. Their history has been often written. When Nadir shah marched towards Delhi, he had twelve thousand fighting Kazzelbash with him. When he quitted that city, on his return, he left behind him three hundred of these, who with other troops, were directed to bring away his treasure, and follow him. They passed through Kabul; but when, within two days' march of Kandahar, they heard of his death, and, a few days afterwards, Ahmed shah, Nadir's lieutenant, arrived himself, attended by five or six hundred Durani,—he seized the treasure, and took the Kuzzelbash into his services; and his kind treatment of them induced others to come from the neighbourhood of Tabriz, Mushid, Kerman and Shiraz, in Persia, where the true Kuzzelbash exercise the profession of horse-breeders, shepherds, and cultivators. There are perhaps about ten thousand Kuzzelbash in the city of Kabul, who are ever ready to draw their swords as mercenaries. Their leaders are by far the most wealthy, the most intelligent, and the most influential men at Kabul.

General Ferrier tells us that the Persians inhabiting Kabul are known by the name of Kuzzilbash, and formed part of one or more of the seven Turkish tribes that embraced the party of shah Ismail, the founder of the tribe of Saffavi. This sovereign, to distinguish them from the others, gave them a kind of red cap; hence their name of "Red head," Kuzzelbash. These seven tribes were Oustajalu, Chamloo, Nikaloo, Baharloo, Zoolkadder, Kajar, and Afchar.—*Ferrier's His. of Afghans, p.* 70. *Mohun Lal's Travels, p.* 265.

The *Tajik* are the aborigines of the country, and are not Afghans. Alexander probably found them there, as fire-worshippers, speaking Sanscrit or Pelhevi.

Kohat.—Hangu is a dependency of the province of Kohat. The inhabitants of the villages in the valley leading from Hangu to Kohat are principally shiah, as are all the tribes of the Turi, their neighbours, although not so bigoted as these; or, being under control, they are compelled to conceal their fervour. The Turi, when they see a stranger, ask him if he be straight or crooked, putting at the same time the fore-finger to their foreheads, and holding it first in a perpendicular position, and then in a contorted one. If desirous to be civilly received, the stranger had better reply that he is straight by which they understand he is a shiah. The plain of Kohat appears on all sides surrounded with hills; on the summit of one of which, to the north, is seen a watch-tower, by which the road to Peshawar leads.—(*Masson's Journeys, Vol. I. p.* 114 *to* 117.)

Kufelzye, more generally, known as the Popolzye, an Afghan tribe, numbering 20,000 families, an offshoot of the Abdali, one of the branches of which, the Suddozye, gave sovereigns to the Afghans in the 17th and 18th centuries.

Wazeeri are divided into three great divisions, as follows:—The Ootmanzive, or Ootman kheyl; the Ahmedzye; the Mahsood.

The Wazeeri country extends from the south of the Kohat district down to Tonk, opposite Dera Ismail Khan: towards the north they are bounded by the Afreedi country and towards the south by the tribe of Baorani. Bunnoo frontier is the *habitat* of the Ahmedzye. These are divided into six sections, which again are sub-divided into numerous smaller clans. One of these sections is called Sperkye; it has two divisions, the smaller of which goes by the name of Mahomed kheyl, and numbers about 250 fighting-men; they live in the hills on both sides of the river Koorum, and since A. D. 1830 a number of them settled in British territory. They till their lands in the cold season, and during the summer months the greater portion of them retire to the hills, leaving a few to look after their fields. The other sections of the Ahmedzye are located in British territory, on the Thul between Bunnoo and Luttumur: they generally go by the name of Thul Wazeeri. Captain Mecham was murdered some years ago, close to Luttumur, and the Government retaliated by marching a force against the Kabul kheyls. Since that expedition the Wazeeri on the Bunnoo frontier have been very quiet.

Bungush.—In the Kohat district, the principal tribe are the Bungush Pathans. They can muster 15,000 fighting men, and are fairly good soldiers. They highly appreciated the British light money assessments, after what had been long termed the "robber rule" of sooltan Mahomed, Barukzye. Up to 1848, he held Kohat as a fief from the Cabul government. It was then taken possession of by the British on account of hostility evinced during the second Sikh war. The khan of Hungoo, in the Bungush country, was in the British service as Revenue Collector, when he was murdered by one of his own relatives. The khanship descended to his son. The Bungush tribe have suffered much from the raids of their hill neighbours Wuzeeree, Orukzye, Tooree and Cabul-kheyl. The inhabitants of the Meeranzye valley are also Bungush. This valley belonged to the fief of sooltan Mahomed, but being an outlying locality was overlooked when Kohat was taken possession of. The Cabul government then lost no time in arranging for the occupation of Meeranzye, which appeared to have been vacated; so sirdar Azim Khan, the governor of the Koorum province, in 1851, summoned the Meeranzye to surrender; but they petitioned the British to include them in Kohat. Under the circumstances this request was acceded to. They were in their hearts hostile to the British government, as indeed they were to any government whatever. They offered to guard the Kothul, and asserted that they had an hereditary claim, stronger than that of the Afreedee, to occupy the ridge. The Kothul was then made over to them, and as the Afreedee refused to open the pass, it was resolved to establish a blockade and the Afreedee were debarred from entering the Kohat and Peshawur valleys. While these arrangements were progressing the Gullee Afreedee suddenly attacked the Bungush people on the Kothul, and seized that post. Several Bungush chiefs were killed in the encounter, and Major Coke who was present, was slightly wounded. Upon this check, the Bungush people obtained the alliance of two small, though warlike, tribes, named Buzotee and Sepah. These were independent and dwelt in the hills near the pass. The Southern section of the Jewakee Afreedee also joined the league.

Central Asia is a term used differently by geographers, ethnologists, and politicians, but is usually applied to the region intervening between Russia in Asia, and British India, and lying to the west of Chinese Tartary. Its western boundary is the Caspian Sea and the river Ural. On the east, is the lofty table-land of the Bolor, (the mountains which form the western boundary of Chinese Turkestan and Dzungaria), and the river Irtisch; the northern boundary is western Siberia, and it has Afghanistan on the south east. The northern half of Central Asia consists of the Kirghiz desert, which is mountainous and rugged on the east, and full of saline steppes on the west. In the midst of the southern half lies the sea

of Aral, on the western side of which, up to the Caspian Sea on the west, there stretches a broad tract of desert. But, on the eastern side of Central Asia, is a fertile tract, watered by the great rivers the Jaxartes and the Oxus, and it is in this fertile tract that the conquests of Russia were made between 1864 and 1868, absorbing the kingdom of Central Asia. In their operations, the Russians used only 2,000 and 3,000 men, and never had more than 15,000 in all Turkistan. The whole country of Central Asia between India and Tartary is one broad mountain range, the Himalaya forming the southern crest, and the Kuen luen the northern. The interior has some lovely valleys like Kashmir, but it is more usually broken into rocky ravines, through which the affluents of the Indus force their way towards the plains; or else stretches away in those vast treeless uplands, which are one of the chief characteristics of the range through its whole extent.

Central Asia has a hardy peasantry, dwelling in the mountain region with its vast upland downs, well suited for summer pasture, partly descendants of the original inhabitants, and in part of the many migratory races who have swept through the country. At the foot of the mountains, in the tracts of surpassing fertility, Turk, Bokhariot, Kalmuck, Kirghiz, Onigur, Manchu, Chinese, Armenian and Indians dwell in the well watered plains. Beyond these, in every direction, is the pathless desert, which has been tenanted by pastoral nomades ever since the earth was peopled. From the Vendidad opening chapters there seems in ancient times to have been a great kingdom in Central Asia; an eastern branch, with its primæval seats on the Oxus: The Iranian people, who were settled between the Oxus and the Jaxartes, as early as the times of the Judges of Israel, still hold their ground in the country, under the names of Tat, Tajik, Sert; Galsha and Parsiwan; a primitive and not impure Iranian population might still be found in almost every district from the Indus to the Jaxartes, and throughout the valleys of the Oxus.

The Paropamisan chain, which bounds the Kohistan on the west, extends three hundred and fifty miles from east to west, and two hundred from north to south. The whole of this space is a maze of mountains, and though it affords a habitation to the Eimak and Hazarah it is so difficult of access, and so little frequented, that no precise accounts of its geography are to be obtained.

Uigur. According to Professor A. Vambery, the Uigur are the most ancient of the Turkish tribes, and formerly inhabited a part of Chinese Tartary, which is now occupied by a mixed population of Turk, Mongol and Kalmuck. They were the first who reduced the Turkish language to writing, borrowing the characters from the Nestorian christians, who came to their country as early as the fourth century of our era. The manuscripts of this language, written in the characters mentioned, afford, therefore, the most ancient and valuable data in investigating the history of Central Asia—nay, of the whole Turkish race. But these monuments are of great scarcity; he believes he has collected all that has been discovered of the Uigur language, though the Uigur had a literature, and were very fond of books at a time when the Western world was involved in ignorance and barbarism. The most valuable manuscript he obtained bears date 1069, and was written in Kashgar; it treats of ethics and political subjects, and forms a kind of manual of advice to kings how to govern with justice and success. It reveals the social condition of this people, and forms the basis of the later regulations by which all Turks are governed. He believes that the Tartars of ancient time were not such barbarians as they now are.

Turko-Tartars.—Its people are from two distinct sources, viz. the settled races, descendants of Semitic and Iranian conquerors from the south, and the race, who have been occupying the country from pre-historic times. This latter part of the inhabitants have been styled Turko Tartars. The people are in their habits the same as they were 2,000 years ago. The Turko-Tartaric race stretches from the Polar sea to the Hindu Kush and from the interior of China to the shores of the Danube. Vambery divides the Turks who, from East to West, occupy this extent into

Burut, black or pure Kirghis;	Karakalpak;
Kirghis properly Kazak;	Turkoman;
	Uzbek;

Burut, pure or black Kirghis, dwell on the eastern boundary of Turkistan, viz., the valley of the Thian Shan chain of mountains, and they inhabit also several points on the shores of the Issik Kol, close upon the frontier chain of mountains. They are powerful, thick set, strong boned figures, but remarkably agile and have acquired much warlike renown. Their face is less flat than the Mongolian and Kalmuk and less fleshy, their foreheads somewhat higher and their eyes are less almond shaped than the Kalmuk, few of them have red or fair hair or a white complexion. The Burut are in contact with Kalmuk and Mongolians, and in consequence their language has many Mongolian words and now and then they profess themselves more or less mahomedans but shamanism largely prevails.

The *Kipchak*, who have settled down in and around Khokand, are supposed by Vam-

bery to be a division of the Burut. Their social relations are with mahomedans and the people of Turkestan.

Kirghis or Kasak, are known in Europe as the Kirghis, but this people only style themselves Kasak. They are extended through the northern desert lands of Central Asia. Like all the Turkoman, they have many subdivisions with branches, families and lines, but the European classification into Great, Little and Middle hordes is unknown to them. Love of travel and war have often brought together the most distant branches, and whether on the shores of the Emba, or of the sea of Aral, whether in the environs of the Balkash and Alatan, there is little difference to be found in the dialects spoken by them, though shades of differences are perceptible amongst them, scattered as they are so extensively through the northern desert lands of Central Asia. In manner of life and language, the Kasak is hardly to be distinguished from the Burut. In colour the Kasak women and young men have a white, almost a European complexion, which darkens by exposure. The Kasak have the short neck of the Turanian race, so different from the long necked Iranians, and they have thick-set, powerful frames, with large bones; head not very large, crown round, and more pointed than flat: eyes less almond shaped but awry and sparkling; prominent cheek bones, pug noses, a broad flat forehead, and a larger chin than the Burut. Beard on chin thin, only hairs on both ends of upper lip. They deem a Kalmuk woman more beautiful than their own. The men in summer wear the Kalpak head dress, and in winter the Tumak cap of fur, covered with cloth and flaps. They are almost all mahomedans, but like all nomade tribes are lax in their observances, for they retain much of the shamanist belief which they held prior to their conversion some centuries before: Cheiromancy, astrology, casting out devils, are common to all mahomedans, but the Kasak draw omens from the burnt sacrifice of the shoulder blade and the twisting of the entrails.

Kara Kalpak moved from the mouth of the Jaxartes, into the khanat of Khiva, in the beginning of the 19th century and are only met with there. In appearance and dress they are intermediate between the Kirghis, Kasak and Kalmuk. They are tall vigorous men, with more powerful frames than any of the Central Asian tribes but clumsy and with coarse features. They have large head, flat full face, large eyes, flat nose, slightly projecting cheek bones, a coarse and slightly pointed chin.

The Turkoman is the fourth gradation of the Mongolian Turkish race and in many respects they resemble the Kasak and Kara Kalpak. The pure Turkoman type is met with in the Tekke and Chador tribe in the centre of the desert, is of middling stature, small oblong head, not high cheek bones, somewhat snub noses; with the bright, sparkling fiery eyes, of the desert races, but more particularly the Turkoman, longish chins, feet turned in. The blond colour is common, indeed the Kelte race amongst the Gorgen Yomuts are generally half blood. The Goklen and other tribes near Persia evidence an intermixture with the Iranian Persian. The Turkoman is slender and agile, and they are hardy and enduring under privations. They early separated themselves from other Turko-Tartarian nations, moving from the Mangishlak east to the north west and thence to the south. In their present country, the Salor and Sarik are the oldest tribes; after them the Yomut, who at one time roamed from north to south along the shores of the Caspian. The Tekke were transferred by Taimur to Akhal. The Ersari, at the close of the 18th century, moved from Mangishlak to the shores of the Oxus, and recently many of the Chadar moved to the other bank of the Oxus. The chief avocation of the Turkoman is pillage. The men wear long locks till the close of the first year of their marriage. The women are handsome, and perfect beauties are to be seen, not inferior to the Georgians in growth and regularity of features. The young girls of all nomade tribes are good riders but Turkoman women excel all the others.

The Uzbek are the resident civilized inhabitants of Central Asia, but in their physical form have become considerably changed from being intermixed with ancient Iranians and with many slaves from Persian Iran. The typical Uzbek in Khiva has a broad full face, low flat forehead, large mouth, while those of Buchara are less marked. In the neighbourhood of Kashgar and Aksu the colour is from yellowish brown to blackish; in Khokand brown, and in Khiva white. *Uzbek* men have pretty thick but never long beards. The women long retain their white complexion, and with their large eyes, full face, and black hair they are not displeasing. In Central Asia, they are highly renowned for their beauty. Timur was an Uzbek Tartar, but Uzbek power rose on the ruins of the Timur dynasty. They have 32 chief divisions, all known by names, many of them similar to those amongst the Kazak, and from this Vambery supposes the Uzbek to be a colonizing tribe. The Uzbek are pious mahomedans. In Khiva and some parts of Chinese Tartary they are brave and warlike, and in this respect they are distinguished from all the other Central Asiatics. Settled, they retain nomade customs, building houses for stables and granaries but preferring the raised tent to dwell in

Uzbek women go unveiled. Though settled in Central Asia for centuries past, the Uzbek meditates robbery and war, and if no foreign enemy be found, they attack each other in bloody internal strife.

The name by which Vambery designates these races is Turko-Tartars: from amongst whom came the warrior nations known in the west as the Hun, the Avar, the Utigur, the Kutrigur and Khazar. But the manner of living, the customs and physical conditions, as then described, of the Tartar tribes whose arms reached from the Jaxartes to the heart of Rome and Gaul, have much resemblance to those of the present inhabitants of Turkestan, and the people of Central Asia, particularly the nomade tribes, are in their social habits the same as they were two thousand years ago. In the tent of many a nomade chief a similar life is observable as that described by Priscus as prevailing at the court of the king of the Huns. Attila, Chengiz khan and Timur, in historical characters resemble each other, and Vambery is of opinion that energy and good fortune could now almost produce on the banks of the Oxus and Jaxartes one of those warriors whose soldiers like an avalanche carrying everything before it would increase to hundreds of thousands, and would appear as a new example of God's scourge, if the powerful barriers of European civilization, which has a great influence in the East, did not stop the way.

The Turk, wherever met with, is ever heavy and lethargic in his mind and body, but in his resolves, firm and steadfast, not from principle but from apathy and aversion to change, and it is from these characteristics that his appearance is earnest and solemn, a profound seriousness, a marked cold expression of countenance, with a great inclination to pomp and magnificence. An *Uzbeg* or *Turkoman* has a proud bearing as if possessed with a self-consciousness of greatness and power. The *Osmanli* Turks' love of independence is boundless. He considers himself born to rule; and that hunting and war alone are worthy of him and husbandry is considered ignominious. In Central Asia, agriculture is exclusively in the hands of the Persian slaves, commerce and business with the tajiks Hindu and Jew. The Turk is intellectually the inferior of the Iranian and Semitic nations. This defect is noticed by other nations who apply the terms Turkluk, (Turkdom) Kabalik (coarseness) and Yugunluk (thickness) Sadeluk (simpleness) and with these qualities, as the Osmanli is easily taken in by the Armenian, Greek and Arab, the Turk is as easily so by the Tajik and Hindu. In transactions the Turk are regarded as possessing more honesty, frankness and confidence, plainness, simplicity and uprightness. Compared with the Persians, the Turk is a faithful servant, attached soldier and upright man. They are more brave, persevering and love more to rule than any other Asiatic people. They are unpolished, wild and uncultivated, but seldom cruel out of malice. They crave riches, but only to expend them. They exact much labour from their subordinates but protect and deal liberally with them. The Turk is innately a nomade and like other nomades is distinguished for hospitality. The Burut is the wildest and most savage and most superstitious of them, but less malicious than the Kirghis and Turkoman. The Burut has not wholly abandoned shamanism, and knows little of Islam.

The *Kasak Kirghis* are less brave and warlike, though readily engaging in a pillaging expedition. They form the bulk of the Turkish nomades and are for the most part devoted to a wandering life: in very few instances have they settled.

The Kara-kalpak are considered dull and foolish. They are even less warlike than the Kirghis, they have seldom appeared as conquerors and are even less employed as mercenaries. They are largely occupied as cattle breeders and they are active, benevolent and faithful.

Many of the *Turkoman* dwell in a half settled state along the left bank of the Oxus as far Char Jui and in Khiva. They are notorious amongst all the races of Central Asia as the most restless adventurers. Throughout the whole globe it would be difficult to find a second nation with such a restless spirit and untameable licentiousness as these children of the desert. To rob, to plunder, to make slaves is to the Turkoman honorable, they are always poor, and are dirty and avaricious. Their country is the wildest and most savage where even keeping a few cattle gives only a scanty income.

The Uzbeg are honest, upright and have much Turkish open heartedness, and are proud of their education and represent all the best side of the national character of the Turks.—*Vambery's Sketches of Central Asia, pp.* 283 to 312.

Iranian races have always been known for their refinement, and high civilization, from which Europe borrowed through the Bazantine and Greek culture, and the Persians have long and faithfully retained the features of its national characteristics. Though overrun by the Semitic and Turanian races, the Iranian has borrowed little or nothing from them but has exerted over them powerful influence. According to Khanikoff ("*Sur l' Ethnographie de la Perse*") the Iranian of Persia, came from the East of modern Persia, about Segestan and Khorassan, and moved to the west in prehistoric ages, and though altered by the attacks of the

Turko Tartar tribes from the north, or were in contact on the west and south with Turanian and Semitic element, the Mede is everywhere recognisable as the same as described by Herodotus and later Greek writers. The arrow headed writing at Persepolis enumerates the Iranian people of that day. The form of the Iranian is spare, but elegant, even noble, but there have always been differences between the Eastern and Western Iranians.

The East Iranians are (a) the Segistani or Khafi;—(b) Char Aimah :—(c) Tajik and Sart, each of which counts many sub-divisions

The principal number of the Segistan people occupy Khaf and its neighbourhood, Ruy Tebbes, and Birjan.

The people of Khorassan are greatly intermixed with Turko-Tartar elements. The language of modern Iran is laden with Arabic and Turkish words : but in the East, the language is much like that in which Ferdusi wrote his poem free from words of Arabic origin.

The Char Aimak, and consist of four peoples the Tunuri, Teimeni, Feroz Kohi and Jamshidi, all of them of Iranian origin and all speaking Persian.

The Aimak who graze their flocks in the Parapamisus, are brave and relentless, and Afghans when travelling, whether proceeding from Balkh, Kabul, Kandahar or Herat, never enter into the mountain districts of these intrepid nomade tribes.

The *Timuri* dwell at Gorian and Kuh'sun on the western boundary of Herat, and in the villages and towns situated east of Iran, from Tarbat Shaikh Jam as far as Khaf. About a thousand of their families dwell near Herat.

The *Teimeni* dwell in the Jolgha-i-Herat, from Kerrukh to Sabzwar ; the few who have extended to Farrah being styled by the Afghans, Parsivan. Each member of the Char Aimak knows no greater enemy than the Afghan and all attempts to form Afghan colonies amongst them have failed. The Teimeni are of a wild, warlike nature, though agricultural.

The *Feroz Kohi*, a small number of people, about 8,000, dwell on the steep hill N. E. of Kale No and from their inaccessible position afflict their whole neighbourhood with their robbing and plundering. Kale No on the summit of the mountain and the fortified places of Darzi Kutch and Chaksaran are considered similar to the whole nests of the Bakhtiari and Luri in the environs of Ispahan. They have a resemblance to the Hazarah, but their forehead, chin, complexion and figure are less Turanian. They are decidedly Iranian. They take their name the Feroz Kohi from Teheran. Timur settled them by force in Mazenderan, but they soon returned to their own country. They have a few cattle and they sow a little, and plunder the caravans travelling on the Maimani road or make inroads on the scattered tents of the Jamshidi.

Jamshidi are the only tribe of Eastern Iranians who are exclusively nomades. They derive their descent from Jamshid, and moved out of Segistan to the shores of the Murghab, which they have occupied from pre-historic times. They live in the neighbourhood of the Salor and Sarik Turkoman and they use the round conical tent of the Tartars, surrounding it with felt and a reed matting, and their clothing and food are Turkoman, as, also, their occupation, for, they are as great manstealers. They excel the other Aimak as horsemen and, for a chapao, band themselves with men of Herat or with the tribes of Turkomans. It was this cause that led Allah Kuli Khan to transport them from Khiva to the banks of the Oxus, after he had conquered them with the allied Sarik. After a residence of 12 years, they fled and returned to the town of Murghab. The Jamshidi is polite in word and manner. They still retain parts of the Zoroastrian faith, reverence fire, and pitch their tent door to the east.

The *Tajik* is Iranian. He is met with in largest number in the Khanat of Bokhara and in Badakhshan, but many have settled in the towns of Kokand, Khiva, Chinese Tartary and Afghanistan. The Tajik is of a good middle height, has broad powerful frame of bones, and especially wide shoulder bones, but they diverge from the Iranian, they have the Turanian wider forehead, thick cheeks, thick nose and large mouth. The Tajik originally came from the sources of the Oxus in the steppe of Pamir. The term is from Taj, a crown, the fire worshippers head dress. But the Tajik does not so style himself, but regards the term as derogatory. The Turks style the Tajik, Sart. The Tajik is covetous, unwarlike, and given to agriculture and trade, but fond of literary pursuits and polished and it is owing to their preponderance in Bokhara that that city has been raised to the position of the Head Quarters of Central Asiatic civilization, for, there, from pre-Islamic times, they have continued their previous exertions in mental culture and notwithstanding the oppressions which they have sustained from a foreign power, have civilized their conquerors. Most of the celebrities in the field of religious knowledge and *belle lettres*, have been Tajiks, and at the present day, the most conspicuous of the mullah and Ishan are Tajiks and the chief men of the Bokhara and Khiva court are Tajik, or, as the Turks style the race, Sart. Vamberry considers the Tajik and Sart identical, but he recognizes that in their physiognomic

peculiarities, the Sart differs greatly from the Tajik, being more slender, with a larger face, and a higher forehead: but these changes he attributes to frequent intermarriages between Sart men and Persian slaves.

In Central Asia, the warrior, the shepherd, the priest and the laymen, youth and old age, equally affect poetry and reciting of tales. The literature of the mahomedans or settled nations, brought from the south, is filled with exotic metaphor and illustration. In the three Khanats, the mullah and ishan, have written much on religious subjects, but its mystical allusions are beyond the reach of the people. The Uzbeg, the Turkoman and Kirghis esteem music as their highest pleasure and often break out in song, singing soft minor airs. The Uzbeg poetry on religious subjects is exotic, derived from Persian or Arabic sources. The Tartar compositions are tales and relate to heroic deeds, similar to the romances of Europe.—*Vamberry's Sketches of Central Asia, p.* 338.

Kunduz, a small town of 500 souls in a marshy valley, about 40 miles south of the Oxus. It is surrounded on all sides by hills, and is so very insalubrious that the proverb runs if you wish to die go to Kunduz. The chief of Kunduz, Murad Beg, ill-treated Moorcroft and robbed him of money and effects to the extent of 23,000 rupees. In 1830, he had occupied all the valley of the Oxus and ruled all the countries immediately north of the Hindu Kush. It lies in a valley among the hills running from E. to W. about 30 miles and from N. to S. about 40 miles and the great mountain the Hindu Kush is visible and Khulam, Heibah, Gori, and Inderab are subject to it.

Bokhara is an isolated kingdom in Turkistan of small extent surrounded by a desert. It lies between the parallel of 36° and 45° N. and 61° and 67 E. lat. It is an open champagne country of unequal fertility, and intersected by the Oxus on its southern border. Its rivers on the Amu or Oxus, the Sir or Jaxartes, the Kohik or Zarafshan and the river of Kurshi and Balkh. It is ruled over by an amir whose sway may be comprised between the 37° and 43° north lat., and between the 60° and 68° of east long. *The Uzbek* are undoubtedly the preponderating race in Bokhara, not so much from their number, as by the ties which bind them together. They are divided into stems and sections, like the Kirghiz, and have their elders, or beys, who enjoy a certain consideration among them, the Uzbek branches, with some of their subdivisions, are enumerated in the work called "Nassed Mameti Uzbekia."

The rulers of Eastern Turkestan have always been mahomedan from the time of Taghalak Timur, who was, we are told, the first mahomedan sovereign of Kashgar of the lineage of Chinghiz. Buddhism indeed was found still prevalent in the cities of Turfan and Kamil at the time of the embassy of Shah Rukh in 1419, and probably did not become extinct much before the end of the century. But, in the western states mahomedanism seems to have been universal from an earlier date and maintained with fanatical zeal. Saintly teachers and workers of miracles, claiming descent from Mahomed, and known as Khwaja or Hojah, acquired great influence and the sectaries attached to the chief of these divided the people into rival factions, whose mutual hostility eventually led to the subjugation of the whole country. For late in the seventeenth century Hojah Appak, the leader of one of those parties called the White Mountain, (having been expelled from Kashgar by Ismail Khan the chief of that state who a was zealous supporter of the opposite party or Black Mountain,) sought the aid of Galdan Khan, sovereign of the Eleuth or Kalmuk of Dzungaria. Taking the occasion so afforded, that chief in 1678 invaded the states south of the Thian Shan, carried off the khan of Kashgar and his family, and established the Khwajah of the White Mountain over the country in authority subordinate to his own. Great discords for many years succeeded, sometimes one, sometimes another being uppermost, but some supremacy always continuing to be exercised by the khans of Dzungaria. In 1757 the latter country was conquered by the Chinese, who in the following year making a tool of the White party which was then in opposition, succeeded in bringing the states of Turkestan also under their rule.—*Yule Cathay,* II. P. 547.

Chinese Tartary, also known as Bocharia, Little Bokharia, also as Eastern Turkestan, is a great depressed valley shut in by mountains of great height on three sides and on the east are barren sands which merge imperceptibly into the great desert of Gobi. The Tian-shan range separate it from Dzungaria. The Bolor range from Transoxiana, and the Kara Koram and Kuen Lun from India and Thibet on the south. The land is clayey near the front of the mountains base but sandy in the central tracts. Rain is rare, and the air is of exceeding dryness, but the climate is temperate and healthy. It is well watered from the mountains, the waters converging towards the Ergol or Taryon.

The country has gold, copper, salt, sulphur and the Jade stone. The southern line of the caravan route passes through it from Khamil to Aksu and Kashgar. From Aksu to Kokand, is 800 miles. It was subject to China from the beginning of the christian era, to the time of Changiz Khan, and after the middle of the 18th century, the Chinese regained possession of it.

Alti-shahr, or the six cities, forms the western district, comprising Yarkand, Kashgar, Khotan, Aksu, Yanghisar and Oosh-Turfan, with territories subordinate to each. Eastern Turkistan is eminently mahomedan.

Chinese Turkestan includes the provinces of Yarkund, Kashgar and Khoten. Yarkund is the entrepot of trade between China and Bokhara, Khotan, from the time of Ctesias, has been celebrated for its mineral products, its jade and emeralds, its shawl-wool and flax, it was at one time the entrepot of a vast trade with Hindustan, and now imports largely furs, broad cloth leather, and sugar. Perhaps the term Eastern Turkestan should be retained solely. The inhabitants of the country, call themselves Turks, speak the Turkish language, and profess the mahomedan religion.

Turkestan.—The people of Asia, who inhabit the countries which extend northwards to the Russian frontiers, westwards to the Caspian Sea, and Southwards to Afghanistan, for the greater part are descendants of Turks and it would be more proper to give to all these countries, the general name of Turkestan dividing it in the following manner :

1st, Northern or Russian Turkestan, comprehending in it the three hordes of the Kirghis nation ;

2ndly, Southern Turkestan, inhabited by the Khivan, Turkoman and Karakalpak and including also Great Bucharia, Kokand, and Tashkend;

3rdly, Eastern Turkestan, comprising Little Bucharia, which is subject to China.

The Chinese and Mantchoo call by the name of " hoei hoei," all the mahomedan tribes who live under their dominion. This word, therefore, has ceased to designate a nation. As the Ouigour Hoei Hoei, called simply Hoei hoei under the Mongol dynasty of Yuan, were mahomedans, this name is applied by the Chinese to all those of the same religion, in the same manner as the Russians are often called Greeks, because they are of the Greek church. The inhabitants of the towns of Little Bucharia, are in part descendants of the ancient Ouigour or Hoei hoei, and consequently Turks ; in part Sarti, or Bucharians who are scattered as merchants all over central Asia, and who are Persians. There are many of them at Peking Hang tcheou fou, Canton, and other commercial cities of China. Their mother tongue is Persian but they also speak the oriental Turki, which is the general language of Turkistan, and the most diffused in Little Bucharia. The Ouigour writing character was the original source of those still used by the Mongol, and Manchu, and was itself almost certainly derived from the old Syriac character through the Nestorians. The modern Tartar characters are written (and, it is presumed, read) in vertical lines from top to bottom of the page, the lines succeeding each other from left to right. What Ouigour meant with Mongol authors is doubtful, but the people and language so called by the Western Asiatics were Turkish. Captain Valikhanoff speaks of the language now in use at Kashgar as being Uigur, but it is not clear whether he means that this term is known to the natives.—(*Russians in Cent. Asia, p.* 67. *Yule Cathay, I. p.* 206. *Timkowski's Journey to Peking, Vol. I. pp.* 6, 378-79.)

The Kafir race occupy the most inaccessible portions of the Indian Caucasus between the Kashgar river and Bamian. The race is called Siahposh Kafir and occupy the mountainous region of northern Afghanistan with Bujur and Kuner on the south. Kaffiristan, according to Vigne, commences from the mountains beyond the valley of Nijrau, to the north of Kabul, and extends behind those of Taghan and Laughman to the frontiers of Bajawur. To the north it is bounded by Badakshan ; and it forms the greater part of one side of the valley of Chitral, or Little Kashghar.—(*Vigne's Personal Narrative, p.* 235.)

Another authority describes Kaffiristan as bounded on the west by the Belut Tagh, on the east it touches Chinese Turkistan and Little Tibet, to the south lies Afghanistan, and to the North Kokun or Ferghana where the population is Chaghtai Turk. The Kafer have idols of stone and wood, male and female, also a stone Imrtan representing God. They are independent, have defied all attempts at reduction, and their enmity to mahomedans is inveterate and unceasing and they give no quarter. Three large rivers flow through Kaffiristan from north to south, and augment with their waters the river of Kabul and Jelalabad, which ultimately falls into the Indus. The two westerly ones unite at Tirgari of Lughman, and the joint stream, after a short course of eight or ten miles, falls into the Kabul river at Kergah, in the same district, about a mile to the east of Mandarawar. The easterly river, known as that of Kameh, falls into the Kabul river east of Jelalabad, and at a distance of about twenty-five miles from Kergah. The Kameh flows through Chitral, and its source is more remote. On the east it may be considered the boundary of the Siaposh territory, as the river of Nadjil and Alishang forms the boundary on the west. The sources of the Nadjil river are said to be not very distant, and it is the smallest of the three rivers—(*Masson's Journeys, Vol,* I. *p.* 207.) According to Mohun Lal a Kafir race, the Perancheh are found over a large tract of country besides the few families at Panjshir who pre-

serve their ancient dialect. They are found in Kabul, Kameh, Makkeid and Attok. The Kafir race are tall with fair skins, Grecian features, arched eyebrows and ruddy complexions, handsome and extremely intelligent. They possess great ability and activity. They have idols, sacrifice to a chief deity Doghan and know Siva and Mahadeo by name. They all eat beef. They are fond of honey, wine and vinegar, music and dancing, the sexes dancing apart. They have no written character and are said to speak a language resembling Pushye. They wear a lock of hair on the right side of their heads. They dispose of their dead on hills, without interment.—(*Burne's Kabul*)

They are called Siah Posh from wearing black goat skin dresses. They are persecuted by all the surrounding nations who seek to capture them as slaves. Their women do all the out-door work and follow the plough. The Siaposh place their corpses in deal boxes, without interring them, expose them on the summits of hills, like the people of Tibet, but it is not explained whether this is a final disposition. The semi-exposure adopted by the Siaposh, has contributed, probably, to their being suspected to be remnant of the Gebers, or followers of the reformer Zertusht, but in no account of them is the least mention of fire worship amongst them. There is the certainty that within the three last centuries there were people called Geber in the Kabul countries, particularly in Lughman and Bajor, also that in the days of Baber there was a dialect called Geberi. We are also told that one of the divisions of Kafristan was named Gebrek. But it does not follow that the people called Geber then professed the worship of fire. That in former times, fire-worship existed to a certain, if limited, extent in Afghanistan, is evidenced by the pyrethræ, or altars still crowning the crests of hills at Gard-dez, at Bamian, at Seghan, and at other places. Near Bamian is also a cavern, containing enormous quantities of human bones, apparently a common receptacle of the remains of Geber corpses. At Murki Khel, in the valley of Jelalabad, and under the Safed Koh, human bones are so abundant in the soil that walls are made of them. There is every reason to suppose it a sepulchral locality of the ancient Geber; and coins are found in some number there. Amongst the Siaposh, the women are separated from the community, and located in a house set apart for them, during the periods of childbirth and menstruation. In the former event, a seclusion of forty days is considered necessary. It is generally supposed that chastity is not an accomplishment of the Siaposh ladies, or that a deviation from it is lightly regarded and easily compensated. It is, moreover, affirmed that the marriage ceremonies are extremely simple, consisting merely of procuring two twigs, or rods, of the respective height of the bride and bridegroom, and tying them together. They are then presented to the couple, who preserve them with much care, so long as they find it agreeable or convenient to live together. If desirous to separate, the twigs are broken and the marriage is dissolved. The Siaposh build their houses of wood, of several stories in height; and much embellished with carving. These accounts are trustworthy, as we witness that the Safi of Kaziabad in the hills west of Lughman, and who have been converted, actually reside in such dwellings. Amongst the singularities imputed by the mahomedans to the Siaposh, is their objection to sit on the ground, or to take their repasts on it, and the custom they have of using chairs or stools. The arms of the Siaposh are bows and arrows, the latter thought to be poisoned, with long knives and daggers.

Safi.—Mr. Masson tells us that the Safi people are widely spread, occupying Dara Nur, Dara Mazar, Dara Pech, and the valleys opening on the Khonar river and in a district called Surkh Khambar south of Bajor. It has been noticed that they inhabit Taghow. They now speak the Afghan dialect, but also Pasha. In Baber's time, they were Kafirs. They were expelled by the Ghiiji from the lands to the south of Taghow, and between Kabul and Jelalabad, and in the time of Nader Shah, who cultivated a friendship with them. They speak a dialect called Kohistani.

Yeghani.—South of the Safi, at Bahi, the first march from Goshter, on the Jelalabad river towards Bajor, are a people called Yeghani who consider themselves Afghans, but are probably converted Kafir, for they speak a dialect which no Afghan can understand.

The fair complexion and regular features of the Siahposh Kafir, the variously coloured eye, and shaded hair, indicate them to belong to the European family of nations, and disconnect them from the Tajik, the Hazara, the Uzbek or the Kirghis. It merits consideration that the region now inhabited by the Siah posh is surrounded by the countries in which the Greek dynasties ruled and is encircled by the colonies, posts and garrisons which they are known to have established. And, by the fact of the establishment of military colonies of Macedonians at Alexandria ad Caucasum, Arigæum and Bazira and of the garrisons of Ny, Ora, Massaga, Peuceleotis and Aornis, those who suppose that the Siah posh Kafir are descendants of the Greeks, have their speculations strengthened by the fact, that many petty princes and chiefs, some of whom are now mahomedans but originally Siaposh, claim descent from the Macedonian

hero, and have preserved vague accounts referrible either to their reputed ancestor's marriage with the fair Rozana, or to his amour with the captive queen of Massaga.—(*Masson's Journey, Vol.* I. *p.* 195 *to* 230.)

Mohan Lall, seems to quote from other authors, when he says that the corpse is attended by young men, who sing, skip, dance, and play on drums: unwashed, it is carried upon the shoulders of men, in a large box, to the top of a high mountain, and laid open in the sun. The women, who possess great beauty, manage all the out-door business, while their stout and handsome husbands remain in the house, feeding the children in their arms. If any stranger is found guilty of adultery with anybody's wife or daughter, the Siah Posh never sentence him to death, like the mahomedans, but exact from him a small sum of money, amounting to twelve or thirteen rupees. The Siah Posh Kafir (according to the Mufti), in lieu of feeling jealously or anger at such acts, commend the liberality of their females towards every man, who is the best of God's creatures in the world.

The Kafir are captured and reduced to slavery by their neighbours. In Kabul the highest price of a slave is 200 rupees, and the lowest fifty. The whole of Afghanistan is full of Siah Posh and Hazara slaves; but the former are sold at a higher price. Vigne says that the mahomedans regard the Kafir, according to the name they give them, as infidels, the Kafir, on the other hand, detest the mahomedan. The feuds between them are constant, and there are persons killed every year in Lughman. The houses in which the Kaffir dwell are some of them three or four stories high.—*Masson's Journey, Vol. I. pp.* 194 *to* 230. *Elphinstone's Kabul. Campbell, p.* 145. *Mohun Lal's Travels, Burnes' Cabul. Vigne's Personal Narrative, p.* 235.

Mahomedans.—The numbers in the East Indies of this class of religionists is not known: out of the 164½ millions who inhabit British non-feudatory India, 25 millions are of the mahomedan religion. Of this number the greater part have been born in India, and the ancestors of many of them have been converted to mahomedanism, from amongst the Aryan hindu, the Jat, the Rajput and some mercantile classes. It is only the descendants of the Moghul from Central Asia, those of the Pathan from Afghanistan, and the Arab mahomedans that retain the characteristics of their respective races. Nearly all the mahomedans entered British India through Afghánistan, for the invading races following mahomedanism have been the Moghul from Central Asia, the Persian from Persia, and the Afghan from Afghanistan, but the Persian and the Moghul brought many Afghans with them, and though they have mixed much by intermarriage, their descendants known as Pathans, continue to follow arms and are a bold, self-reliant race. Captain Raverty says that a considerable body of Afghans who occupy Rohilcund, continue to speak Pushtu. The Pathans are not a literary race. The routes followed by the mahomedan invaders are marked by the numbers of mahomedans, and while in all British India, mahomedans are one-sixth of the inhabitants, out of 17 millions of people in the Punjab, upwards of 9 millions are mahomedans. In the N. W. Provinces, the tribes are

Syud... ...	170,248	Pathan ...	515,526
Moghul ...	41,748	Others	2,207,576
Shaikh ...	114,208		
		Total...	4,105,206

In all the Madras presidency, on the other hand, which mahomedan invaders only reached by land from Hindustan through Central India, there are only 1½ millions of mahomedans in a population of 26 millions, and there is now only one mahomedan dynasty in the Dekhan. Of the invading mahomedans, though dwelling in India, few are landholders and still fewer are cultivators. In addition to these invaders, there has been a considerable immigration of Arab mahomedans into the south of India, and into the islands of the Archipelago, all of them engaged in commerce. Their descendants hold lands on the Malabar Coast, and are known as Moplah. Another body, in the S. Eastern part of the Peninsula the Labbi are tall robust men and are active merchants, shop-keepers and pedlars. A smaller body known in the Peninsula as the Nao-Ait, new comers, are chiefly engaged in civil avocations. There are small bodies bodies of pure negro mahomedans, in Janjirah near Bombay and in Dandilli in N. Canara. The Pathan styles himself and is styled "khan," one of the honorific titles granted by native sovereigns, thus Kader would be Kader Khan. The Moghul assumes the suffix of "beg" and his name would be Mahomed Beg. The Syud or lord has also the honorary title of "mir." The Moghul are few in number and are generally comparatively fair people of a larger and more bulky frame and with unassuming manners. Mahomedans are, all of them, essentially peoples not belonging to the present time. Except in entering the disciplined armies of Britain, as private soldiers, few of them have accommodated themselves to the changes which British supremacy has introduced, but, dwelling on the past and looking forward to the future, they wait for further changes. The religious amongst them meditate on the transgressions which have brought upon them the great reverses they have sustained from the British arms and, perhaps without exception the descendants of the invad-

ing mahomedans are looking forward to and awaiting the time when it shall be God's will again to give them dominion.

The mahomedans have never sought to colonise or by taking possession of or purchasing the land, to identify themselves with the country held. While this is the case their honorary titles of khan, beg, syud or mir, and the multitude of terms Kirmani, Koreshi, suffixed to their names, hourly indicate the tribe or town or country from which they came and keep up their associations with their former conditions and with foreign lands, and they are ready to take advantage of any movement which may seem likely to re-establish them in power. Around Agra, though the seat of mahomedan Governments for the past eight-hundred years, hardly any instance occurs of a mahomedan claiming hereditary property in the soil, while many hindoos can show that their ancestors occupied the villages for twenty centuries. The mahomedan foreign population is gradually wearing out in all the cities of hindustan. There is no longer the tide of Tartar or Persian emigration to seek fortune in India and recruit their numbers.

The languages in use by educated mahomedans, are Hindustani or Urdu, as a colloquial tongue, and Persian for conversation, but their Koran is still mostly in Arabic. Hindi, is one of the tongues of India, it abounds in Sanscrit words, and has many dialects. Speaking generally the tongues spoken in the whole of upper India, including the Punjab, from the Himalayan to the Vindhyan range, may be said to be Hindi. Also, the languages of Kamaon, and Gurhwal, all along the Sub-Himmalayan range as far as the Gogra river; the impure dialect of the Gorkha; the Brij-bhasha (or Baka as it pronounced on the Ganges,) the Punjabi, Multani, Sindi, Jataki, Haruti, Marwari and, it is said, Konkani. The Bengali is a form of Hindi but so highly polished as to be classed as a distinct tongue.—*Tr. of Hind. Vol. i. p.* 431.

Kashmir, is a province in the N. W. frontier of India, with a capital in Latitude 34° 4′ 28″ N. in a valley which has ever been a favorite resort of those conquerors of India who came from the North-west. Kashmir long belonged to the Kabul kingdom, but it never was in any degree colonized by Afghans, and it is singularly free from any modern intermixture of foreign races. It never belonged to the Afghan nation, but was always a crown appanage of the kings who were very jealous of admitting into it subjects whom they might be unable to dispossess. Vigne estimated the population of the city at 80,000 and of the whole valley at 120,000. The revenue in Akbar's time was £330,000 and Jubbar Khan, brother of Dost Mahomed, collected £400,000. The author of the Ayin-i-Akbari dwells with rapture on the beauties of Kashmir: whence we may conclude that it was a favorite subject with his master Akbar, who had visited it three times before Abul Fazil wrote. Other emperors of Hindoostan also visited it and seemed to forget the cares of government, during their residence in the happy valley.—The lake or Dal of Kashmir lies to the north of the town, stretching from the base of two hills to the more lofty mountain range which bounds the valley on the north. It is nearly circular and four or five miles in diameter, but is only open in its northern half, the end nearest the town being occupied by large islands, with narrow channels between them, in some of which there is a good deal of current. Its waters are discharged into the Jhelum by a considerable stream, which, flowing from its south-east corner, runs to the westward in a course nearly parallel to the southern margin of the lake for nearly a mile, when it turns abruptly south to enter the Jelam in the middle of the capital of Kashmir. The only Sanscrit composition yet discovered, to which the title of history can with any propriety be applied, is the Raja Tarangini, a history of Kashmir. It commences with the statement, that the beautiful valley forming that kingdom was originally a vast lake, called Satisaras. The draining of the water from the valley is ascribed to the saint Kasyapa, the son of Marichi, the son of Brahma, the Cashef or Kasheb, of the mahommedan historians, according to some of whom, he was not the hindu seer, but a deo or geni, the servant of Suliman, by whose orders he effected the desiccation of Kashmir. The method of doing this was opening a passage through the mountain at Baramouleh, by which the water passed off. Its king Sagara drove the M'lechha foreigners and Sakæ, into Nepal, Assam and Bhutan and endeavoured to re-institute brahmanism. *(Chron of Kash.)* Probably owing to the circumstance that the valley has so often been the resort of pleasure-seekers, the morals of the people are not at a high standard. A satirical Persian couplet runs—

"Dar jahan ast do taifah be pir
"Sunni-i-Balkh, Shiah-i-Kashmir"

which may be rendered that there is not an honest man among the sunni of Balkh or the shiah of Kashmir. In this small district Kashmiri is spoken and has decided affinities with the Dard tongue. In one hundred words of this language, according to Vigne, 25 are of Sanscrit origin, 40 Persian, 15 Hindi, and 10 Arabic. The temples of this province are of the Arian order of architecture. Its language, for the common affairs of life, contains Paropa-

misan and Hindi elements. Its religion is shiah and sunni mahomedan. The people are stout of limb and prolific, but tame of spirit and loose in morals: they have much mechanical skill but are very poor. They speak a hindi dialect known as Kashmiri. Amongst them also are several wandering tribes who seem distinct from the settled population. From all times the valley has been the retreat from the heats of India, for the conquering races, and it is not improbable that bands of their followers may have preferred to remain in the valley. The passes from Kashmir to Tibet, are the Baramula; Punch or Pakli: Gul Murg, Tosi Maidan: Sang-i-Safed or Chauz; Pir Panjal; Nundan Sar; Sedan; Kuri; Kol narawa or Kuligam; Banihal; Sir-i Bul; Mir Bul; Na-bug-nyah; Pahalgam or Umur Nath; Duras or Hemb Bafs or Bab; Koh-i-Hamon, Bandrpur Lolab, Kurnawur. The ridge which separates Kashmir from Great Thibet, and Kashgar from Little Thibet (the true Imaus, or Himiraleh), appears to incline, in its northern course, towards the continuation of Hindoo Koh, and even to join it. The term Hindoo Koh, or Hindoo Kush, is not applied to this ridge, throughout its whole extent; but seems confined to that part of it, which forms the N. W. boundary of Cabul: and this is the Indian Caucasus of Alexander.—*Campbell, p.* 58. *Rennell's Memoir, pp.* 143,150. *Dr. Thomson's Travels in Western Himalaya and Tibet, p.* 281. *Asiatic Researches, Vol. XV, pp.* 1, 9. *Chronicles of Kashmir. Wilson. Vigne.*

Wattal.—In Kashmir, is a gypsy tribe which supplies dancing girls and prostitutes. The women are among the handsomest of the valley.—*Campbell, p.* 121.

Chibh.—A tribe lying south of Kashmir, but little reclaimed from barbarism either by hindu or mahomedan conquerors.

Nim chah.—A half breed race, on the southern slope of the Indian Caucasus, between the Afghans and the higher peaks. They speak a language related to the Indian tongues, but possessing some curious affinity to Latin. In the lower country, the people near the debouchure of the Kashgar river, speak a mixed tongue called Lughmani. The people in Kashgar submit quietly to their rulers.

Arians Swat: is now under Pathan rule, with a subject race of Arian aborigines.—North of Swat in the valleys of the Ghilghit river running into the Indus from the west, is an Arian people speaking a language of their own which is cognate to the tongue of the tribes east of the Indus in and about the country called Chilas. The Dard seem to be amongst these tribes, some of them are independent and scarcely known, but most of the country and also Ghilghit is now subject to the maharajah of kashmir. The Ghilghit people are the farthest Arians of the country whence the Indus flows.—*Campbell, p.* 146-7.

Of the tribes of the *Indian Caucasus*, some have been conquered by the Afghans and by the maharajah of Kashmir. Those in contact with British India are quiet. They seem to use wine freely.—*Campbell, pp.* 146-7.

The Bhot of Gurwhal, Gurwhal is a non-regulation district under the N. W. Provinces of India. It is a country of very great extent, though of small comparative value. Many of the larger rivers of Upper India, and all those which form the origin of the Ganges, have their rise in its mountains, and hold their course through its territory. Sreenuggur, the chief town is on the south bank of the Alacnanda, about twenty miles above its junction with the Bhagiruttee at Deo Prague, where a strip of level ground stretches along for three or four miles, forming the valley known by the same name as the town. The people of Gurhwal are Bhot, dwelling in the passes and their neighbourhoods at heights above 6,000 feet. The pass-men state that ridges which within the memory of man were covered with forest and pasture lands are now covered with snow, showing the extension of the snow zone. The *Bhot*, here, as elsewhere, is an agriculturist, and is assisted by slaves who live under the roofs of their masters. The people in the Mana, Niti, Juwar and Byanse passes are supposed to be immigrants from Tibet who drove out an earlier body of hindus, and many of the chief families trace their origin to a Tibetan locality. The inhabitants of the Darma pass are said to be a body of Mongol left in Kumaon by Timur, and, if so, they are not true Bhot. The Darma inter their dead for a time, and in the month Kirtik exhume and burn them, but the other pass-men burn their dead on their demise. The Darma practice divination, taking their omens from the warm livers of sheep sacrificed for the purpose. The women of the Darma and Byanse pass dress alike, and these two clans eat the Yak and would eat the cow, while those of Mana, Niti and Juwar abstain from beef of all kinds and look down, as on an inferior caste, on the Darma and Byanse. The Juwar nearest India, have the largest trade, and resort to an annual fair in September at Gaitogh, the residence of the Lahsa viceroy. These passes are the roads from India to Nari or Gnari, Tibetan provinces of the Chinese empire. The Gurhwal people have a passionate love of country and home.—*Fraser's Himalaya Mountains*, p. 369. *Cunningham's Ladak. Latham's Ethnology. Aitcheson's Treaties*, p. 58, *Mr. J. H. Batten on British Gurwhal in* 1842.

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Dom, a Helot race in the hinduized lowlands of northern India, they are corpse-bearers : they are supposed to be the same as the Dom of the Santal Hills, and the Dumi, still a well defined tribe in Sub-Himalayan Nepal.

In the north-west provinces, there are wandering and wild tribes, named Bur, Damak, Kanjar, Pasi, Kumboh, Nat Saussee, Gond and the Tharoo in the Terai—the Pasi, also occurring in Oudh.

The Chinese frontier and Thibet, have the Gyami ; Gyarung ; Takpa ; Manyak ; Thochu ; Sokpa ; Horpa ; Tibetan.

Nepal, (*West to East*) has the Serpa ; Sunwar ; Gurung ; Murmi ; Magar ; Thaksya ; Pakhya ; Newar ; Limbu.

Kiranti Group, East Nepal, have the Kiranti ; Rodong ; Rungchenbung ; Chingtangya ; Nachhereng ; Waling ; Yakha ; Chourasya ; Kulungya ; Thulungya ; Bahingya ; Lohorong ; Limbichhong ; Balali ; Sang-pang ; Dumi ; Khaling ; Dungmali.

The broken Tribes of Nepal, are the Darhi ; Denwar ; Pahri ; Chepang ; Bhramu ; Vayu ; Kuswar ; Kusunda ; Tharu.

Lepcha of Sikkim.

Lhopa of Bhutani.

In N. E. Bengal, are the Bodo ; Dhimal ; Kocch ; Garo ; Kachari.

In the Eastern frontier of Bengal, are the Munipuri ; Mithan Naga ; Tablung Naga ; Khari Naga ; Angami Naga ; Namsang Naga ; Nowgong Naga ; Tengsa Naga ; Abor Miri ; Sibsagor Miri ; Deoria Chutia ; Singhpo.

No one of the nations or races who are descendants from the people that were occupying India and South Eastern Asia, prior to the mahomedan invasions, retain any strictly historical record of the routes by which they reached their present localities or of the dates of their advents. Researches into the families of language to which the spoken dialects belong, and the existing physical peculiarities of the several races permit, however, the belief that India and some of the island parts of South Eastern Asia were peopled long prior to historic times, that a succession of races, or of branches of the same human family, have entered India and in some instances become amalgamated with or been dispersed amongst the prior occupants, or have pushed them further on into less peopled or less fertile districts, or amid forest and mountain tracts. In India proper from the Himalaya to Cape Comorin, even yet, every village and every hamlet, have small bodies of predial slaves, who, though possessing certain minor agricultural rights are not allowed to purchase lands ; are compelled to reside outside the village walls, and are prevented quitting the locality, for they furnish the only free labour, available for the work of the field. The total number of the non-Aryan aborigines and outcastes in British non-feudatory India, is estimated at 12,250,000 people. On this point, Chevalier Bunsen mentions (*Report Brit. Association*, 1847) that throughout Asia, the two great nations who once centred the one in the Altai and the pasture land towards the Himalaya, the other having its centre in the Ural mountains, appear in Asia as the subdued or primary element, as the subdued substratum of Iranian civilization, and that the aboriginal languages of India which attained their full development in the Dekhan dialects belong to that stock.

In the Himalaya, according to Mr. Aitcheson, the various dialects are mixed together in great confusion ; on the northern Assam frontier are found, in the following order from east to west, the Aka, Abor, Doffla, Miri, and Mishmi.

Next to these is Bootea, which carries us as far east as the Teesta.

Sikkim, or the country between the Teesta and the Singhaleela range, contains the Lepcha and Limbu dialects. The Sikkim Terai gives us the Dhimal, Bodo or Mechi and Koch which latter also occupy the plains of Koch Bahar, and the northern parts of Runjpoor, Dinajpoor and Purneah.

In Nepal, according to Mr. Hodgson and Dr. Campbell's researches, we find a perfect maze of dialects. Beginning from the Singhaleela range we find Limbu or Kiranta which goes west as far as the Dudkoosi River, in longitude 86° 44'. Sherwill found the Gurung in the higher parts of Singhaleela, closely connected with whom are the Murmi. Along the lower hills are the Magar, who extend to the west as far as Palpa. Somewhere about here we should apparently place the Brahmu, Chepang, Hayu or Vayu, and Kusumbha. In Central Nepal are the Newar, Pahri, and Bhramo, a dialect of Magar, also the Darahi or Dorhi, Danwar and Paksya. The Tharu live in the Terai, between Chumparum and the Khatmandoo valley, as far west as the river Gandak. These last four are classed among Indo-Germanic languages. The rest are Turanian, with more or less infusion of Hindi. The Parbattia or Paharia, a dialect of Hindi, is spoken all over Nepal and is the court language.

West of this again comes the Palpa, then the Thaksya, Sunwar, and Sarpa, the dialects of Kumaon and Gurhwal, which carry us on to the Milchan of Kunawar, the Hundisi, and Tibarskad north of it.

West of this come the Dogra dialects of the Punjab hills.

On the Southern Assam frontier we have the numerous Naga and Singpo dialects, the Mikir and Angami, the languages of the Khassia and Jaintia hillmen, the Boro in Cachar, and the Garo in the hills of that name.

The Kooki occupy parts of Tipperah and Chittagong, and the Mug race are in Arrakan and Chittagong.

The Bhot race.—From Simla, for several hundred miles to the east all the passes through the snowy range are occupied by the Bhoti. They have a monopoly of the trade across the Himalaya, are carriers, loading the goods on the backs of sheep.

From Kashmir, eastwards, all the easily accessible portions of the Himalaya are occupied by Arian Hindu as far as the eastern border of Kumaon and the Kali river separating Kumaon from Nepal—the Tibetans being here confined to the valleys about and beyond the snow. People of Tibetan blood have migrated into Nepaul, throughout its whole length, and have formed mixed tribes whose appearance and language is more Tibetan than Indian, but whose religion and manners are hindu. East of Nepaul, in Sikkim and Bhutan the hindu element almost disappears, and the Thibetans are altogether dominant.—(*Ann. Ind. Adm. Vol. XII. p.* 63, 78. *Campbell, p.* 147-8, 168.)

Nepal, in the west, has the Gurong and Magar tribes, small, with features of an extreme Mongolian type, full of martial ardour and energy. They are known as the Goorkha soldiers. They have considerable intellectual ability.

The Newar of the valley of Nepaul are the cultivating peasantry, have Thibetan features with a fair and ruddy complexion. The language of the Magar, Gurong and Newar is chiefly Thibetan. Further east are the Kerani, Murmi and others.

The Sutlej people are amiable and gentle, free of low cunning, having the appearance of a mixed race between the Tartar and the common hill men. They are fair, well made and strong, but are filthy and indigent. The women have a toga fastened round the waist.

Beas.—Polyandry prevails in the Beas valley, but the general immorality is ascribed to the large numbers of Yarkundi traders.

The Kangra people are sturdy, honest and independent.

Most of the traders of the snow valleys have some members of their families residing at Daba or Gyani on the Nuna-khar lake. The great body of the hill men are Rajputs, there are a few villages of brahmins, their residences are respectable, and occupy the more elevated portion of the village site, the huts of the Dom or Hali being on a low range. The Dom are hereditary bondsmen to the Rajputs. *Basgi* also dwell there, and are, both men and women, singers at the temples. The men of all castes in the hills are short and of poor physique; they look worn and get deep lined on the face at a comparatively early age. The young women are often extremely pretty, those living in the higher and colder villages, having, at 15 or 16, a complexion as fair as many Spaniards or Italians, and with very regular features. But they grow darker as they advance in years, and become very plain.

Maryul or Lowlands, from mar, Tibetan, low, and yul, land, are the non-Chinese portions of the Bhot territories—arranged by Strachey as that of Bulti, which is the mahomedan name, and includes Hasora, Rongdo or Rongyul; Shigar, Skardo or Bulti Proper, Parkuta, Tolti, Khartaksho, Kiris, Khaypalu and Chorbat: and the buddhist Ladak in which we have Spiti, Zangskar, Purik, Suru, Hembaks (Dras;) Ladak Proper or Le, Nubra, Jankstee Rong, Rupshu and Hanle. In this list Lahul, Hungrung and Kunawar are omitted as Indian; whilst Hasora is treated as Bhot.

Sub-Himalayan, is a term originated by Mr. B. Hodgson, to distinguish all the mountains and their inhabitants below the snowy range. But the term is inappropriate, as it includes precipitous mountains, 8,000 and 10,000 feet high, and people dwelling in them, higher than the highest mountaineers of Europe.—*Campbell, p.* 46.

Bhot, according to Latham, is a word traceable under the appellations of *Bult* in Bultistan: *But* in Butan; *Bel* in Tibet; or in such words as the Bhooteya or Bhotiya; and, in ethnology comprises the Little Tibetans, the natives of Ladak, the Tibetans of Tibet Proper, and the closely allied tribes of Butan. Balti, or Baltiyul is called Palolo or Balor by the Dard and Nang Kod by the Tibetans. It is preserved in Ptolemy in Byltæ. The Bhot country is frequently called Skardo or Iskardo from the name of its well known fort and capital. Balti proper is a small table land, and with that of Deotsu, is about 60 miles long and 36 broad,—the mean height of its villages above the sea is about 7,000 feet. The Balti, the people of Little Thibet, the Byltæ of Ptolemy, though Tibetan in language and appearance, are all mahomedans, and differ from the more eastern Tibetans of Le (who call themselves Bhotia or inhabitants of Bhot,) by being taller and less stoutly made. Their language differs considerably from that of Le, but only as one dialect differs from another. The Bhot of Ladak is strong, hardy, short and square with a decidedly Mongol physiognomy—by which is meant a flat face, broad cheek, depressed nose, very large ears, oblique and narrow eye curtailed at the corners, black hair and low stature,

their average height being 5 feet 6·1 inches: the skulls are less Mongolian, having a capacity of 72 cubic inches, 80 cubic inches being a fair capacity for a European.

The grand Lama is a Bhot. The ordinary monk or priest in Tibet is the Gylong:—above whom are the Lamas or presidents, and below whom are the Tohba and Tuppa. The Tuppa is a probationer who is admitted into the establishment to which he would attach himself at the age of 8 or 10, and receives instruction accordingly. At 15, he becomes a Tohba, and at 24 a Gylong, provided his acquirements be satisfactory. There are two sects, the Gyllupka, who dress in yellow, and the Shammar in red, the Shammar Gylong being allowed to marry. The Bhot of the Tibetans have been extending westward. As a general rule, the Himalaya divide Hindustan from Bhotland, but there are Bhot in several parts south of the crest of those mighty mountains in Garhwal and Kemaon. The people of Le, the eastern Tibetans call themselves Bhotiah, or inhabitants of Bhot. They are not so tall and are stouter made than the Tibetans of Balti or little Tibet, who though Tibetan in language and appearance are all mahomedans.—(*Dr. Thomson's Travels in Western Himalaya and Tibet, p.* 247. *Latham's Ethnology. A. Cunningham* See Balti; Byltæ; Dard; Gangri Range; Kailas; Kara-koram; Ladak; Tibet.)

Little Tibet is occupied by the Bhot race. Tibet, in the language of Ladak is pronounced Bod, and in Tibetan Bod-Pa, whence the word Butan of the plains applied to Tibet. Tibet is called Se-Tsangiby the Chinese. Tibet is divided into Upper, Middle and Little Tibet, and extends from Lhassa to Gilghit, a distance of 1,200 English miles. Little Tibet contains about 12,000 square miles, is about 170 miles long, and lies between 74° and 76° 35′ E. Little Tibet or Bultistan is called by the Kashmiri Sri Butan. Tibetan districts are Khapolor, Chorbad, and Keris, on the *Shayok* river. Khartakshe, Totte and Parguta on the *Sing ge chu; Shigar* on the *Shiyar* river, and Balti and Rongdo on the Indus.

Tibet is mentioned by Abu Zaid ul Hasan in A. D. 915, by Ibn Haukal in A. D. 950, by Abu Rahan in 1030, and by Edrisi in A. D. 1154. Some suppose that Marco Polo entered Tibet, but the wonderful stories which he tells of its people indicate that he wrote from hearsay. Marco Polo sojourned in the hills of Badakshan for the sake of his health, and he describes the countries of Wakhan, Pamer, Bolor, and Kashmir.—And, notwithstanding the wide-spread fame of Prester John, the first Europeans seem to have visited this country in the middle of the seventeenth century. Yul-Sung or L'hassa, the residence of the grand Lama, is the capital of Butan or *Northern* or Upper Tibet. Leh or Ladak is the chief town of that part of Butan called Middle Tibet; and Iskardo is the principal place in Little Tibet. The Bulti or natives of Little Tibet say that Ladak, Iskardo, Khopalu, Purik, Nagyr, Gilghit and Astor, are distinct Tibets. The people of Ladak are budhists; those of Little Tibet are shiah mahomedans. In their marriages the bride comes to the house of the groom. Cultivation in Little Tibet is carried on entirely by irrigation. The language of Tibet has thirty simple letters, out of which fifteen different sets are formed, which may be used with a prefix of some other letter. Thumi Sambhuta was the first who taught the Tibetans the use of the Kashmirian characters, which remain unchanged to this day. More rain falls in Tibet than in Ladak, approaching even to a rainy season. Slavery is a Tibetan institution. Polyandry is common. The gravel of its steppes yields gold, but the value of the crude borax of its lakes is far greater than its precious metal. The tea trade of Tibet is carried on in the form of blocks, weighing about 8 lbs. and which sell at from 12 to 48 shillings each. According to Dr. Scott, in Vol. XV of Asiatic Researches, when the Boti of Upper Tibet fight with a Deb Rajah or Governor, or with Pilos, if any one be killed, both parties rush to obtain the body, and the successful party take out the liver and eat it with butter and sugar. They also mix the fat and blood with turpentine, and make candles which they burn before their idols. The bones of persons killed in war, are used for musical pipes. They make beads from the skulls or set them in silver as water cups to be used in their religious ceremonials.—(*Cunningham's Ladak. Latham's Ethnology. Thompson's Travels.*)

M'hon is the name given in Tibet to all the hill people between the plains of India and Tibet.—*Mason.*

The Tibetan and Nepalese are Mongols, the Tibetan stout, fair, lank haired.—*Campbell, p.* 48.

In Tibet, the sovereign Lamas are deposited entire in shrines prepared for their remains which are ever afterwards regarded as sacred, and visited with religious awe. The bodies of the inferior Lamas are usually burnt, and their ashes preserved in little metallic idols, to which places are assigned in their sacred cabinets. Ordinary persons are treated with less ceremony—some are carried to lofty eminences where they are left to be devoured by ravens, kites, and other carniverous animals. But they also have places surrounded by walls where the dead are placed.

The Mongols sometimes bury their dead; often they leave them exposed in their coffins, or cover them with stones, paying regard to the sign under which the deceased was born, his age, the day and hour of his death, which determine the mode in which he is to be interred. For this purpose they cousult some books, which are explained to them by the Lamas. Sometimes they burn the corpse, or leave it exposed to the birds and wild beasts. Children who die suddenly are left by their parents on the road.—(*Timkowski's Journey to Peking, Vol. II. p.* 312.)

In Spiti, in the N. W. Himalaya, when a person dies, the body is sometimes buried, or burnt or thrown into the river, or cut into small pieces and burnt, admonitions are made over the body to the departed spirit, such as do not trouble yourself, you cannot enter it (meaning the dead body,) in summer it quickly becomes corrupt, in winter it freezes and is too cold for you.

Chaprung, in Long. 79° 33′ E., and Lat. 31° 27′ N. is described as a large populous place. When any man of property dies, they bruise the body to pieces, bones and all, and form it into balls, which they give to a large species of kite, which devour them. These birds are sacred, kept by the Lamas, and fed by them, or by people appointed for that purpose, who alone approach them: others dare not go near them, perhaps from superstitious motives, for they are held in great fear. This ceremony is very productive to the priesthood; an expenditure of very large sums (many thousand rupees, said our informants), being made on the decease of any great man, and the Lamas receiving presents of very fine and expensive caps. Poorer people are sometimes buried, and at others thrown into the river.—*Fraser's Himalaya Mountains, p.* 338.

Chak or Jag and the Drok or Brog are Bhot occupants of the central part of northern Tibet. Mr. Hodgson supposes them a mixed race joined together for predatory purposes.

The Hor or Hor-Pa. are termed *Kao-tse* by the *Chinese*, but this race call themselves Ighur. They seem to be Bhot. They dwell on the north western frontier of Tibet, on the confines of the Turk districts of little Bokhara. Some of them are mahomedans, and Mr. Hodgson considers them to be Turks.—(*Lutham's Ethnology.*)

Kohistan, literally hill country, is a term commonly applied to mountain tracts on the N. W. frontier of British India.

In the *Kohistan of Cabul* the people occupy partially the valleys of Ghoribund, Punjir, Nijrou, Tagow, Alishang, Alighur and the lower Kuner. To the south-east, the Kohistan extends to the hills of Tagow, and further away to Lughman, the Lamghan of Baber, and so called, according to him, because the tomb of Lamech, the father of Nuh or Noah is to be seen there. From Charikar to Jelalabad the road is open, and it is supposed that Alexander, whether he re-crossed the mountains at Bamian or at Beghram marched by this route towards India. On a detached and comparatively low hill, a whitish streak is observed, extending from the summit to the foot of it. This is the Reg-rawan, or running sand mentioned by Baber, The natives say that it runs up again, and that it is never diminished; and that there is a cave at its foot where noises are heard. It has been described by Burnes, Vigne and other travellers.

The *Kohistan of Jullandhur* is interesting ethnologically. The revenue of the rajah of Mundi is reckoned at four lacs of rupees a year, nearly the whole of which is derived from salt and iron mines, and the half is paid to the British Government. (*See Moorcroft's Travels in Journal of the As. Society, p,* 387.) The hamlets in Kooloo, near the Tiri pass, in the Jullandhur Kohistan seldom contain more than from fifteen to twenty houses, but generally not so many. Single houses are numerous, and, from their being scattered amongst the fields, give an agreeable variety to the bold landscape. This distribution of houses arises from the lands available for cultivation being usually of small extent and widely separated, and consequently unable to support large communities. It is also imperatively necessary for the husbandman not to place a ravine or any other impediment between his hut and his fields, as all communication with them would probably be cut off during the greater part of the rains, an important season of the year in India.

The natives of Sookeyt, Mundee, and Kulu, in the Kohistan of the Jullundhur, have sallow complexions and appear to be of the same race as the inhabitants of Busahir. In fact many of the coolies employed as carriers between Simla and Kalka are men from these states, who are attracted there by the wages, which average one anna a day in their own districts, but from four to six annas on the left bank of the Sutlej. The men are generally tall and strong, but few of them are handsome. Many of the young women are pretty, but at the age of 20 or 25 become coarse and stout. The dress of both sexes is nearly the same. It consists of a drab-colored woollen frock, trowsers of the same, or of leather, and a flat skull cap, generally black, with sandals made of coarse grass. The woollen cloth called puttoo is manufactured by themselves and resem-

bles thick course blanketing. It is sold in pieces of 10 inches in width and about 21 feet in length at 2 Rs. 8 As., or 3 Rs. a piece according to the quality. Both sexes wear a girdle around the waist, and the men generally go bare-legged during the hot weather. They seldom if ever, wear shoes, the richer classes however, wear worsted stockings and shoes when they go out. The women, instead of the cap, sometimes have a colored piece of cloth tied round their head and occasionally twist their hair into one long plait, the end of which is ornamented with slips of coloured cloth or shreds of worsted.

The women of Kulu and the adjoining states are inordinately fond of ornaments. Both men and women suspend round the neck several amulets of mother of pearl engraved with mystical figures. Polygamy is common.

The Chamba-gaddee race, of the Chumba range, claim to be Rajputs, and style themselves all of the Guddee-jat. They may always be known by their peculiar comical caps, with lappets to turn over the ears.

The Lahuli people are a race distinct from the people of Kulu or of the Chumba range. The Lahuli men are short, but sturdy, very ugly and very dirty. Their women are decidedly plain. The dress of both sexes is a black woollen frock with drawers, and a woollen plaid, with black circular caps of felt. The women let their hair fall from the back of the head in long plaits.

Marri, a range of hills on the right bank of the Jhelum, overhanging the platform of Rawulpindi. It is a narrow ridge separating two deep river valleys, whose vegetation is quite tropical.—*H. f. et T.* 213.

Kashmir valley is the upper part of the basin of the Jhelum. It is bounded on the N. by the axis of the Himalaya averaging 14,000 feet, over which a remarkable depression, the Zoji pass, elevated 11,300 feet, leads into the Tibetan valley of Dras. To the south, the Pir Panjal, averaging 12,000 feet, and Banihal ranges separate Kashmir from Rajaori and Jamu, and on the east, it is separated from Kishtwar by the Wardwan range. The trade between Kashmir and Jamu is estimated at £384,850. Between Kashmir and the Panjab several practical routes exist, but the most frequented is by mount Jammu and Banihal, over 10,000 feet. Kashmir imports yearly £184,000 worth of the produce and manufactures of India and Europe.—*Sir R. Montgomery's Report.*

Eastward of Kashmir, are the Bhot race in Bulti and Ladak. Bhot means Tibet: Bhotan, the end of Tibet.

Bulti includes Hasora, Rongdo, Rong-yul, Shagar, Skardo, Bulti, Parkuta, Tolti, Khartaksho, Kiris, Khaybalu and Chorbat.

Ladak or the Bot-Pa, includes Spiti, Zangskar, Purik, Suru, Hembako (Dras) Ladak proper or Le, Nubra, Rong, Rupshu and Hanle.

The language of the Bhotiah of Tibet, the Bhutiah or Tibetan, is also that of Bhutan and is a connecting link between the polysyllabic and monosyllabic languages.—*Latham.* *Garhwal* is to a large extent Bhot.

Dras, adjoins Kashmir, the inter-communication being by the Zoji pass, a remarkable depression of 11,300 feet, through which flow the moist winds of Kashmir, and Dras is the most humid and fertile province of Tibet.

Balti extends from the confines of Ladak, westward to the great bend of the Indus. It has Dras and Hasora on its south, and the Kouen lun or Mustagh on the North. The bed of the Indus at Tolti is 7,500 feet; at Iskardo the capital, 7,000; at Rondu 6,200, and at the great bend about 5,000.

Skardo, or Iskardo Little Tibet, is thus called by the people. It was conquered in 1840, for the raja Gholab Singh, by his general Zorawar Singh, with his Dogra troops. The people grow corn, irrigating the land, and using manure. They are fond of out-of-door manly games. Skardo, or Iskardo, or Little Tibet, is a Bhot tract, but the people are mahomedans. Skardo, is also designated Balti, Baltiyul, Balor, Palolo, and Nang Koa. The people are strong and hardy, they grow corn and cut water-courses like the people of Rongdo. Skardo is called by the Lamas of Ladak, *Skarma-m Do*, meaning the enclosed place or the starry place.

Iskardo is a mahommedan corruption of the Tibetan name Skardo, or Kardo as it is very commonly pronounced. The mahomedans of Asia, as a rule being unable to pronounce two consonants together, but prefix a vowel, as Mr. i-Smith: Mr. i-Stewart. The mountains which surround the Iskardo plain rise at once with great abruptness, and are very steep and bare. The houses of Iskardo are very much scattered over a large extent of surface, so that there is no appearance of a town.

rGylfo, the title of the ruler of Iskardo, or little Tibet is derived from two Balti words rGyl, powerful, and Fo, a man. The queen is styled rGgyl-mo. Mr. Vigne points to this as the original of the title of Guelph belonging to the royal family of Great Britain, and of the term Gylfe-koniger, still used to designate the old kings of Denmark.

Occupying Little Tibet are the Byltæ of Ptolemy. They have on the east the Khor country which is inhabited by a people supposed to be the Chauranœi-Scythæ of Ptolemy.

The Balti of Iskardo also dwell in the valley of the Indus, above the junction with the Ghil-

ghit river. They are a stout race, their features indicate a Tibetan origin, and their language is decidedly so. They are shiah mahomedans, a quiet people, and the Kashmir ruler has enlisted many of them.—*A. Cunningham. Campbell, pp.* 146-7. *Hooker, f. et Thomson, p.* 224-225. *Latham's Descriptive Ethnology. Dr. Thomson's Travels in Western Himalaya and Tibet, p.* 219.

Kulu.—This province consists of the mountain basin of the Beas, and the west bank of the Sutlej. Sultanpoor its capital is elevated 4,584 feet. The chain bounding the Sutlej on the west, is considerably higher than that on its east bank, and is crossed into Suket, by the Jalauri pass, elevated 12,000 feet. The province of Chamba bounds it on the west and the physical features of Kulu and Chamba are similar. The poorer Kulu people wear only a blanket, wound around the waist and one end flung across the shoulders and pinned across the chest, men and women often dress alike, but the long hair of the women is plaited in one tress.—*H. f. et Th. p.* 203.

Spiti Kanawar.—In the upper valleys of the Sutlej, in Spiti, and Kanawar are mixed races exhibiting much Tibetan blood, and in religion, apparently, more buddhist than hindu. The Tibetan colony at Mohasoo just above Simla, are powerful ruddy looking people entirely unlike Indians, their women are industrious but very unattractive.—*Campbell, p.* 146.

Jamu, in the valley of the Chenab is 1,500 feet above the sea, and the bed of the Chenab is a little above 1,000 feet. The boundary mountains of Jamu rise 12,000 to 14,000 feet.

Kishtwar occupies the middle part of the Chenab valley between Lahul and Jamu. The elevation of the Chenab about the middle of the province is from 6,000 to 7,000 feet. Kishtwar is separated on the North from the Tibetan valleys of Zanskar and Dras by the axis of the Himalaya which is crossed by the Umasi pass into Zanskar, elevated 18,000 feet, and by other passes from Wardwan into Dras. The Wardwan district is to the west and to the south Kishtwar is separated from Chamba by a range of 10,000 to 14,000 feet of elevation.

Zanskar occupies the north slope of the main Himalayan chain parallel with Kishtwar on the south. Padum the capital is 12,000 feet above the sea.

Ladak lies between Nari-Khorsum on the S. E. and Balti on the N. W. a distance of 230 miles, lying to the N. of Dras, Zanskar and Parang. In its E. and W. course, the Indus descends from 14,000 feet at Dem Chok to 10,500 feet below Le and at 8,500 feet enters Balti.

Ladak, is occupied by the Bhot race. It is a province of Kashmir. Between the British territory and Ladak and the countries beyond, a trade exists in Shawl wool, and Charas which are taken in exchange for opium the produce of the Kulu Hills, otter skins, cotton piece goods, spices and drugs. In the Ladak frontiers of the western Himalaya, the Bhots salute by raising the back of both hands to a height even with the forehead and then repeatedly describing a circle in the air with them, by dropping the fingers downwards and turning the palm inwards. This is similar to the mahomedan practice of Billaen-lena, where a woman is supposed to take upon herself all the evils which would befal the person whom she addresses.

The Ladak country is called La tag in Tibetan. Ka-chan-pa, or Snowland, Mar yul or Redland, or Lowland. It is bounded on the north by the Kara-koram mountains, which separate it from the Chinese district of Kotan ; on the East and South-East, are the Chinese districts of Rudok and Chumurti ; and to the South are the districts of Lahul and Spiti now attached to British India, and formerly belonging to Ladak. To the West lie Kashmir and Balti. Its greatest length is 290 miles and breadth 240 miles, and its whole extent is 30,000 square miles. Ladak is politically divided between the rajah of Kashmir and the British. Ladak, anciently was called Kie-cha, by the Chinese, it is still called Kha-pa chan or Kha-chan, abounding in snow or snow-land, and the people as Kha-pa-chan-pa or Kha-chan-pa, men of the snowy land. The A-khassa regio, of Ptolemy is no doubt Kha-chan-yul, Snow land or Ladak. It is one of the most elevated regions of the earth, and the joint effect of elevation and isolation, amidst snowy mountains, produce perhaps the most singular climate in the world. The plains between 16,000 and 17,000 feet are covered with wild horses and hares and immense flocks of domestic sheep and goats, while the slopes of the hills up to 19,000 feet abound with marmots and alpine hares. Both meats and fruits are cured by mere exposure to the air, a sure indication of its intense dryness. It seldom snows and scarcely ever rains. Its mountain ranges stretch in parallel lines from South-East to North-West, determine the course of the rivers and form the natural boundaries of the country. The general aspect of Ladak is extreme barrenness, but many fertile tracts occur along the rivers, covered with luxurious crops. The yellow plains along the Indus, are covered with flocks of the shawl-wool goat, and all the principal thoroughfares of the country are dotted with numerous flocks of sheep laden with the merchandise of China and of India. Burning heat by day is succeeded

by piercing cold at night and everything is parched up by the excessive dryness of the air. During the short summer, barley ripens at 15,000 feet, although the temperature falls below the freezing point, every night. Ladak, is in general of the buddhist faith. The valley of Le or Ladak Proper, Zanskar, Dras, Suru and Purik, are all buddhist, and cultivation goes on in Zanskar on the Indian side of the Indus and at Nubra Nira 12,000 feet, on the North side of the Indus, Yul-chung 13,000 feet, and 14,000 and 15,000 feet at Phutaksha. Ladak is agricultural but enjoys a transit trade, and much labour has been expended in constructing roads through Kashmir, Jummu, Kullu, Lahul—leading to the Punjab, Kabul, Lhasa, Chinese Tartary, Khoten, Yarkend, Little Tibet and Balti. All these follow the lines of rivers, cross passes 18,000 feet high and lead over rivers by ferries, by enflated skins, and suspension bridges. Three varieties of the sheep and three of the goat are domesticated in Ladak, and the Yak, domesticated, is used for carrying loads. The Dso, a hybrid between the yak and cow, is a beast of burden. Rain fell ten times during the two years that Moorcroft remained at Leh. Its population amounts to 433 persons in the square mile. In Ladak, the nuns and monks bear a large proportion to the population. It was subject to L'hasa, until A. D. 1834, when it was seized by Zorawur Sing, general of the raja of Jammu. Ladak is inhabited by a peculiar race who call themselves *Bot-pa* who speak a peculiar language called Thibetan and who profess the religion of Buddha, under a hierarchy of monks called Lamas. The term Thibet is unknown to the people as also to the Indians who call them Bhotiya and their country Bhutan. Ladak belongs partly to the Jammu Rajah and partly to the English, and is Bhut along the banks of the *Chandra* and *Bhaga*, but Hindu after their junction. To the North of the Ladak country, the people of Yarkand and Kotan speak Turki. To the west, beyond Balti, the people of Astor, Giljit and Hunza Nager, speak different dialects of Dardu, while the Kashmiri have their own peculiar language. To the south, the people of Chamba, Kullu, and Bisahar, speak a dialect of Hindi, and to the East and South-east, the people of Rudok, Chang Thang, and Ngari speak Tibetan only. Moorcroft lived for two whole years in Ladak, from September 1820 to September 1822. In Ladak proper, is the valley of Le, the main stream of the Indus. *Dr. Latham's Descriptive Ethnology.—Sir R. Montgomery. H. f. et. T. p.* 209, 224-225.

Khor, a territory S. E. of Ladak and eastward of the Byltæ. Its people are supposed to be the Chauranœi Scythæ of Ptolemy.—*A Cunningham.*

Nubra, *Pangong* and *Rodok* districts, in the basin of the Shayuk river and its affluents, lie on the S. flank of the Kouenlun from Balti to Nari, and have Ladak as their southern boundary. With the exception of Nari, this is the most lofty and most sterile part of Tibet, the axis of the Kouenlun being probably upwards of 18,500 feet, the valleys 16—17,000 feet and numerous peaks rise 20—23,000 feet. The Karakoram pass is 18,300 the salt Pangong lakes 13,400 feet.

Changpa, are a semi nomade tribe near the Pangong Tso pass. They dwell, in their grazing grounds under huts (galkol) made of the yake hair. The people there call themselves Bot.

Chamba, consists of the mountain basin of the Ravi, about 5,000 feet. It has Kulu on its east; in the N. W. it is separated from Jamu by a chain of mountains, through which the Padri pass, elevated 11,000 feet, leads from Jamu to Chamba feet. The Sach pass, elevated 14,000 feet leads over the range in the north, dividing Chamba from Kishtwar.—*H. f. et. T. p.* 22,204.

The Chumba-Guddee race dwell in the Chumba hills, in the Himalaya. They say they are Rajputs and of the guddee-jat. They are somewhat short, but strong, and cleanly in their habits. They are sharp and able to impose on their less knowing neighbours. Most of the witch finders are of the Chumba-guddee race, and the race may always be known by their peculiar conical caps with lappets to turn down over their ears like an English travelling cap. When Europeans made their first appearance in the Kangra valley, these men had very slight notions of caste, and would eat or drink anything the Europeans gave them, but since their contact with the natives of the plains they have become as bigoted as any hindu. The Gaddee are hill shepherds about Kangra and elsewhere.

Lahul is a British province in the valleys of the Head Waters of the Chenab, the bed of which is nowhere below 8,500 feet of elevation. It is everywhere surrounded by lofty mountains, except towards its north where it is coterminous with Kishtwar. To the south it is bounded by the mountains north of Kulu where it is crossed by the Rotang pass, elevated 13,200 feet, an exceptional depression, the rest of the chain being very lofty. To the west, a portion of the Himalayan axis divides it from the Tibetan province of Piti and is crossed by the Kulzum pass elevated 14,850 feet, and to the north a continuation of the same axis separates it from the Tibetan province of Zanskar and is crossed by the Baralacha pass, elevated 16,500 feet.

Parang and *Sanzkar*, *Piti* and *Guge* are Tibetan districts, all east of Piti is Tibetan.

Kangra fort is a short way within the outer ranges of the Himalaya. Kangra is situated in latitude 31° 57'; Longitude 76° 4'. It is a British station and the hills around it are extensively planted with tea.—*H. f. et. Thom. pp.* 190, 203, 208.

Gaddi, A hill shepherd race about Kangra and elsewhere.

The following are the heights of passes.

Noorpoor....1,665*ft.*	Nari Ghaut.....2,009*ft.*
Kotila..... 13,70	Rajahpoor ditto.2,500
Kangra.....2,647	Sekunder ditto 5,430
Joala Mukhi, 1,805	Jaintri ditto 5,632
Tira.....2,470	Gogar pass.....4,900
Mundi .....·2,637	Tiri ditto.....6,484
Sultanpoor.. 4,584	

Journal of the Asiatic Society of Bengal, p. 408. *No. CCII, April* 1849.

Simla is on the main (Cis-Sutlej) chain, and has an elevation of 7,000—8,000 feet; a little further north it rises at Nagkunda to 9,300 and to 10,700 at the Peak of Hattu. The Chor mountain, one of the most remarkable isolated peaks in the Himalaya is 12,100 feet. It is situated on a branch of the main (Cis-Sutlej) chain and is only thirty miles from the plains, the bed of the Sutlej is everywhere very low, being at Belaspur 1,500 and at Rampur 3,300 feet. The plains at the foot of the Simla hills attain 1,000 feet elevation and the outer ranges are lower than those of Gurhwal and Kumaon. Rupar, close to the Sutlej amongst the outer hills, is under 1,000 feet: Subathu, a little further in, is 4,200 and Kassowlee 6,500 feet. —*H. f. et. T. p.* 202.

Koli, is the name given to the lower class of cultivators in the Simla hills.

Kanait, an agricultural race in the Simla hills and east of the Sutlej. They are a local tribe holding most of the land on the Simla hills. They are inferior in position to Rajputs, more perhaps of the level of the Kurmi and Lodhi, but they are often educated, and are generally ministers to the Rajput chiefs. Their women are very nice looking, and all the tribe who are not (in the upper hills) in contact with Tartars are quite Arian, though not very large. In certain places is a partial and local practice of polyandry among them, but it is not the general custom of the tribe.—*Campbell, p.* 88, 97, 123.

Garhwal, is bound on the west by Tons, on the North by the continuation of the Cis Sutlej chain, elevated about 15,000 or 16,000 feet. The level of the plains at the foot of the hills is 1,000 feet, both at Hardwar and Saharunpore, and of the Dehra Dhun, within the first range of hills, 2,300 at the village of Dehra: Masuri is 7,000 feet: Kedarnath is 11,800, Bhagiratti valley at Tirhi 2,300. Khalso at the junction of the Tons and Jumna, is only 1,700 feet.—*H. f. et. T.* 201.

Guge or *Hundes*, 120 miles long and 15 to 60 broad is commonly known as the plain of Tibet. It is comprised between the Himalaya and its Cis Sutlej branch, it extends from the lakes of Mansarowar and Rakastal, down the course of the Sutlej to Kunawar. It is wholly under Chinese influence. Its undulating surface is covered with an alluvial deposit, declining from 15,200 feet, the level of the lakes, to 10,000 feet at the confines of Kunawar. The Sutlej and its feeders traverse it, flowing in deep narrow ravines 1,000 to 3,000 feet below its mean level.—*H. f. et. T. p.* 223.

M'nah-ris or *Nari*, is the Tibetan name for the north western part of Tibet. It is also written *Gnari*: it is a Tibetan Chinese province, connected with British India, by the five Bhot passes in Garhwal and Kumaon. The Chinese viceroys are Tibetans with 200 Mongol or Turk troops or perhaps Mantshu Tartars, as they are said to use horseflesh, which no Tibetan and no Chinese would do. *Nari*, is also called Nari-Khorsum, is enormously lofty, utterly barren, and almost uninhabited, except on the lowest part of the ravine of the Indus. It is wholly under Chinese influence. It was entered by Moorcroft.—*H. f. et. p.* 201, 223, 225.

Chango, are a tribe of Hungrung Tartars occupying 378 square miles.

Changpa, are a semi-nomade tribe near the Pangong Tsi pass. They dwell in their grazing grounds under huts (galkol) made of the yak's hair. The people there call themselves Bot.

Chang-Thang, dwell on the northern plains, to the north of Ladak, supposed to be the Chatæ Scythæ of Ptolemy.—*A. Cunningham.*

The *Rawat* of Kamaon, lead a wandering and uncivilized life in the forests on the eastern borders of the district.—*Wils. Gloss.*

Kamaon is a British province, situated in the tract of hills lying between the western branch of the Gogra, known as the Kali-Naddi, and the river Ram Ganga. For some time the town of Almorah was recognised as the capital, but formerly Champawtee enjoyed that distinction. The face of the country is similar in character to that of the neighbourhood, but it is less savage and rough than Garhwal. The hills are less lofty, and the valleys more susceptibe of cultivation, and better cultivated. The people are said also to differ from the inhabitants of Garhwal and the states to the westward, they are of a softer and more effeminate nature, inclined to indolence, and are meek and enduring. It is further stated that the men are more engaged in domestic occupations while the agricultural labours are conducted by the women; an unnatural divison of duties, which is said to have induced polygamy in a very prevailing

degree, every one being anxious to secure for himself as many field laborers as possible. In general they seem to have made much farther progress towards refinement, than their neighbours in their manners and customs ; even in their dress they approach more to the people of the low countries than those of the neighbouring hills. They generally wear cotton garments, and on their head a cotton cap instead of the low country turban ; but those in the low parts seldom wear any of the woollen or hempen manufactures of the country. Kamaon and all the provinces to the west were ceded to the British on the 15th May 1815 by a capitulation signed by Umr Singh by which the Sikhs retired to the east of the Kali-Naddi or Gogra.

In the hills of Kamaon in the forests from Sabna on the Sarda, to Chandpur on the Ganges, is a tribe called Bhuksa. They claim to be descendants of the Powar rajput, to have been expelled from Dhar and taken refuge first in Oudh and then in their present location.

The Rajivaru of Kamaon, speak Telugu. They practice medicine.

The tongue spoken as the hill dialect of Kumaon is in the main Hindi, but has affinities to the Bengali, in some of the popular terminations, in the verb to be and in some other particulars. The Hindi language spoken in the high country immediately south of Behar, has peculiarities of this kind.

Kumaon, as at present limited is bounded on the east by the Kali, separating it from Nepaul, its western boundary is the Alaknanda branch of the Ganges and its western feeder the Mandakni ; on the north it is bounded by the axis of the Cis Sutlej Himalaya, and on the south by the upper Gangetic plain. Almorah the capital of the province is elevated 5,500 feet. The Terai at its base varies from 600 to 1,000 feet. The mountains on the outer ranges rise in many places to 7,000 feet and in the interior attain 10,000, while still further north, many rise above 20,000 and a few above 24,000 feet. The loftiest are never on the axis of the Himalaya, which is still further north, and whose great mean elevation may be judged of from that of the passes over it, viz.

Lankpya pass	18,000	Niti pass	16,800
Lakhur ,,	18,400	Mana ,,	18,760
Balch ,,	17,700		

Naini Tal lake is 6,500 and Bhim Tal 4,000; Binsar mountain is 7,500.

In the tropical zone of Kamaon, a dense forest skirts the base of the mountains.—*Fraser's Himalaya Mountains, p.* 537. *Wilson's Gloss, Campbell, p.* 68. *Hooker and Thomson.*

Kunawer is usually divided into Upper and Lower Kunawer and includes the upper part of the Sutlej basin to the borders of Piti and Guge in Tibet. Its general direction is N. E. and S. W. It has two parallel bounding mountains. On the S. E it is bounded by the Cis-Sutlej mountains and to the N. W. by the mountains of Piti. The mountains which descend from the two parallel bounding chains of Kunawer are very lofty. They are crossed in the usual route into Tibet by the Werang pass 13,200 ; by the Runang pass 14,500 ; the Kuibrang in the North across the Cis-Sutlej is 18,300. The Shatul pass across the Cis-Sutlej leading to Simla is 15,560 and the Hangrang into Piti is 14,800. The passes to Upper Piti are more lofty. The bed of the Sutlej from 8,000 to 9,000 feet at the upper part of Kunawer, descends to 4,000 feet in Lower Kunawer.

In Lower Kunawer, the preponderating language is Hindi and is called Milchan, but the Bhut preponderates in Upper Kunawer, The Lubrung or Kanam and the Lidung or Lippa are varieties of the Milchan. In Sungnum, the word Theburskud is used to designate all variations from the regular form of speech. In Kunawer, budd'hism decreases in the central districts and disappears in the southern, where brahminism in an impure form occurs with local gods and irregular priests, every hill having its deota or genius. Polyandry is general in Kunawer from the higher classes and lowest chamars, one family having one wife, the elder brother being the more special husband. It is called Koorpa.

The tract of country belonging to Busehur, lies on both banks of the Sutlej, from lat. 31° 15′ to 32° 4,′ and from long. 77° 50′ to 78° 5′. It runs in a N. E. and S. W. direction, and the habitable part seldom exceeds eight miles in breadth. The mean number of inhabitants to a house in various parts of Kunawer is six. Polyandry, or a plurality of husbands, prevails, also, in Chinese Tartary and in the hilly tracts towards the plains. Besides this drawback on the increase of the population, there is another peculiar to Chinese Tartary and the adjoining countries ; that is, celibacy, which is professed by numbers of the inhabitants ; and in some villages the monks or lamas and nuns form almost half the population. A tribe of Hungrung Tartars occupy 378 square miles.

Bootunte is a name given to the Tartars by the people of Lower Kunawer. They also call the Tartars Zhad, also Bhotiah, and their country is called Bhot and Bootunt. These Tartars differ greatly in appearance from the people of Lower Kunawer.—*H. f. et T. p.* 191, 190, 206.

Dard.—A race lying along the Indus, to the westward of Ladak, who speak three distinct dialects and they use the Persian character in writing Dardu, the three dialects of

which are called Shina, Khajunah and Arniya. The Shina dialect is spoken by the peoples of Astor, Gilgit, and lower down in Chelas, Darel, Kohli and Palas on both banks of the Indus. The Khajuna, by the people of Hunza and Nager and the Arniya in Yasan and Chitral. Astor has an area of 1,600 square miles, on the left bank of the Indus. Gilgit, in Thibetan, Gyilgyid, has an area of 2,500 square miles on the right bank of the Indus. The Dard or Durd are supposed by Vigne to be the Dadicæ (Δαδιχαι) of Herodotus, and the people who now occupy the country called Dardu.

Hun or Hoon.—Amongst the Scythic tribes who have secured for themselves a niche with the thirty-six races of India, is the Hun. At what period this race so well known by its ravages and settlement in Europe, invaded India, we know not. D'Anville, quoting Cosmas, the traveller, informs us, that the white Huns occupied the north of India; and it is most probable a colony of these found their way into Saurashtra and Mewar.

It is, however, on the eastern bank of the Chumbul, at the ancient Barolli, that tradition assigns a residence to the Hoon; and one of the celebrated temples at that place, called the Sengar Chaori, is the marriage hall of the Hoon prince, who is also declared to have been possessed of a lordship on the opposite bank, occupying the site of the present town of Rhynsror. In the twelfth century the Hun must have possessed consequence, to occupy the place he holds in the chronicle of the princes of Guzerat. The race is not extinct. One of the most intelligent of the living bards of India pointed out the residence of some in a village on the estuary of the Myhie, though degraded and mixed with other classes.—*Tod's Rajasthan, Vol. I. p.* 109; 110.

Bisahar.—This range of mountains, an offshoot of the Western Himalayas, extends for almost sixty miles from the lofty cluster of Jumnotri peaks to the Sutlej below Shatul. The Bisahur peaks range in heights from 16,982 to 20,916 feet, the highest being the peaks of Jumnotri. Its passes are from 14,891, to 16,035 feet in height. The great mass of this range is granite. The people speak a Hindi dialect. The natives of Busahir, Sookeytmundee and Kulu, in the Kohistan of Jhullundhur, have all sallow complexions and seem all of the same race.

Chilas.—This country is bounded on the north by the Indus river, on the south by the watershed of the ridge over Looloosur Lake, on the east by the watershed of the same ridge as above Looloosur Lake culminating in the lofty peak of Munga Parbut; the Astor boundary marches with Chilas here, on the west to a point beyond the village of *Sazeen*, where the Indus takes a turn to the south-west. Chilas affords good pasturage but lies under snow for a considerable portion of the year. The Sheen claiming an Arab descent are the proprietary and governing class. Crime is rare, women have more liberty and power than among mahomedan tribes, and breaches of chastity are punished by death. They were visited in 1866 by Dr. Leitner at the request of the Bengal Asiatic Society. Their language seems distinct from Pushtoo, Persian and Hindi and is not understood by their neighbours the Syudrace, who inhabit Durreil and Tankeer to the west of Gilgit. According to their own traditions, the inhabitants of Chilas were conquered about the middle of the 18th century, and converted to the mahomedan faith. Up to about 1840, the Kahghan Syuds received quantities of gold dust as religious dues from the people of Chilas, but when the Syuds, aided by the Sikhs, failed in an attack on Chilas, the dues were abandoned. A second attack by the Sikh nation was successful and a small annual tribute of 3 tolahs of gold dust and 100 goats is paid to the Cashmere durbar.

Gilgit.—A territory in lat. 35° N., and long. 74° E. The Indus river runs through it from N. E. to S. W. It is on the southern declivity of the Hindu Kush, between Chitral on the west, and Baltistan (Little Tibet) on the east. In the Bunnu valley there are races intermixed, of whom may be noticed the Durdu of Gilgit and Chelas. According to Burnes, the mir of Badakhshan, the chief of Darwaz in the valley of the Oxus, and the chiefs eastward of Darwaz who occupy the provinces of Kulub-Shughnan and Wakkan, north of the Oxus, also the hill states of Chitral, Giljit and Iskardo are all held by chiefs who claim a Grecian descent. The whole of the princes who claim descent from Alexander are Tajik who inhabited the country before it was overrun by Turki or Tartar tribes. To the west beyond Balti the people of Astor, Gilgit and Hunza Nager speak different dialects of Dardu, while the Kashmir people have their own peculiar language. The Bulti people of Little Tibet, say that Ladak, Iskardo, Khopalu, Purik Nagyr, Gilgit and Astor are distinct Tibets. *Burnes, Bokhara.* See Kabul, Kush, Ladak, Sikh, Tibet.

Bolar Mountains.—The mountains of Balti extend for 300 miles, from the sources of the Gilgit and Yasan rivers, in 73° to the 77° E. L., the source of the Nubra river. Bolor produces much gold. The higher mountain range abounds in rock-crystal, which is consequently called the Bilor-stone or rock crystal.

See Badakshan Himalaya, India Kara-koram Mountains. Tibet.

Rongdo, meaning the district of defiles is an elevated district on the bend of the Indus, and on the frontier of the Gilgit and Hasora countries. It is to the westward of Balti and has an area of 1,440 square miles. It is about 8,000 feet above the sea, the mean of its villages being 6,200 feet. The people are of Tibetan habits.

Piti and Hungrang are two valleys. That of the Piti river is entered from Kunawer by the Hungrang pass, elevated 14,800 feet: the Parang pass is 18,500 and leads over the range dividing the Parang from the Piti rivers.—*H. f. et. T.* 223.

British India, on the north, runs on the Chinese frontiers with Butan : further west, is separated by Nepal and Sikkim and stiil further Ladak runs with the British provinces of Spiti and Lahul and the Sikh Provinces.

The Therai, is a forest or jungle tract at the foot of the Himalaya. No two climates and locations can be more dissimilar than those of the hills and Terai, and no races are more distinct in their habits, manners and aptitudes than the people of the hills and those of this jungle belt below. There is little or no Terai or forest belt northwest of the Saharunpur district and the Dehra Dhoon, but, thence eastwards, this belt stretches along the foot of the hills through Rohilcund, Oudh and the Bengal frontier up to Assam, and a great part of the Oudh Terai was transferred to the Nepalese. Dr. Campbell describes the people of the Nepal Terai, as a vast assemblage of bastard hindus. —*Campbell, pp.* 47, 50.

Tharu, is a very important forest tribe, who occupy all the Terai from eastern Rohilcund all along the frontiers of Oudh into Gorukpur, keeping exclusively to the Terai and forest and living where no one else can live. In physical appearance and manners they are extremely like the Boksa, but are a larger, more settled and less savage tribe. They are not particularly dark, but in addition to the ordinary breadth and flatness of face have the eye like the Chinese form. They are shy and timid, but frank and truthful, and are good cultivators, with simple implements. Mr. Campbell is doubtful whether they belong to the Negrito or an Indo-Chinese stock. The Tharu all speak Hindi, their general style suggests a resemblance to the Sontal, and to the tribes of the Central Hills, they have the same simple ways and the same belief in Bhuts and familiar spirits and there are many names of places in the hill country of Bhagulpur similar to those of the Tharu country. The Boksa and Tharu are separated from the Tibetan tribes by a great tract of very difficult country, occupied by Arian races, and their locality in the Dehra Dhoon is many hundred miles from the lowlands of the Brahmaputra, which are occupied by Indo-Chinese races.

Nepal, a kingdom in the Central Himalaya, extends for 500 miles along the Himalaya, from the western extremity of Sikkim to the eastern border of Kumaon, from which it is separated by the river Kali. Its capital, Kathmandhu, is 4,000 feet above the sea, and about thirty miles from the plains of India. The position of the axis of the Himalaya at this part of the range, has not been traced ; but two giant masses project from the axis towards the Indian plain, the culminating peaks of which form a conspicuous feature from Kathmandu and even from the Gangetic plain so that their elevation has been correctly determined,—that of Dhawalgiri being 27,600 feet and that of Gossainthan 24,700 feet. By these masses, the whole of Nepaul is divided into three great river basins that of the Karnali or Gogra to the westward, that of the Gandak in the centre and that of the Kosi or Aran to the eastward. Sheopore on the water-shed between the Gandak and the Kasi, is upwards of 10,000 feet. *Nepal* lies betwixt the 27th and 37th parallels of latitude, separated from Tibet by the Himalaya mountains and bounded on the south by the British territory. The mythological history of Nepal like that of Kashmir, commences with the desiccation of the valley, for ages full of water, by a muni, called Nai muni, (whence the name of the country Naipala,) whose descendants swayed the country 500 years.

The first authentic history is B. C. 844 (?) years.

Then the Kerrat tribe of eastern mountaineers B. C. 646.

Then the Surya vansa race of rulers B. C. 178.

The Ahir, or original sovereigns began in A. D. 43.

The Neverit dynasty was restored in A. D. 470. It was one of this dynasty, Raghoba deva, who in A. D. 880, introduced the use of the Samvat era into Nepal. In the Newar year 731, A. D. 1,600, Jaya Eksha Mall (or Jye Kush Mull) divided Patan, Khatmandu, Banepa and Bhatgaon between his daughter and three sons, and one of the Bhatgaon race, in A. D. 1721, Ranjet Malla, formed an alliance with the Gurkha race which ended in his own subversion and finally in that of all Nepal.

The Gurkhali dynasty, descended from the Udayapur Rajpoots, occupied Kemaon and Noa kot for six or eight centuries prior to their conquest of Nepal in A. D. 1768. The valley of Nepal intervenes between the snowy range and the valley of the Ganges. It is occupied by several races, of whom the Newar were the prior holders. Its divisions

are Jumla, Gurkha, Nepal, Makwarpur and Morung. Khatmandu, the capital, is called by the Newar, Yi-daise, whilst the Parbattiah or mountaineers call it Kultipur. The lands of Nepaul proper are cultivated almost without exception by the Newar who arrange themselves into several castes and orders, and their peasantry into first, second, third and fourth classes. The Parbattiah tribe, called Dherwar, cultivate the western lands at Nurkale, &c. Amongst the Nepaulese, the hindu distinction prevails of brahman and khetri with their various sub-divisions, viz. of Newar confined almost to the valley of Nepal; the Dherwar and Margi, the husbandmen and fishermen of the western districts; and the Bhotiah who occupy generally Kachar, though some families are planted in the lower lands. The Bhama are said to be separatists from the Newar, who shave their heads like the Bhotiah. To the eastward of Nepaul, some districts are occupied by the Limbu, the Nagganko and others. The great aboriginal stock of the inhabitants of the mountains east of the river Kali, as in Nepaul, is Mongol: the martial classes of Nepaul are the Khas, Magor and Gurung, each comprising a very numerous clan or race variously subdivided. The Elthariah who speak the Khas language, are descendants more or less pure of Rajputs and other Khetria. The Chepang, Haigu and Kusundu are three tribes residing amongst the other inhabitants of the valley.

The better known Nepaul tribes are the

Newar.	Nagganko.	Magor.
Parbuttiah	Haigu or Haiyu	Murung.
Dherwara	Bhotiah.	Elthariah.
Margi.	Bhamah.	Kusundu.
Chepang, or Chetang	Khas.	L'hopa.
Limbu.	Ghorka.	Lepcha.

The people of Nepaul, amongst themselves recognize the following distinct races:—

Gooroong, principally rear sheep.
Gallia, rear buffaloes chiefly.
Kami, blacksmiths.
Sarki, tanners.
Newar, shop-keepers.
Domai, tailors (Dome).

Moormi, Yakha, Mungar, Brahman, Khumboo, Nimboo, chiefly cultivators.

Katmandu is situated at the junction of the Bhagmutty and Bishmutty, and contains a population of 50,000 inhabitants. A tradition is current in Nepal that the valley of Katmandu was at some former period a lake, and it is difficult to say in which character it would have appeared the most beautiful. The valley of Nepal is almost unrivalled in its fertility, supporting, as it does in comfort and plenty, a population of 400,000 inhabitants, being 300 persons to the square mile. Throughout its whole length and breadth not a stone is to be found: it is well watered; its temperature is delightful, the thermometer in the hottest month seldom reaches 75°, in the coldest never falls below 30°.

In phonology the Nepaul languages have a strong resemblance to each other and to the Abor. The Lepcha is more Tibetan in its terminals than the others, having about 70 per cent. of consonants, *m* forming no less than 14.

So-Khain, "anything," becomes *tham*. The Serpa resembles the Tibetan (spoken), having about 34 per cent. of nearly the same consonants. The other languages are more vocalic. All possess a considerable portion of nasals, with the exception of Sunwar and Magar. In Sunwar, Gurung, and Newar, *m* is absent or rare. Newari is the most vocalic of the whole, *ng* and *n* being almost the only consonantal terminals.

In thus possessing labial finals, the Nepal group is more consonantal than the east Gangetic languages, including Abor. In their phonetic elements Serpa and Lepcha resemble Tibetan (spoken).

Khas, a dominant race in Nepal, according to Manu, outcaste military tribes.

The Gurkha is the ruling tribe in Nepaul, They are mostly of Arian origin and claim to be Rajputs but Mr. Hodgson says they are bastard brahmans, descendants of brahman immigrants and women of the hills.

The Ghorka, said to be of mixed origin by the Chinese called Ku-ru Ka-li, are a brave and fierce race, there can be no doubt of the warlike character of the Ghorka. Not only are they brave and skilful soldiers, but, for a barbarous nation, they are wonderfully advanced in the art of fabricating the implements of war: they cast their own ordnance, manufacture their own muskets, shot, powder, and cartridge-boxes; in fact, every instrument or weapon used in civilized warfare is manufactured in Nepaul, often clumsily enough, but the mere fact of their being capable of being used, and used with effect, is highly creditable to the ingenuity of the Ghurka. The Ghurka are the conquerors of Nepaul, and now compose the army; they have grants of land called jaghires, on which they live when not actually on service. They are a handsome and independent race, priding themselves upon not being able to do anything but fight; and have a free and sometimes noble carriage like the Tyrolese. The Ghurka, and Bhutani, on the East and the Lahuli and Kanawari on the west, dwelling amongst the valleys of the Himalaya, are, according to Cunningham, mixed races, between the Bhot family of Tibet and the hindu race of the south. In feature and figure,

the true Gurkha are always singular and remarkable, from their broad Chinese or Tartar-like physiognomy, the small eyes, flat nose, and meagre whiskers, as well as the stout square make and sturdy limbs. The Gurkha in every description of costume, and in all degree of raggedness, are to be seen mingled with inhabitants of Kumaon, Sirmore, and Gurwhal. In 1792, the Goorkha race mastered the whole of the valley of Nepal, and the hill country from Sikhim to the Gogra and a party of them crossed the Himalaya, and appeared suddenly before Teeshoo Loomboo. The Llama and priests hastily evacuated their convents, and fled to Lhassa, and the place was plundered by the Goorkha, who retired immediately with their booty. The Tibetans applied to China for aid, and an army was collected for the punishment of this act of unprovoked outrage. The Goorkha submitted unconditionally to the Chinese commander, who imposed a tribute and triennial mission to Pekin, besides restitution of all the booty taken at Teeshoo Loomboo, and he took hostages for the performance of these stipulations. The rajah of Sikhim was at the same time taken under Chinese protection. Checked towards the east by these events, the Goorkha extended their dominion westward, subjugating Kumaon, Sirinugur, and all the hill country to the Sutlej. When Lord Hastings commenced his administration, their dominion extended as far as the river Teesta to the East, and westward to the Sutlej, thus occupying the whole of the strong country in the mountainous tract which stretches on the northern borders of India, between that and the highlands of Tartary. They had acquired these territories during the preceding 50 years, from many disunited hill chiefs whom they dispossessed, exterminating the families as each raja fell before them.

The Haigu, *the Chepang*, and *the Kusundu* are three uncivilized Bhot tribes who dwell amid the dense forests of the central region of Nepal, to the westward of the great valley; they dwell in scanty numbers and nearly in a state of nature. They have no apparent affinity with the civilized races of that country, but live in huts, made of the branches of trees, on wild fruits and the produce of the chase. The Chepang are slight, but not actually deformed though with large bellies. Mr. Hodgson says they are of Mongol descent. Their language is akin to that of the Lhopa. The Chepang, Haiyu, and Kusunda seem to belong to the Rawat group of frontier populations. They are named by Mr. Hodgson as Durre, Denwar and Bramho, which Mr. Latham believes to be the same as Tharu, Dhangur, and possibly Brahman. They occupy the districts where the soil is moist, the air hot and the effluvia miasmatic.

Gyami, a Chinese military tribe, a population, whose language Mr. Hodgson treats as Sifan.

Gyarung or *Gyarung-bo*, a powerful nation consisting of eighteen banners, at present acknowledging the supremacy of China. Each tribe has its special denomination. The name seems the same as that of the Gurung, a population in Nepal.

The Gurung, a pastoral tribe living West of the Magar race on the slopes of the mountains in Nepal. They breed sheep, which they use for carriage. Their language is peculiar, but little known, and used by the buddhist priests to propagate their religion. They eat beef, but do not use milk. Their paganism is not yet extinguished, they form a tribe or clan or race in Nepaul, and along with the Krat and Magar, also of Nepaul, form the principal part of the Nepaul army. These three tribes are said to differ only in their religion, according as it combines a greater or less degree of the hindu opinions with those of buddhism.

The Jarya are a tribe of Nepal, south of the Gurung, with whom they intermarry. They are hindu in creed and manners. They may pertain to the Gurung, Magar or Newar tribes. The Newar were, however, the prior holders of Nepaul and the divisions are the Gurkha, Makwarpur and Morung.

Magar, a Bhot race occupying in Nepaul, the lower levels on the banks of the Kali, they use a monosyllabic language, like the Tibetans, Chinese, Burmese and Siamese. The alphabet is of Indian origin; they abstain from beef; drink to excess, have an Indian priesthood. They are divided into twelve *thum*, supposed to be descendants of 12 different male ancestors. They do not marry in their own *thum*. This practice occurs in Australia, North and South America, Africa and Europe. They reside in the valleys.

Kirata, aboriginal tribes in Nepaul.

H. T. Prinsep, Egerton's Journal of a Winter's Tour in India, Vol, I, p. 177. *Prinsep's Tibet, Tartary and Mongolia, p.* 18. *Fraser's Himalaya Mountains, p.* 223. *Oliphant's Journey, p.* 85 to 87. *Journal of the Indian Archipelago, Nos. IV and V. April and May* 1853, *p.* 193. *W. W. Hunter. Cunningham. Campbell, p.* 148. *Oliphant. Thomas Prinsep, p.* 270. *Sir John Shore in Lond. As. Trans. Vol. ii.* 30.—*Dr. Buist.*—*Hook. f. et. Th. p.* 183-186.

Limbu, called by the Lepcha, Chung, a partly budd'hist partly brahminical border race between Nepal and Sikkim. A hardy hardworking tribe. They engage in the cultivation of grain and feed cows, pigs and poultry, their huts are made of split bamboo, and the roofs of leaves of the wild ginger and cardamum, guyed down with rattans. They drink to excess. According

to Dr. Campbell the *Limboo* is more pleasing to the ear than the *Lepcha*, being labial and palatal. The Limboo, Sunwar and Chepang possess a small Mongolian type, strongest in the Limboo, and their language is referable to either the Tibetan or Indian standard.—*Latham's Ethnology.*

The Rong, the Khampa or *Kamba* and *the Limbu* are people from different parts of Tibet. All these people have powerful frames, but are idle.—*Campbell, p.* 148.

Sikkim consists of the valley of the Teesta river, which with its tributaries drain the whole territory. Its great tributary is the Ranjit river which, at first separated by a mountain range, joins it from the west, flowing for a short distance parallel to the plains, through a deep ravine not 1,000 feet above the sea, to the north of a transverse range elevated 78,000 feet. Being opposite to the gangetic valley, it is open to the full force of the monsoon, its rains therefore are heavy almost uninterrupted and are accompanied by a dense fog and a saturated atmosphere. The rainy winds sweep almost without interruption up to the base of Kanchinjanga, (28,178 feet) the loftiest mountain and most enormous mass of snow in the world. The snow level is here 16,000 feet. The two principal sources of the Teesta river are the Lachen and the Lachung, these run in two valleys which are separated by a lofty snowy range projected to the south west, the valleys are somewhat sheltered and the perpetual snow line rises to above 18,000 feet. From the level of the sea to an elevation of 12,000 feet, Sikkim is covered with dense forest of tall umbrageous trees. At 10,000 feet on the summit of Tanglo, yew appears. There are in Sikkim about 2,770 species of flowering plants and 150 ferns. In the Darjeling district, in addition to the Europeans, hindus and mahomedans from the plains, the population consists of Nepalese; of the Bhoteah from Bhutan, Tibet and Sikkim; of the Lepcha and Mechi who are considered the prior occupants of Sikkim. The Raj-bungshi of Sikkim are the Koch or Kooch race, of the same descent as the rajah of Cooch Bahar, on which account they call themselves Rajbungsi. In the plains of Sikhim, the Rajbungsi and Bengali are in equal numbers. The Mechi inhabit that portion of the Terai, which lies under the hills. They are a migratory race who live by cultivating the virgin soil. They have no caste distinctions.

The country of Sikkim and Darjeling is the land of the Lepcha, a Bhot race who are hemmed in between the Newar and other Nepal tribes and the L'hopa of Bhutan, on the East, the Lepcha area being barely 60 miles in breadth. His physiognomy is markedly Mongolian, stature short, from 4 feet 5 inches to 5 feet; face, broad and flat, nose depressed, eye oblique, chin beardless, skin sallow and olive, with a little moustaches on the lips: broad chest and strong armed but small boned with small wrists, hands and feet. The Lepcha is honest, timid and peaceful with mild and frank features. The Lepcha are a dirty, good natured people, resembling in character the Mongol beyond the Chinese wall. The Lepcha throws over him loosely a cotton cloak striped with blue, white and red, and uses an upper garment with sleeves in the cold weather: a broad umbrella shaped hat of leaves and a pent house of leaves in the rains. The women dress in silk skirt and petticoat, with a sleeveless woollen cloak. The Lepcha man carries a long, heavy and straight knife serving for all purposes to which a knife can be applied. They drink the Murwa, the fermented juice of the Eleusine coracana. This Murwa grain gives a drink, acidulous, refreshing and slightly intoxicating, and not unlike hock or sauterne in its flavour. Their songs and the music of their bambu flute is monotonous. They marry before maturity, the brides being purchased by money or service. The Lepcha, like the Borneo Dyak, kindle a fire by the friction of sticks. The Lepcha burn or bury their dead. In their food they use mountain spinach, fern tops, fungi and nettles. Their ailments are small pox, goitre, remittent fevers and rheumatism.—*Dr. Latham's Descriptive Ethnology.*

Darjeling has a mixed population of the Sikkim, Nepaul and Dharma Bhoteah also Lepcha and Pahari. Dr. A. Campbell tells us that a gradual increase of population has taken place under British rule; from a few scattered tribes in 1853 to upwards of 60,000 in 1870, Brahmins and Rajpoots, few in number, with a sanskritic tongue, and an Indo-European physiognomy, confined to Nepal. The Rhu, Majar and Goorong a mixture of hindoos and Mongolians, with features of a type belonging to the latter, comparatively free from caste prejudices and speaking the Parbutta dialect. They are short and squat highlanders, and make good soldiers. The Bhoteah, Lepcha, and Moormi are buddhist and speak the Tibetan language. They are strong and active and incline strongly to the Mongolian race. The Limboo, Sunwar and Chepang possess a small Mongolian type, strongest in the Limboo, and their language is referable to either the Tibetan or Indian standard. The Mechi, Dhimal and Gharo are lowland tribes with a Mongolian physiognomy, but are neither hindoos, buddhists nor mahomedans. The Tharoo and Dhunwar are buddhists or mahomedans with fair and barely Mongolian features. The Bahir, Kebant, Amatti, Maralia, Dhanook and Dom are not Mongolian, but a dark race speaking Hindi or Bengalee. The Koch or Rajbungsi are a race

of dark hindoos inhabiting the Terai of Nepal and Sikkim, but who have spread into British territory. Firing the forest is so easy in the drier months of the year, that a good deal of cultivation is met with on the spurs, at and below 5,000 feet, the level most affected by the Lepcha, Limbo and Sikkim Bhotea. The term Sikkim Bhotea is applied to the more recent immigrants from Thibet, who have settled in Sikkim, and are an industrious, well conducted people. The Bhotea, again, of Bhotan, to the eastward, bear the worst reputation (and most deservedly) of any of the numerous people who flock to Darjiling. These should not be confounded with any other Bhotean tribes of Thibet, Sikkim or Nepal. The mountain slopes are so steep, that the spurs, or little shelves, are the only sites for habitations between the very rare flats on the river banks, and the mountain ridges, above 6,000 feet, beyond which elevation, cultivation is rarely if ever carried by the natives of Sikkim. The varieties of grain are different, but as many as eight or ten kinds are grown without irrigation by the Lepcha, and the produce is described as eighty fold. Much of this success is due to the great dampness of the climate; were it not for this, the culture of the grain would probably be abandoned by the Lepcha, who never remain for more than three seasons on one spot. The average rain fall at Naini Tal is 88 inches, Naini Tal is elevated 6,500 feet on the last spurs of the Gogar, overhanging the plains of Rohilkhund. Almorah is 15 miles further than Naini Tal from the plains and it is 5,500 feet, but only 34 inches of rain fall. The fall at Darjiling is 165 inches, Oak trees, maple and other mountain trees throw out great knots, in the places to which the Balanophora attach themselves. These knots are hollowed out into the wooden cups by the Lepcha of Thibet. Some of the Lepcha cups are supposed to be antidotes to poison; they are of a peculiar pale coloured wood and cost a great sum, but common cups cost only 4*d*. or 6*d*. They are all imported into Thibet from the Himalaya. The Lepcha have no caste distinctions, but they speak of themselves as belonging to one or other of the following sections:—

Burphoong Phoocho,	Tungyeld.
Udding Phoocho.	Lucksom.
Thurjokh Phoocho.	Therim.
Sundyang.	Songme.
Sugoot.	

Captain J. D. Herbert when writing of the Lepcha race describes them as the same people whom he had met with at Nailang, at Jahnabbi, at Shipchi on the Sutlej, in Hangarang, and at Lari in Ladak. They are, he says, in fact the people who have been erroneously called Chinese Tartars and are in reality of the same race as the Tibetans, being a family of the great division of Eleuth Tartars or Kalmuks." (Gleanings of Science, p. 939.)

Bhotan on the N. E. of British India is situated between L. 26° 30′ and 28° N. and L. 88° 45′ to 92° 25′ E. and occupies from the southern declivities of the great central ridge of the Himalaya mountains to the level ground in front of that portion of their inferior chain which constitutes the northern boundary of the Assam valley, eastwards from Sikhim to where the Brahmaputra passes through the mountains. Bhotan is one of the long narrow states lying upon the southern slopes of the Himalayas; and consists of a number of rough transverse chains of hills at right angles to the parent range which forms the backbone of Asia. Between the ridges are precipitous valleys, at the bottom of each of which runs a mountain stream.

Butan, is also written Bhotan, Bhutan and Botan. The capital of it is Tassisudon. The country is broken up with valleys and glens with overlooking mountains covered with snow in June and July. The people are styled Lhopa, they are agricultural and industrious, employing artificial irrigation on their patches of soil in the valleys. The Lhopa are tall, many being more than 6 feet high, and fairer than the people of the south of Europe. Hair black; eye small, black, with pointed corners, as if artificially stretched. Eyebrow slightly shaded. Eye lashes scarce; below the eyes, the face is broadest, and rather flat, but narrow from the cheekbones to the chin; this character of the countenance being more developed in the characteristic Chinese further east, to whose features this is the first approach. The Lhopa is a paper maker, distiller. Lhopan in dialect differs from the true Tibetan, in being more Hindu. Notwithstanding this, the real ethnological differences between the Lhopa and the true Tibetans are small. The language is the same from the frontier of Kafiristan to that of Asam. The religion is the same from Asam to Bultistan.

The people are also styled Bhooteah and are a colonial branch of the Tibetans, who have acquired independence. Bhotan is bounded on the north by Tibet; on the west by Sikkim; on the east by the country of the Towang rajah, and on the south by the British territory; it is occupied by the Lhopa or Bhotanese, who from their unscrupulous marauding habits, are on bad terms with every one of their neighbours. Though nominally subject to Tibet, were the annual tribute withheld, it would not be enquired after, so anxious are the Tibetans to have no dealings with the Bhoteah who used to make the transmission of the yearly fee of subjection (a few pieces of cloth, silk, and

some rice) the excuse for a series of robberies and outrages on the journey to Lhassa. For the last few years, however, all Bhoteahs entering Tibet are disarmed at the frontier, beyond which the tribute-bearers are now permitted to proceed. The British annexed the Dooars of Bhotan from the Lhopa in 1865, and it is hoped there may spring a large and important trade between British India, Tibet, and the Western and Central Provinces of the Chinese empire. The Sikkimese have less than the Tibetians, to do with the Bhoteah, whom they look upon as unscrupulous robbers, while to the East the Towang rajah has to keep up a frontier force for the especial purposes of preventing Bhoteah raids. Captain Gerard says that Bhot, Bootunt, or Tibet, is often confounded with Bhootan, or the hilly country south of the Himalaya, forming the Deb rajah's country, which lies between Teshoo Loomboo and Lhassa and the plains. The lower hil's are not called Bhotan, west of the Tons. Turner says (*Embassy, p.* 84-5) the Bhoteeah have invariably black hair, which it is their fashion to cut, close to the head. The eye is small, black, with long pointed corners, as though stretched and extended by artificial means. Their eyelashes are so thin, as to be scarcely perceptible, and the eyebrow is but slightly shaded. Below the eyes, is the broadest part of the face, which is rather flat, and narrows from the cheekbones to the chin, a character of countenance appearing first to take its rise among Tartar tribes, but is by far more strongly marked in the Chinese. Their skins are remarkably smooth, and most of them arrive at a very advanced age, before they can boast even the earliest rudiments of a beard: they cultivate whiskers, but the best they produce are of a scanty straggling growth. Many of these mountaineers are more than six feet high, and their complexion is not so dark by several shades as that of the European Portuguese.

The Lhopa race are quarrelsome and cruel but not brave.

The Changlo, are a Tibetan race, a branch of the Lhopa of Bootan. The Changlo dialect has a considerable amount of glossarial peculiarity with Tibetan, but in other respects it is entire-by Tibetan, softened and slightly changed in phonology. The Changlo dialect is spoken along that portion of the northern frontier of the valley which extends from the Binji Doar to the confines of the Kuriapera Doar, or from about 90° to the 92° of East Long. Neither its northern limit nor the numbers speaking it have been ascertained. The inhabitants of this tract occupy lesser the elevation of the southern Himalaya range, and are generally speaking agricultural. Their physical appearance exhibits a few shades of distinction noticeable between them and the tribes of the sub-Himalaya. They are smaller, less muscular and the hue of their skin possesses a deep isabelline tint. From the latter circumstance, probably, they derive their appellation, the term Changlo meaning black.

In western Bhotan, the mountain ranges are lofty and rugged and the river courses very deep and generally narrow. At Panaka, the Pachu is only 3,700 feet above the sea. The mountain mass which descends from the axis of the Himalaya, to separate the Monas from the Subansiri, attains an elevation of at least 24,000 feet as far south as latitude 28°. Three peaks upon this are visible from the Khasia mountains, and spurs descending from it were ascended to an elevation of nearly 12,000 feet by Mr. Booth in 1849, in a district N. of Bishnath, in upper Assam, which is inhabited by a race called Duphla.—*Hooker f. et. T. p* 176.—*Fraser's Himalaya Mountains, pages* 335, 336. *Capt. Gerard's Account of Konawur, p.* 100. *Turner's Embassy, p* 8-45. *Journal of the Indian Archipelago, Nos. IV and V., April and May*, 1853, *p.* 192. See India, p. 338.

Dom, in the great belt of forest land intervening between the mountains and the plains are tribes whose characters are scarcely yet known. One of these the black curly haired Doms of the North west provinces are generally regarded as a remnant of the original stock which the intruding Arians displaced.

The Dhimal of the eastern portion of the Turai, are estimated at about 15,000 souls. They are intermixed with the Bodo and lie between the Kuki and Dhonla.

The Takponi a Bhot race, lie between the Lhopa and Jorhat in Assam.

North Eastern India. Assam. India has both land and sea communication with the Tibeto Indianesian region, viz., by the passes of the Himalaya, the valley of Assam and the Brahmaputra, and by the ocean, coasts and winds of the Bay of Bengal. Assam is bounded by the Himalaya and Mishmi mountains on the north and by the Khasia and Naga hills on the south. It is a tropical valley continuous at its western extremity with the plains of Bengal, and gradually contracting to the eastward, till the mountains at last approach so close together that no level country remains between them. The width of the lower valley is about thirty miles; It is in general level, but low ranges of hills project occasionally from both sides almost to the Brahmaputra, and isolated hillocks occur scattered here and there over the surface. The atmosphere is very humid, and dense fogs are frequent in winter. In upper Assam there is but little cultivation and much forest, which is often almost impervious from rank under-wood. The passes through Assam are

along the Dihong called the Dihong route; with Tibet, the northern banks of the Lohit, and though the Mishmi hills into Tibet called the Mishmi route. The Phaugan pass which leads to Man-chi in China occupies a little more than a month on its journey and leads over mountains 6000 to 18,000 feet high.

The Patkoy pass to Bamo and China, was the route followed by the Burmans in their invasions of Assam and is the means of communication between the Singpho tribes on the north and south of the Patkoy mountains.

Cachar and *Silhet* are in the valley, or rather marshy plain, of the river Surma, which lies to the south of the Khasiah mountains, and very much resembles the Assam valley in its general features. It is an open plain, scarcely raised above the level of the sea, which is three hundred miles distant and presenting here and there a few scattered hills: below, it expands into the jheels of eastern Bengal, and, contracts in its upper part as the spurs of the Tippera and Naga hills encroach upon it separating fertile plains by narrow ridges covered with dense forest. The valley of the Surma is separated from that of Munipur by a meridional range of moderate elevation, which is continued to the southward, and separates Tippera, Chittagong and Aracan from the kingdom of Ava. Blue Mountain, which lies nearly due west of Chittagong, is said to attain the considerable elevation of 8,000 feet, and a peak on the same range forty miles to the south-west, in lat. 22, is elevated, according to Wilcox's map, 3,100 feet. Sitakund, thirty miles north of Chittagong, has an elevation of 1,140 feet. The provinces of Tippera and Chittagong are throughout hilly. The rain-fall during the monsoon is about the same as in Bengal, at least on the sea-coast and in its immediate vicinity, averaging 86 inches annually at Chittagong; on the higher ranges in the interior it is probably much more considerable.

Naga and Khasia Hills.—The mountain range which bounds Assam on the south is known by a great diversity of names in different parts of its course, according to the different tribes by whom it is inhabited.

The *Khasia* hills rise abruptly on the south from the plains of Silhet to the height of about 4,000 feet and thence more gradually to 6,000 feet. The culminating point is Chillong hill, the elevation of which is about 6,600 feet.

To the westward of the Khasia hills lie the Garo hills which are lower, the maximum elevation being probably nowhere more than three or four thousand feet. To the east, beyond Jyntea or Jaintia, which is similar in general character to Khasia, there appears to be a considerable depression in the range, a large river with an open valley penetrating far to the north. To the east of Cachar again there are lofty hills, inhabited by Naga tribes and also quite unexplored, except in one place, where they were crossed by Griffith in travelling from upper Assam to the Hukum valley, on a tributary of the Irawadi.

The *Burak and Surma* rivers run in valleys of the Assam chain. The Naga, Mikir, Kachari, Garo and Khasia, are the five races in whose possession, chiefly, are the broad highlands of that chain extending from the N. E. near the head of the Kynduayn and Namrup on one side along the valley of the Brahmaputra to its southern bend round the western extremity of the chain, and on the other side S. westerly along the valley of the Burak and Surma.

Races of the Sub-Himalayas.—Mr. Hodgson inclines to the opinion that the aborigines of the sub-Himalayas, as far east as to the Dhansri of Assam, belong to the Thibetan stock and east of that river to the Chinese stock, except the Garo and other tribes occupying that portion of the hills between Assam and Silhet; and that the aborigines of the tarai and forest skirting the entire sub-Himalayas, inclusive of the greater part of the marginal circuit of the Assam valley, belong to the Tamulian stock of aborigines of the plains of India generally.

Assam Slaves.—There are many kinds of slaves in Assam distinguished by distinct appellations. The Moorukea is a kind of Chapunea, neither servant, slave, nor equal, but partaking of all. The master provides the Moorukea with a pair of bullocks and a plough, and he tills his master's land for two days. On the third day the Moorukea may plough his own ground with his master's bullocks and plough. The valley of Assam posseses gold, tea, caoutchouc, lac and ivory.—(*Butler's Travels, Assam, p.* 228-29).

Languages of Assam.—Mr. Robinson tells us (*in Ben. A. Soc. Journal No. cci. March*, 1869) that in the Assam valley and its mountain confines, are three classes of languages: one of Sanscrit origin and the others of two great classes, viz., those connected with the Tibetan and those deriving their origin from the Tai or Shyan stock. Of the Assamese proper, that is, the language of the valley, eight-tenths of the language is identical with Bengali, and nearly four-fifths of the words in common use, are derivations from the Sanscrit. The country from time immemorial had been governed by rulers of Shan origin, and the very small number of Tai words that can be traced to Tai origin is remarkable. The Thibetan and the Tai or Shyan languages, all approximate towards the Chinese colloquial system and more or less possess the characteristics of being originally monosyllabic and all intonated. The

Tai or Shyan class are also destitute of inflections.

The borders of the valley are remarkable for the numbers of its populations. Many of them are of that great Bhot family which we find extending from the west of Chinese Tartary eastwards. All the native populations here are more or less akin to the peoples of the Burmese empire, and seem to be remnants of Bhot tribes left behind in the pressure of the larger bodies to the south.

Dr. W. W. Hunter, thus names the languages in and near the Assam valley and south to the Archipelago.

In N. E. Bengal, are the Bodo; Dhimal; Kocch; Garo; Kachari.

In the Eastern Frontier of Bengal, are the Munipuri; Mithan Naga; Tablung Naga; Khari Naga; Angami Naga; Namsang Naga; Nowgong Naga; Tengsa Naga; Abor Miri; Sibsagor Miri; Dcoria Chutia; Singhpo.

Arakan and Burmah.—Burman written and spoken; Khyeng or Shou; Kami; Mru or Toung; Sak.

Siam and Tenasserim.—Talain or Mon; Sgau Karen; Pwo-Karen; Tounghthu; Shan; Annamitic; Siamese; Ahom; Khamti; Laos.

Dr. Latham is of opinion *Desc. Ethn.*, that the nations on the borders of British India, in the north-west, the north-east and east, form an ethnological group which contains the Tibetans, the Nepal tribes, several populations of the Sub-Himalayan range, the Burmese, the Siamese, the Natives of Pegu, the Cambojians, the Cochin Chinese and the Chinese, in populations which cover perhaps one-fifth of Asia. Their countries are mostly inland, and mountainous, but contain the watersheds of mighty rivers, the Indus, the Brahmaputra, the Irawadi and the Yellow River. The complexion and features of these peoples is that to which the term Mongolian has been applied. Though wild paganism and mahomedanism exist, the majority are of the buddhist religion, but all speak a language the least developed of all the forms of human speech, being generally monosyllabic and with little power of grammatical inflexions. These people are arranged under four great political powers, the British, the Burmese, the Siamese and Chinese. Ethnologically they are capable of being classed in three considerable sub-groups.

The first of these is the Bhot or Bot, which is used in compound words as Bult in Bultistan,—But in Butan, Bet in Tibet, and in the tribes known as Bhutia and Bootia, and comprises the Little Tibetans, the natives of Ladak, the Tibetans of Tibet Proper and the closely allied tribes of Butan. The Bhot area is bounded on the South by India and Cashmir, on the North by Chinese Tartary, and on the West by Little Bokhara and Kafiristan. Amongst the Bhot populations may be mentioned the mahomedan Bhot of Bultistan or Little Tibet, of Rongdo, Skardo, Parkuta, and Khartakshi, of Shigar, Chorbad, &c., the buddhist Bot of Ladak, Hungrung and Kunawar, the Bhot of the Chinese Empire; the Tibetans of Rudok, Garo, Goga, &c. of Lhasa and Tishu Lumbu, the Sifan, the Lhopa of Butan, the Tak, the Bhot of Garwal, Kumaon and Nepal, the Chepang and probably the Rhondur, the Chak and Drok, the Hor and the Kolo.

Further East are the Kocch, the Dhimal and Bodo, arranged into the Western Bodo of Sikkim and the Butan frontier, and the Eastern Bodo or Borro of Assam and Cachar,—the Garo, the Kasia, the Mikir.

On the South are the hill tribes of Assam, the Aka, Dofla, Abor, Miri and Bor Abor tribes, the Mishmi, Muttuck, Singhpo and Jili, with the Naga in Assam. The colors of the Bhot and buddist populations are of various shades of white, yellow and brown; while that of the pagan races is various hues of black.

Leaving the Bhoteah tribe and proceeding eastwards, the following are the races on the north of the Brahmaputra river:—

Cachari; Akha; Koppa-chor; Meehoo; Dofla; Miri; Abor; Bor-Abor; Khamti and Mishmi.

The races south of the Brahmaputra, are

Garo; Mikir; Khassya; Jynteeh; Kuki of N. Kachar, Kutcha, Angamee and Aroong Naga; Munnipuri, Singpo; Muttuk, Bor Khamti, Khunung and Shan.

Akha; Koppa-Chor.—Of those on the north, the *Akha* and *Koppa Chor*, occupy the slopes of the Himalaya to the north of the Durring and Luckimpur districts, and more to the eastward in the same range, are the Dofla.

Miri, Eastwards from the Dofla dwell the *Miri* who live on lower land all along the north bank of the Brahmaputra river, eastwards from the Dofla up to the banks of the Soobun Seeree river.

The *Abor* and *Bor Abor* occupy the hills between the Soobun-Seeree and the Dihong rivers. They are powerful tribes, and it is unknown how far to the north they extend.

The *Khamti* and the *Mishmi* and the *Midhi* or *Chulkatta Mishmi* dwell to the east of the Dihong river on the north of the Lohit or Brahmaputra river between the north and east branches. They are divided into several tribes, one of whom is the "Chulkatta" or "Crop Haired." With them are mixed up Abor tribes and some Khamti tribes.

The Garo, the Khassya and the Jynteeah hills are on the south of the Assam valley.

The *Mikir* inhabit the lower part of the Khassya and Jynteeah hills.

Naga is a term applied by Europeans to forty or fifty tribes who occupy the space be-

tween the Khassya hills on the west, the Singpho on the east, Assam on the north and Munipur on the south. They do not call themselves Naga, but each tribe is split up into numerous clans and each is called after its village.

The *Bor Khamti* occupy the land about the sources of the Irawadi.

The *Singpho* and *Muttuk*, on the north are bounded by the Brahmaputra or Lohit; on the west by the Naga tribes; and on the south by the Patkoi range, on the southern side of which, are other Singpho in Burmese territory.

Khy-oung-tha. Amongst the people speaking the Yuma dialects, according to Mr. Logan, are the Khy-oung-tha, of Arakan, a rude tribe, speaking the Rakhoing dialect of Burman.

The *Kumi*, *Khumi* or *Khamwi*, are of the same race, but their language has some peculiarities. It has been partially examined by Captain Latter, who says it is evidently cognate to the Rakhoing form of the Burman. The majority of its words, however, are non-Burman. The Kumi are fair, with small features.

The *Ky-au* or *Kyo*, and the *Khy-eng*, as Mr. Logan remarks, appear to be similar to the Kumi. They have numerous common words, and each has words common to Khumi, to Khumi and Burman, or to Burman only. All the ancient or pre-Burman dialects of Arakan, from the Khy-eng to the Kuki, retain one of the characteristics of the Mon Kambojan alliance and of Tibetan, the use of definite prefixes ha, a, ma, &c. While the adjacent highlanders have a Tartar like physiognomy, the Kyau, in features, dress and appearance, can scarcely be distinguished from the lower class of the Bengali peasantry of Chittagong. They are dark with large features, while the Kumi are fair with small features.

The *Bongzu* or *Bonzu* are said to resemble the Burman, but to be less strongly built and not so well made. The Khy-eng, Kumi, Ky-au, Bonzu and Kuki vocabularies, show that all are dialects of one language.

The *Kuki* are described as short, muscular and active, with massive limbs, and darker in complexion than the Chumiah.

The *Chumiah* are located in the lower hills between the Kuki and the plains, to the north and east of Chittagong. Both tribes are described as having flat noses, small eyes and broad round faces, and to differ from the Naga race in their appearance and in their customs.

The *Lung-khe Shindu* dialects belong to this group and have special affinities with the Kyau, Khy-eng and Kumi.

The *Kun* language also pertains to this group.

The *Mrung* dwell in the upper basin of the Mayu and also, it is said, amongst the hills on the eastern border of the Chittagong district. They say they are the descendants of captives carried away from Tipperah by the kings of Arakan. Their vocabulary has affinities with the Garo and Bodo. There is a striking confirmation of the history of Aracan, wich relates the conquest of the portion of eastern Bengal by the Rakhoing. According to Captain Phayre, Dacca is the northern limit of their possessions, but a deportation of the Garo and Bodo races, or of a mixed tribe on the confines of the pure Garo, shows that their conquests extended much further in that direction.

The *Singpho*, from their great extension over the upper basin of the Irawadi and their comparative barbarity, it may be inferred, are in fact descended from the stock from which the Burmans were immediately derived. It is probable that the Burman tribes spread into Arakan and were modified by the influence of the gangetic race, before they re-entered the lower basin of the Irawadi and successfully contested its dominion with the Mon race.

The *Manipuri* native tribes lie on the south of the valley of Assam. They are the

Manipuri, Ka-pwi, Maram, and
Songpu, Koreng, Champhung Luhuppu.

They are bounded on the east by the Shan race of the Kynduayn, and on the N., S., and W., by Naga and Heuma races. Indeed it may be doubted whether there is any marked transition from the Manipuri tribes and dialects to those of the southern Naga, on the one side, and those of the Yuma range and the Blue Mountains on the other.

The Naga, Mikir, Kachari, Garo and Khassia are the five races, in whose possession chiefly are the broad highlands of the Asam chain extending from the N. E., near the head of the Kynduayn and Namrup, on one side, along the valley of the Brahmaputra to its southern bend round the western extremity of the chain, and on the other side, south-westerly, along the valley of the Burak and Surma. These highlands are thus embraced by the valleys of the Brahmaputra and its affluents on all sides but the S. E., where they slope to the Kynduayn. The Naga dialects are

Namsang,	Tablong,	Angami
Muthun,	Tengsa,	and
Joboka,	Nogaung,	Mozame An-
Mulung	Khari,	gami.

On the west, the Naga march and intermix with the Rang-tsa, a branch of the Kachari or Bodo.

The Khassia is distinguished from all the surrounding languages, Indian, Ultra-Indian, or Tibetan. It is a fragment of the Mon Kambojan formation of languages, and is a remnant

of an older formation which preceeded the Burma-Tibetan in Northern Ultra-India.

Tipperah properly Tripura is a district on the north east of Calcutta. Its ancient name is Jajnagr or Yajnagr. A portion of it is under the Government of a hindu rajah, the people being called the Tipperah hill-men, and the wild tribes on the eastern frontier of whom the Kuki are most numerous. The languages of the hill men bears some resemblance to the Sanscrit. The language of Tipperah is Bengali with a large infusion of Urdu words. The mahomedans of the population are very numerous.—(*Mr. Logan in Jour. In. Ar.*) Amongst the wild tribes human sacrifices are still offered up, and it is said that in Munnipore, Cachar and Assam the offering of human sacrifices is still continued. By the records of the Sudder Nizamat Adalut of Chittagong for 1852, some men of the Toonia Joom mahals were tried for murder by sacrificing. This is a forest tract in the hills and inhabited by the Mug, Chukma, Reang, Tipperah races, and others all more or less nomadic. The place of sacrifice was a cleared spot in the jungle and staked round with bamboos about six feet high. The sacrificial pole the *Phula bans* or bamboo, scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. These sacrifices generally occur once a year. During its celebration at Agartollah a gun is fired every evening at sunset, when every person hurries to his home. The Kuki and all the hill tribes worship local deities, said to be fourteen in number.—(*Cal. Rev. No.* CXX. *Decr.* 1860.)

Cooch Bahar, is a native state ruled by a rajah subject to the supervision of a British Resident. It is situated between Bengal and Assam, on the N. E. frontier of British India, and is separated from the highlands of Bhotan by the Dooars. Fallacotta is the most central town, for the Jungsta, Chamoorchee, Bala, Bunna, and Beygoo passes into Tibet and Bhootan. The abolition of slavery in Cooch Behar has recently been formally proclaimed. Up till this proclamation, if a ryot, or peasant, owed a sum of money, and was unable to satisfy his creditor, he was compelled to give up his wife as a pledge, and possession of her was kept until the debt was discharged. It sometimes happened that the wife of a debtor was not redeemed for the space of one, two or three years; and if, during her residence with the creditor, a family should have been the consequence, half of it was considered as the property of the person with whom she lived, and half that of her real husband. The country has a most wretched appearance, and its inhabitants are a miserable and puny race. Up to a comparatively recent date, the lower ranks without scruple disposed of their children for slaves, to any purchaser, and for a very trifling consideration; nor was the agency of a third person ever employed. Nothing was more common than to see a mother dress up her child, and bring it to market, with no other hope, no other view, than to enhance the price she might procure for it. The Cocch or Kocch are partially converted to mahomedanism. The pagan portion live in the woods and cultivate the soil with the hoe; they are well fed and clothed. They abstain from beef. They sacrifice to the god Pushi and his wife Jago, also to the sun, moon and stars; to the deities of the rivers, hills and woods, and to their deceased parents. The Deoshi, their sacrificing priest, marries and works, and the office is not hereditary. The blood of the sacrifice goes to the deity, the flesh to the worshippers. Polygamy, polyandria, concubinage and adultery, are punished by fines. The husband resides with his mother-in-law, is the property of the wife, and after her to her daughters. They keep the dead two days and then burn them at the river side. Their name is written Cooch, Kocch, Koktsh, Koksh, or Kuksh. In the Yogini Tantra, they are named Kavach and are there styled Mhlechas. When the mahomedan power was established in Bengal the Koch (Kocch or Kavach) kingdom extended from 88° to 93° E. L. and from 26° to 27° N. L. from the south eastern extremity of Nepaul along the southern extremity of Sikkim and Butan into Assam, with Kooch Bahar as its capital and the people consisted of the present Kooch, Dhimal and Bodo. They dwell in the Sal forests with impunity. The Kooch, are called Hasa by the Assamese Bodo, and the Dhimal style them Kamul. The northern parts of Rungpur, Purnea, Dinajpur, and Mymunsing are the chief Koch localities. The Koch and Bodo serve a fixed period for their brides.—*Turner's Embassy, p.* 11, *Treaties, Engagements, and Sunnuds, Vol. VII. p.* 367. *Latham's Descrip. Ethn.*; *Hodgson.* See Aborigines. India.

Bodo, Kachari or *Borro*, as they call themselves, are most numerous along the northern and southern borders of the Assam valley, but are found in almost all parts of the valley. Chatgari, a frontier district situated between Desh Darrang and the Bhotan hills seems to be their chief locality, and here their numbers are said to amount to about 30,000 which is about half the Kachari population in the valley. They have not written characters, but a large portion of their vocables are identical with those of the Garo tribe and almost all the rest may be traced to some dialect of the Tibetan, while the idiom of the language and the peculiarities of its grammar show abundant traces of descent from a common origin. The *Bodo* population extends from Bahar and Bengal on the west, to the Sikkim and Butan frontiers. The western branch of this

tribe belongs to Bahar and Bengal, and to the Sikkim and Butan frontiers; the eastern branch occupies Assam and Cooch. They build their huts of grass and bamboo and reside in villages of from ten to fifty huts. They do not use leather in their arts or trades, and do not use wool as clothing, the latter being made of cotton and silk materials. They use utensils of brass, ropes of grass and baskets of bamboo. Jo, or barley, fermented rice or millet, is used by them as a slightly intoxicating beverage, and resembles the "ajimana" of the Newar of Nepal. They till the soil, but do not occupy a locality permanently, clearing and cropping and moving again to clear and crop another spot. The head of the village is called Gra. A Bodo and Dhimal will only touch flesh which has been offered to the gods by a priest. The bride-groom purchases his bride either by money or labour. Poligamy is rare. There are professed exorcists among them. The eastern Bodo in Cachar are called Borro and are divided into the Cachary of the hill country and those of the plains. They are partly hindu and partly pagan. Those in the plains in Assam are called Hazai, Hojai or Hajong, they are of the hindu creed, and speak a hindu dialect. The hill Cachari is stouter, hardier and more turbulent, and lives in villages of from 20 to 100 houses. Like the Naga, their young men of a certain age, leave their parents' dwellings and reside together in a large building. Of the three separate people the Koch, the Bodo and the Dhimal, the faintly yet distinctly marked type of the Mongolian family is similar in all three, but best expressed in the Bodo features and form.

The *Bodo, Dhimal* and other tribes inhabiting the mountains and forests between Kumaon and Assam, are styled Tamulian by Mr. Hodgson. He has done so on the view that all the aborigines of India, as distinguished from the Aryans, belong to one and the same stock, of which he considers the Tamulians of Southern India the best representatives. And he has founded this supposition on certain general grammatical similarities which, as he believes, are common to the entire Scythian group of languages.

But Mr. Campbell, (*pp.* 48, 49) observes that in appearance the Bodo and Dhimal are as different as can be, and as to their connection, so far as their languages show, there is not the slightest evidence. Mr. Robertson was of opinion (*B. As. Soc. Jour. No.* 201 *for March* 1849) that the border tribes of Assam, the Bodo and the Garo amongst others, were affined to the people of Tibet. But Mr. Hodgson considered (*on the Aborigines of North Eastern India,*) that Mr. Robertson in arriving at that conclusion had overlooked the physical and psychical evidence, which, in a question of ethnic affinity are in his opinion each of them as important as the glottological.

Closely connected with the Kachari, among the inhabitants of the plains, are the Hojai Kachari,—the Kochi which include the Modai Kochi, the Phulguriya and Hermia, the Mech, the Dhimal and the Rabha. Each of these speaks a separate dialect, between which and the Kachari, Mr. Robinson says, the differences are rather nominal than real.—*Latham's Descriptive Ethnology. Mr. Hodgson.*

The *Dhimal*, is a race of 15,000 souls in the Sal Forest of the Terai who about the beginning of the 19th Century migrated to the north and east of the Kooch from Nepal. The Dhimal dwell between the Konki and Dhonla, between the open plains and the higher levels of the mountains, and their villages, though distinct, the people not intermarrying, are intermixed with the Bodo. The Dhimal differ from the Bodo, in their language and their pantheon. Mr. Latham considers the terms Dhimal, Kamul and Tamil to be the same. The deities Data and Bidata preside over marriage, the feast of which is prolonged through three days, and costs from 30 to 40 rupees. They bury their dead.—*Latham's Descriptive Ethnology.*

Changlo means black, and is the name of a race who use a dialect of the Bhotia or Thibetan which is spoken along that portion of the northern frontier of the valley extending from the Binji Doar, to the confines of the Kuriapera Doar or from about the 91° to the 92° of E. long. Neither its northern limit nor the numbers speaking it have been ascertained. The inhabitants of this tract occupy the lesser elevations of the southern Himalaya range and are generally speaking agricultural. Their physical appearance exhibits a few shades of distinction noticeable between them and the tribes of the Sub-Himalayas. They are smaller, less muscular, and the hue of their skin possesses a deep isabelline tint. From the latter circumstance, probably, they derive their appellation, the term Changlo meaning black.

Takponi or Takpo, the country of the Tak, is marked as Towang or Raj Towang, in the ordinary maps, and lies in a line between Lhassa and Jorhat in Assam. Little is known of its occupants, but they may be Shammar Tibetans of nomade habits.—*Latham.*

Sokpa, is a colony of pure Mongols.

Ak'ha tribes occupy the western extremity of the hills which form the northern boundary of Assam. The *Akha* dialects appear to belong the Abor group, 35 words in Mr. Brown's list of 60 being common to Akha and Abor and prefixes occurring as in Abor.—*Journal of the Indian Archipelago, Nos. IV and V. April and May,* 1853, *p.* 191.

Mechi or Meche of the N. E. frontier are supposed by Mr. Campbell to be the same as the Bodo of Mr. B. Hodgson. They are Indo-Chinese of the Lohitic or Burmese branch of the Turanian family. Their features bear out this opinion. They are of good size, fair but of a yellow colour, good natured and tolerably industrious, but erratic and indifferent farmers.—(*Campbell*, 149.) The *Dhimal* tribe are smaller than the Mechi, but somewhat similar in appearance with a language that in some degree differs. The Kachari, Naga, Abor, and some other tribes bordering on Assam are supposed to be of the same race as the Mechi. The Mechi form the chief population of the forests and N. E. Doars at the foot of the Sikkim and Bhutan hills, and a few have recently settled on the extreme eastern portion of the Nepal Terai. They are supposed to be the same as the Bodo, whom Mr. B. Hodgson described. Their features are described as Mongolian or Indo Chinese; they are fairer than the hindus around them and of a yellow tinge: they are taller and larger than the Nepalese cultivators, are addicted to spirits and to smoking opium. They are proof against malaria, and make small temporary clearances in the forest, they are inferior to the Tharu in industrial habits.

Thawa, a lowland tribe mentioned by Dr. Campbell as inhabiting similar tracts to their neighbours the Mechi.—*Campbell*, *pp.* 50, 149.

Dofla are in that portion of the southern face of the sub-Himalayas which extends from 32° 50′ to about 34° north latitude, and forming the northern boundary of the valley of Assam, from the Kuriapara Douar, to where the Subonsiri debouches into the plains. This tribe of mountaineers, are usually known to the people of the valley, under the appellation of the Dophla or Dofla. This term, whatever may be its origin, is not recognized by the people to whom it is applied, except in their intercourse with the inhabitants of the plains. Bangni, the term in their language to signify *a man*, is the only designation they give themselves. During the latter days of the Ahom suzerainty when internal dissensions and the growing imbecility of the government furnished opportunities for the bordering tribes to indulge in acts of rapine and lawless aggressions on their lowland neighbours, the Dofla were not slow in exacting their share of the general spoil. Several attempts were made to check their atrocities and on one occasion, rajah Gourinath Sing, is said to have marched an army into their hills for the express purpose of chastising them; and as native historians tell us, several thousand Dofla were taken prisoners and brought down to the plains. The rajah, unwilling that they should pine in indolence, obliged them to dig a canal with the view of draining off the large and unwholesome morasses that still exist in mahal Kollongpur. But, owing to the bad treatment to which the prisoners were subjected and unhealthiness of the season, the greater portion of them are said to have perished, and the task assigned to them remained unaccompliished. In one of their districts, that of the Char Douar or Four Marches, no less than 180 petty chiefs are said to hold authority in the Dofla villages.—*Beng. Ass. Soc. Jour. No.* 2051. *Latham.*

Miri, a hill tribe on the Eastern frontier of the Abor area. They all wear some woollen article of dress. They use the bow and poisoned arrow. The Miri are allied to Abor, Dofla or Aka, rather than to the Mishmi. The Miri have their chief seat in the low hills north of Banskotta and Lukimpur, but the exactions and cruel ravages of their formidable neighbours the Abor, have compelled them to emigrate in large numbers into the plains of Upper Assam. Mr. Robinson remarks that a partial comparison of the dialects spoken by these tribes furnishes abundant evidence of their original consanguinity, while the coincidence between their vocables and the terms in common use by the Thibetan tribes, is frequent and unequivocal.

Abor, is a hill tribe in Assam on the southern face of the Himalayas and on the west or left bank of the Dihong on the borders of Tibet and China, in an extensive range of mountainous country along the southern exposure of the great Himalayan chain, to the north of the Brahmaputra river in about Lat. 27° 12′ N. extending from the 94° to 97° of east longitude and bordering, it is said, on Thibet and China. Padam is the term by which the races designate themselves, whom the Assamese name the Bor and Bor Abor. The Bor dwell to the south of the Bor-Abor and their chief town is Membu: Bor is said to mean great, also, however, tribute.

Bor Abor are higher up than are the Bor. Their capital is Semong, of about 300 houses, they occupy the mountains on the north of the Brahmaputra River in Lat. 28° N. and Long. 95° E. to the west of the Dihong river; they are polyandrous, it being not uncommon for an Abor woman to have two husbands, brothers, living under one roof. They do not eat beef, but hunt and eat the flesh of the buffalo. They are more powerful than the Bor. Their bachelors live in the Morang, a large building in the centre of the village for the reception of strangers, and in this custom they resemble the Naga to the south of Assam and some of the Archipelago races. They sacrifice to deities of the woods and hills. Numbers of these people are also found on the shores of the two great northern branches of the Brahmaputra river. When

first known they made periodical descents on the plains. Bor and Abor are Assamese names for the people who call themselves Padam. The meaning of "Bor" is not clearly ascertained. According to one authority, Bor means tribute, hence Abor free from tribute, and the Padam race are so arranged, into the payers of and non-payers of tribute. They carry bows and arrows some of which are poisoned. Their dress is made of the bark of the Udhal tree. Bor is also said to mean "*great*," and we find the term of Bor Khampti employed. The Bor Abor is the more distant, the more independent and stronger portion. The Bor Abor lie on the higher hills and the similarity of their language to the Abor is not known. Considerable numbers of these people are also found on the shores of the two great northern branches of the Brahmaputra river. The British Government make money payments to the Bor Abor, Dofla, Miri and Aka to abstain from levying black mail in Assam.

In the end of 1861 the Meyong Abor attacked and plundered a village in British territory, but the tribe expressed a desire to renew friendly relations, and begged that their offences might be overlooked. On the 5th November 1862, an agreement was made with them binding them to respect British territory and the same engagement was subscribed on 16th January 1863 by the Kelong Abor. On 8th November 1862 a similar engagement was concluded with the Abor of the Dihong-Dibang Doars.

The Abor Miri language belongs to the old Assam alliance, but it has been greatly modified by Tibetan. It has a strong ideologic resemblance to the Dhimal, Bodo, Garo, and Naga.—*Journal of the Indian Archipelago, Nos. IV and V. April and May* 1853, *p.* 190. (*Aitcheson, Treaties, Engagements and Sunnuds, Vol. VII, p.* 343.) *Indian Annals, Latham's Descriptive Ethnology.*

The *Bibor*, *Jubar*, and *Kulta* or *Kolita*, are populations to the north and east of the Abor and Mishmi localities, on the drainage of the Brahmaputra.

Khampti, a people of Assam, who are skilful workers in metal; the Khamti of the distant hills of Assam are Siamese.—*Campbell*, 149.

Mishmi.—In the country to the east of Assam, between India and China, the Mishmi mountains which occupy the most northerly part, are the southern and western slopes of a mass of snowy mountains which sweep round the N. W. of Assam from the east bank of the river Dihong to the sources of the Dihong. The people of the Mishmi hills, have their frontier touching that of the Abor or Padam, on the drainage of the Dihong and Dibong, in small villages, the Mishmi and Padam acknowledge a common origin and eat together. They use the bow and cross-bow and poisoned arrows and are often at war on the surrounding tribes. Their chiefs dress in Chinese and Tibetan clothes and ornaments. Polygamy is allowed. The Mishmi sacrifice fowls and pigs to the rural deities. They engage in trade: forge iron and build suspension bridges. The Bubhajia, Taying and Mijhu are Mishmi tribes.—*Latham's Ethnology.*

The *Garo* race occupy the Garo or Garrow mountains to the south of the valley of Assam in a triangular extent of mountainous country lying between the left bank of the Brahmaputra and the Khassia hills. From its apex to its base, this triangle lies between the 25° and the 26° of N. Lat. and the base itself extends from the 90° to the 91° of E. long. Their physical appearance, modes and customs, are different from those of the Bhotia, and this, with their remote situation, appears to militate against the supposition that they are in any way connected with the Cis-Himalayan tribes. But though they have no traditionary legends and no written character to serve to enlighten on this subject, there is a striking affinity between the Garo language and the several dialects spoken by the Bhotia tribes. Though these present several modifications, they may nevertheless be traced to the same radicals, so as to prove that an essential affinity existed in their primitive structure; thus affording historical evidence of such a nature as it is impossible for either accident or design to have falsified. They are about 40 miles south from Goalpara, and to the north of Mymensing. They are a race of hillmen but differ in many respects from other hill tribes. Their chief location is the hill country just within the bend of the Brahmaputra as it sweeps round from Assam into Bengal, in the extreme western portion of the range, which separates Silhet from Assam. More to the east are the Cossya hills, Dr. Campbell (p. 51) says, the Garo race are small and dark, savage and troublesome, and are said to be distinct and dissimilar from the other tribes in their neighbourhood and more to resemble the Kol and Bhil, but their direct distance from the Sontal and Rajmahali is 150 miles. The Garo are called by the villagers and upper hill people, Coonch Garo; though they themselves, if asked of what race they are, will answer, "Garo," and not give themselves other tribal appellation, though there are many tribes of the Garo. A Garo is usually described as a stout, well-shaped man; hardy, and able to do much work; of a surly look; flat, kafir-like nose; small eyes, generally blue or brown; forehead wrinkled, and over-hanging eye-brow; with

large mouth, thick lips, and face round and short; their colour is of a light or deep brown. The women are short and squat, with masculine expression of face; in the features they differ little from the men. The dress of these people corresponds with their persons. They eat all manner of food, even dogs, frogs, snakes, and the blood of all animals. The last is baked over a slow fire, in hollow green bamboos, till it becomes of a nasty dirty green colour. They are fond of drinking to excess. Liquor is put into the mouths of infants almost as soon as they are able to swallow. Their religion is a mixed hinduism and shamanism, they worship Mahadeva; and at Baunjaur, a pass in the hills, they worship the sun and moon. To ascertain which of the two they are to worship upon any particular occasion, their priest takes a cup of water, and some wheat: first calling the name of the sun, he drops a grain into the water, if it sink, they are then to worship the sun; but should it not sink, they then would drop another grain in the name of the moon, and and so on till one of the grains sink. All religious ceremonies are preceded by a sacrifice to their god, of a bull, goat, hog, cock, or dog. Except milk they use everything. They live in houses raised from the ground on piles. The youngest daughter inherits. A widow marries the brother of her deceased husband; if he die, the next: if all, the father. The dead are kept four days, then burnt amidst feasting and drinking and the ashes buried on the spot. A small dish of bell metal with embossed figures, called a Deo-Kora is hung up as a household god and worshipped and sacrificed to: and the Garo believe that when the household are asleep, the Deo or figure of the Kora issues in search of food and returns to its Kora to rest. The Garo are under British control. They are classed as Che-anna (6 Annas) and Das Anna (10 Annas) but they consider themselves one and the same people. They use sharp bambu panji or stakes, four inches long, as a means of opposing invasion. In a treaty in 1848, they consented to abstain from hanging human skulls in their houses. They build their houses on piles. The Marquis of Hastings, says they are divided into many independent communities, or rather clans, acting together from a principal of common origin, but without any ostensible head of their league. With them all property and authority descends wholly in the female line. On the death of the mother, the bulk of the family possessions must go to the favourite daughter (if there be more than one), who is designated as such, without regard to primogeniture, during the life-time of her parent. The widower has a stipend secured to him at the time of marriage. A moderate portion is given to each of the other sisters. A son receives nothing whatever, it being held among the Garo that a man can always maintain himself by labour. The woman acknowledged as chief in each of the clans is called Muhar. Her husband is termed Muharree. He is her representative in all concerns, but obtains no right in her property. The clan will interfere if they see the possessions of the Muhar in course of dissipation. If a daughter be the issue of the marriage, a son of the issue of the Muhar's father is sought in preference to become her husband; and in default of such a person, the son of the nearest female relation of the Muhar (he being of due age) would stand next for selection. The husbands to the sisters of a Muhar are called Lushkur, and it is a denomination to which a notion of rank is attached. The Garo were in the constant habit of making predatory incursions upon British frontier villages in the plains, decapitating their victims, and carrying off their heads as funeral offerings to their departed chiefs. It has repeatedly been found necessary to punish these outrages by sending a military expedition into the country, and by closing the markets in the plains frequented by the Garo. A party of them, in May 1860, murdered sixteen natives of the plains in the North of the Mymensingh district, and afterwards mutilated the bodies. They confessed the crime and three were executed in their own villages before their own people. Their accomplices, in number some twenty men, were condemned to transportation for various periods. Their object was not so much plunder, as human heads to offer to their spirit of the mountains. The rajah of Nustung one of the Khassyah states subsequently undertook to aid in repressing these raids. The Garo hills are a confused assemblage from 1,000 to 6,000 feet in height, estimated area, 4,347 square miles. The rock formation is supposed to be chiefly of gneiss, or stratified granite.—*Coleman Myth. Hind. p.* 320. *Hasting's Private Journal; Vol.* II., page 132-316. See Khassya; Mikir; Kuki; Singhpo India, 31-73, 2-73, 38, 339.

The rajah of Nustung, is well nigh independent and is the most powerful and influential of all the hill chiefs, not alone from his position but from his unusual popularity, He had conferred upon him, about the year 1868, the titles of Rajah Bahadoor in consideration of his uniform loyalty to the British, notwithstanding the strenuous efforts made to enlist him in the revolts of the hill tribes. The Nustung territory forms the South West portion of the Cossyah district, and borders on the Garo country; and the rajah entered into a convention with the British that, should it be at any time requisite to the latter power to move troops in the Garo hills from the Eastward, they should have a free passage

through his territory. His turbulent and refractory neighbours are the Jynteah, Cossyah, Garo, Bhootanese, Naga, and Abor. Dr. Buchanan Hamilton says, the under bark of the Celtis orientalis tree, like that of the West India Celtis, consists of numerous reticulated fibres, and forms a kind of natural cloth, used by the Garo ('Lin. Trans.,' xvii, p. 209). He also describes it in his report on Assam, as a kind of rug worn by the Garo in the cold weather, and serving them as blanket by night. Captain Reynolds sent a specimen of it to the Agri-Hortic. Society; the Garo make several such cloths of different colours from various barks. The Garo who come to the plains, generally buy some small ends of cloths from the Bengalees, to attend the *hauts* (fairs) in, not as clothing to protect them from wind and weather.—*Royle Fib. Pl.* 317.

The *Mikir* tribe are partly hillmen and partly lowlanders, occupying a considerable area in the Assam district of Nowgong and in Northern Cachar whose numbers are computed at 26,000. They flit from place to place every four or five years to cultivate cotton and rice. They build houses on platforms, drink spirits, eat opium and are either unbelievers or imperfect converts to hinduism: delight in festivals and in their attendant drunkenness, they eat beef and pork, and fowls are sacrificed to the sun, moon, and invisible deities attached to trees, their physiognomy and dress is that of the people of the Khasia Hills, to whom the Mikir seems to be allied, and perhaps the Naga, the Garo, the Khasia, Jaintia and Mikir are all affined. The Mikir of North Cachar are mild and little courageous though they carry the dhao and spear.—*Latham's Descriptive Ethnology.*

The *Cossyah* or *Khassia* country, on the North East frontier has iron of great purity, smelted at Pundua; Cassia lignea is one of its principal articles of export, and a variety of parti-coloured cloths, generally known by the name of Sylhet cloths. Some of them are dyed of rich colours and being of a strong durable texture, are well adapted for table covers, to which purpose they are usually applied in the Eastern part of Bengal. The *Cossyah* and *Jyntia* hill territory is administered by an Assistant attached to the Assam Commission. The value of the export and import trade of the country is about rupees 30,000 a year with Assam, and with the Bengal plains about 10½ lakhs, the exports being 7 lakhs. The total revenue from lands and taxes in 1857 amounted to rupees 23,023. The first treaty with Jyntia was concluded in 1824. The rajah Ram Sing rendered no assistance during the Burmese war, but he agreed to acknowledge allegiance to the British and his country was taken under protection. The population of the Jyntia hills is about 40,000 souls, and of the Cossiah hills about 82,400. The Cossiah states are twenty-five in number, of which five, viz. Cherra Poonjee; Khyrim, Nustung, Sungree and Nusp oong, are commonly called the "Semi-independent States." The chiefs exercise civil and criminal jurisdiction over their own people in all matters pertaining exclusively to them. The minor states, known as the "Dependent States," are twenty in number, the chief of which are

Nungklow,	MowdunPoonjee,	Mowyang,
Moleem,	Mahram.	Nobo Sopho,
Murriow,	Mullai Chummut,	Jeerung,
Ramrye	Bhawul,	Syung,
Mowlie,	Seenai Poonjee,	Moflong Poonjee,
Cheyla,	Lengkhan Poonjee,	Mowlong do.
Dowarrah Notoormen,		Lyksom do.
Mowseuram,		

Moleem was conquered in 1829, and the rajah of Khyrim ceded to the British, the territory to the S. E. of the Oomean or Booga Pane river. In 1861, its rajah was deposed and Malay Singh, a new chief installed. No engagements have ever been made with Nobo, Sopho, Syung, Moflung Poonjee, and Lyksom Poonjee, but agreements were entered into with Mowyang in 1829, Dowarrah Notoorman in 1837, Soopar Poonjee in 1829, and in 1860, with Bhawal.

The estimated area of the *Cossya Hills* is 7,290 sq. miles, About 16 m. on the Sylhet side, and about the same on that of Assam, it consists of low land interspersed with small hills. In the interior, about 50 m. in extent, is an undulating hilly table land, from 1,500 to 2,500 feet high. Coal is said to abound in the hills of Jynteah. The localities admitting of cultivation are the plateau of the Cossyah and Jynteah hills, the lower ranges on the Assam border, and the slopes towards the Sylhet plains. The area of the three plateau is about 3,500 square miles and their heights vary from 3,000 to 6,000 feet above the sea level. The soil is a ferruginous red clay, with a subsoil of shingle little suited for profitable cultivation. In the hollows, however, a fine black mould is found extending often over many acres. On the plateaux, miles upon miles of land are as level as the most highly cultivated portions of Kent and the Lothians. On the middle plateau the temperature averages that of the English summer; rising to 72° during the hottest months. The cold weather is less severe than an English winter. The cultivated land in those hills is very little. A late survey gave 12,221 acres or less than 10 square miles as the total in the Jynteah hills; while within an area of 4,450 square miles among the

Cossyah hills only 30 square miles have been brought under crops. The Cossyah hills have a small isolated body of people of the Taic or Siamese race. The Ahom who once ruled Assam, were also of the Siamese race.—*C.* 149. The Khassya race inter their dead on the undulatory eminences of the country. The tribe habitually erect dolmens, menhirs, cysts and cromlechs, almost as gigantic in their proportions, and very similar in appearance and construction to the so-called Druidical remains of Western Europe. These were described and figured by Col. Yule, on the Bengal Asiatic Journal for 1844. They keep cattle but drink no milk, estimate distances traversed by the mouthfuls of betel-leaf chewed *en route*, and among them the marriage tie is so loose that the son commonly forgets his father when the sister's son inherits property and rank. The undulatory eminences of the country, some 4,000 feet to 6,000 feet above the level of the sea, are dotted with groups of huge unpolished squared pillars and tabular slabs, supported on three or four rude piers. In one spot, buried in a sand grove, were found a nearly complete circle of menhir, the tallest of which was 30 feet out of the ground, 6 feet broad, and 2 feet 8 inches thick; and in front of each was a dolmen or cromlech, of proportionately gigantic pieces of rock, while the largest slab measured is 32 feet high, 15 feet broad, and 2 feet thick. Several that were seen had been very recently erected. The method of removing the blocks is by cutting grooves, along which fires are lighted, and into which, when heated, cold water is run, which causes the rock to fissure along the groove; the lever and rope are the only mechanical aids used in transporting and erecting the blocks. The objects of their erection are various—sepulture, marking spots where public events had occurred, &c. It is a curious fact that the Khasian word for a stone, "man," as commonly occurs in the names of their villages and places as that of man, maen, and men does in those of Brittany, Wales, Cornwall, &c.; thus Mausmai signifies in Khasia the stone of oath, Mamloo, the stone of salt, Manflong, the grassy stone, &c., just as in Wales Penmaen Mawr signifies the hill of the big stone, and in Brittany a menhir, is a standing, and a dolmen a tablestone, &c. The resemblance of the burrows and their contents (with the cromlechs, &c.) to the Druidical remains which are discovered in the ancient seats of the Celtic race in Europe, is too exact and remarkable to be accounted for on any other supposition than that of their derivation from the same origin. Hence the people who introduced Druidical rites into India must have brought them with them from Central Asia, and they must have entered India at a period as early as the introduction of Druidical rites into Europe. The *Kasia* are the ablest bodied of the borderers of Assam. Their tribe or race differs very little from that of the Garo. They are arranged in petty rajahships, in the Kasia hills. Nat worship seems the culture of the Kasia. They dread snakes. They build their houses on piles. They trap fish, like the people in Java, Borneo and Sumatra. They distil and drink intoxicating liquors, and between Ringhot and Cherra, and in other places are bridges of the fibres of the India rubber tree, described by Captain Yule. The Khassia hills present in general the aspect of a well defined plateau with comparatively small, isolated, elevations. The plateau is terminated to the north by the valley of the Brahmaputra, to the south by that of the Surma, (*Schlagintweit's General Hypsometry of India, Vol. II. pp.* 95,98). These hills lie between the two British Provinces of Assam and Cachar, and the north-Western portion of the territory of Burmah.

Munipoor.—In this great mountain tract one or two valleys occur. The largest, that of *Munipoor* is, from its connection with the British Government, and from the tribes around it all admitting its supremacy, the most important. Lying between latitude 23° 50′ and 25° 30′ north, and longitude 93° 10′ and 94° 30′ east, the mountain tract in question is bounded on the north and west by the British Provinces of Assam and Cachar, and on the east by the Kubbo valley now subject to Burmah. To the north-east and south, the boundary is not well defined, and would much depend upon the extent to which the Munnipore government might spread its influence amongst the hill tribes in those directions, but in the north east it may be denoted by a line drawn north from the north-western corner of the Kubbo valley until it strikes the Assam boundary, and in the south by one drawn west from the source of the Numsailung river, the fixed south-east boundary, till its junction with the Tooyai river.

Of the space comprised in these bounds, the valley of Munnipore occupies nearly the centre. It is called by the Munniporee people "Meitheileipak." The Burmese call it Ka-the, the Bengalees Moglai, and Assamese Mekle. The area of the whole territory is about 7,000 square miles, and that of the central valley about 650. Much of the valley is at all seasons, covered with water. It seems indeed at one time to have formed a large lake, and the piece of water in the south called the Logtak, appears to be the unfilled but rapidly filling, remnant of it. From the most credible traditions, the valley appears originally to have been occupied by several tribes, the principal of which were

named Koomul, Looang, Moirang and Meithei, all of whom came from different directions. For a time, the Koomul appears to have been the most powerful, and after its declension, the Moirang tribe.

Of the population, composed of different classes, the principal is the Meithei, next the Phoongnai, after whom the Teng kul, the Ayokpa, the Kei, the Loee and Mussulman. The Meithei population is divided into four parts called "Punnahs," which are designated in the order of their seniority "Kaphum," "Lai phum," "Ahulloop" and "Niharoop."

The *Loee* population consists of people who pay tribute, and is considered so inferior that the name Meithei is not given to it.

The marshes of the south in the vicinity of the Logtak afford a retreat to serpents of a formidable size, and the whole valley of Munnipore is much infested by the serpent tribe. Some of them are exceedingly active and bold as the Tanglei. It is fond of ascending bamboos, along the branches of which it move with great velocity, and if enraged, throws itself from an extraordinary height upon the object of its anger. Its bite is said to be mortal. This, added to its great activity and fierceness makes the Tanglei an object of much dread.

The inhabitants of the hills around the valley of Munnipore, in the west, are known under the general appellation of Naga and Kooki. In Munnipore they are all embraced in the term Hau, but Koupooee, Quoireng, Khongjai, Kamsol, Anal-Namfau, Aimole, Kom, Koireng, Cheeroo, Chote, Pooroom, Muntuk, Karum, Murring, Tangkool, Loohoopa, Mou, Muram, Miyang-khang, Gnamei are the names in use amongst Munniporees to distinguish the principal tribes, and though each of these tribes has a distinctive name of its own, often quite different from the Muniporee one.—*McCulloch's Records, Government of India, Foreign Department, pp.* 10, 34, 41.—*Latham's Descriptive Ethnology.*

Singpho.—Leaving out of view the intruding and partially interspread Shan or Lau tribes, the Burmans march on the north with rude tribes of their own family, collectively termed Singpho, (properly Sing Ph l) who occupy the upper Irawadi. On the extreme north the linguistic boundaries of the Singpho are unknown. It is possible that they march with the Khampa or ruder Tibetans of the S. E., unless the snowy mountains which there form the watershed between the Irawadi and the Tsang-po, cut them off, as is more probable, from all intercourse with their northern neighbours. A wild tribe only known under the generic Lau, termed Kha-nung, occupy the mountains to the North East of the Kham-ti, apparently in the upper part of the Mi-li or Nam-Kiu. They are interspersed between the Kham-ti and the Mung-fau, the later appearing to belong to the Tibetan family (Si-fan or Kham-pa.) The Kha-nung may form a link between the Kham-pa and the Singpho or Burman families.

The Singpho march on the N. W., with the Mish-mi who occupy the eastern mountainous extremity of the basin of the Brahmaputra, and on the W. and S. W. with the Naga and Munnipuri tribes. In the interior of Arakan and between it and the Kynduayn river, several tribes are scattered over the highlands to the south of the Kuki, Naga and Manipuri tribes.

Some of these, such as the Khy-oung-tha and Khu-mi or Ku-mwi (properly Ku-mi), of the middle basin of the Koladyn, belong to the Burman family.

The more eastern tribes, such as the Lung-kha (perhaps the Lunkta a branch of the Kuki) of the upper Koladan, and the Heuma or Shindu, and the Khon or Kun who are amongst the feeders and beyond the Koladan, are too little known to be referred with certainty to any particular branch of that family, although it is probable that the latter are allied to the Kuki, Kumi, &c. The Lung-kha are said to be composed of an offshoot of the Heuma of the Shindu (Shentu, Tseindu or Shiamdu) and two tribes called Lung Khe and Bowng-jwe which it subdued. Captain Tickell says that the feeders of the Mi Khyoung, the principal eastern affluent of the Koladyn, descend from masses of high hills about Lat. 21° 50' N. inhabited by the Kun.

Mru or Tung Mru, a tribe on the Koladan river, are supposed by Dr. Latham to be the same as the Mrung who allege their origin to be from Tipperah. The number of the Mru in Arracan is about 2,800. At one time a Mru chief was chosen king of Arrakan, and the country was Mru when the Rukheng conqueror invaded the country. The word Mru is supposed also to be the same as Miri.—*Dr. Latham's Ethnology.*

The *Chumiah* are a race to the North and East of Chittagong, dwelling between the Kuki and the plains. The Chumiah and the Kuki are described as having flat noses, small eyes, and broad round faces, and differ from the Naga race, both in appearance and customs.

Sak or Thak a small tribe on the river Nauf near the Koladyn river in Arrakan.—*Latham.*

The *Heuma or Shendu* tribe inhabit the hills north of Arrakan. They occupy the Yeoma-toung hills, on the watershed between the Meeyk-young and the drainage of the Munnipur rivers. Their chiefs are called Aben, and their villages have from fifty to 400 houses. They use the trap-bow for shooting the elephant, but fire-arms are superseding the ruder

weapons. They regard the sun and moon as deities. The *Heuma* are placed by Captain Tickell in the higher hills to the N. and N. E. of the Kun tribes, between 21° and 22° N. Lat and 93° and 94° E. Lon. They do not appear to differ from the other rude tribes of the Burman family, and are probably closely allied to the Manipuri tribes.—*Latham.*

Ka-mi or Ku-mi are tribe on the Koladyn river who assert that they once dwelt on the hills now held by the Khyen. Their name seems the same as that of the Khumia of Chittagong.

Khyen, is a name given to several populations,—one tribe who tattoo their skins, dwell on the Koladyn river, in Arrakan. Another on the Yuma mountains south of the Koladyn river; the Mru are sometimes called Khyen. Khyen, indeed, as also Kha, are, probably, names given to most of the rude tribes of the Arrakan and Burmese mountains. Those of the Khyen to the south of the Koladyn river, are Burmese subjects, pay taxes, serve as soldiers, and live a quiet life. But the Khyen on the hills are independent. They say that they fled thither from the plains of the Irawadi. They are ruled by their village chiefs. Their religious chief is the *Papin*, whose office is hereditary, and is that of prophet, soothsayer and priest. They believe in the metempsychosis. They worship the Subri tree, a thick bushy tree, bearing a small berry; they also worship the thunderbolt. The Khyen grow and spin cotton into cloth, which they dye black and wear The women tattoo their faces. The true and typical Khyen is the independent mountaineer of the central districts. The *Khyeng* or *Khyen* residing to the south of the Koladan, in the Yu-ma range as far as the north border of Pegu, but chiefly in the upper basin of the Lem-yo, have a tradition that they once possessed the plains of Pegu and Ava. The name seems to be the soft Burman pronunciation of Karen, and they may be a remnant of an old horde from the north, pressed in to the mountains or restricted to them by the Karen as the other Yuma tribes probably were. Linguistically, the Khyen are connected with the Yuma tribes to the north-ward. Physically, they are of the earlier and purer of the Mongolian race of the Irawadi family, like the Nicobarian, Kumi and Kuki. Their faces are flatter and less regular than the Burman and consequently than the Karens. Captain Phayre says their manners and appearance are similar to those of the Kumi. They make iron and cloth and have the usual weapons of the tribes of the upper Irawadi.—*Latham.*

The Bom-zu or Bun-zu or Bom-du of the Rakhoing, dwell north of the Koladyn, inhabiting chiefly the upper basin of the Kurmfuli or eastern branch of the Chittagong river.

Lungkta, Kungye, Kuki.—To the north of the Bom-zu or Bun-zu (Bomdu) are closely allied tribes termed collectively Lungkta, Kungye, or Kuki, who occupy the highlands of Tipperah and extend S E. towards the head of the Koladyn. Both the Bun-zu and Kuki appear, like the Kumi, to belong to the Burman family. The Kuki represent its most archaic and barbarous condition. The tribes that have been exposed on the sea board of Arrakan or in the basin of the Irawadi, to the influence of the Chinese, Shan, Mon, Bengali and more distant commercial nations, have attained a comparatively high civilization. The Singpho although much behind the Burmans, are greatly in advance of the Kuki, and the Burmese seem at a very ancient period, when their condition was similar to that of the Kuki and perhaps, in many respects more barbarous, to have spread themselves from the upper Irawadi to the south and west as far as the highlands of Tipperah on the one side, and Pegu on the other. Wherever the stock from which they have been derived was originally located, they probably first appeared on the Ultra Indian ethnic stage as a barbarous Himalayan tribe, immediately to the eastward of the Mishmi, if indeed they were not identical with the Mishmi, of that era. The upper Irawadi was probably then occupied by the ruder and inland tribes of the Mon-Anam alliance.

The *Koupooee* comprise two tribes, the *Songboo* and *Pooeer-on*. The Koupooee occupy the hills between Cachar and the valley of Munnipore in their whole breadth, a direct distance of about forty miles; and from 25° North latitude, they formerly extended over nearly an equal distance to the South. The whole of this tract was formerly thickly studded with villages, some of them of considerable size, and Songboo tradition gives, as the place of their origin, the mountain towards the South of the valley named Thangching. They and all the other races of hill people congregate in communities, composed usually of families connected with one another by blood-ties. The superior elevations being the most healthy; their villages are usually to be found on them. Before the subjugation of the Songboo tribe to Munnipore, almost every village was at war with its neighbour. On their subjugation this warfare was put a stop to, but the remembrance of their feuds remains and they would break out afresh to-morrow were the restraining hand of Munnipore withdrawn. Munnipore has, however, been able to exert so much influence amongst the Koupooee as to prevent feuds being openly carried on, but a state of active feud appears to be the one natural to all the tribes from Cape Negrais to as far north as we have any knowledge. The

Koupooee are much attached to their villages, which are permanent. The village and its immediate precincts form their grave-yard, and when, for a time, from whatever cause, they have been obliged to desert their village, they more often express their wish to return to it as being the grave of their ancestors, than to it as being their own birth place. Their attachment then to their village is created quite as much by its holding the tombs of their ancestors as by its being the place of their birth. The mountain-land around the Koupooee village, within certain fixed bonds, is usually the property of the village. This they cultivate with rice in elevations suited to it, and with other crops in situations unfitted for that species of grain. The spot cultivated this year, is not again cultivated for the next ten years; it having been found that that interval of time is required for the formation of a cultivable soil by the decay of the vegetable matter that again springs upon it. Every village has three hereditary officers, namely Kool-lak-pa, Loop-lak-pa and Lum-poo, and officers, besides these, are elected. If the hereditary chief or Kool-lak-pa be a man of wealth, he will be also a man of influence. The Koupooee are sub-divided into families Koomul, Looang, Angom and Ningthanja. A member of any of these families may marry a member of any other, but intermarriage of members of the same family is strictly prohibited. Though not attended to with the same strictness, this prohibition, in regard to marriage, and this distinction of families under the same designations, exists amongst the Munniporee race. All the hill-people are dirty, but amongst them the Koupooee is comparatively clean, he frequently bathes, though he does not devote much time to the purification of his skin. He is omniverous, and of course without prejudices of caste, but one species of food he never touches milk to him is an abomination. In appearance, manners and customs there is no essential difference between the two divisions of the Koupooee, the Songboo and Pooeeron, but though so much alike in these respects, between their languages there is so great a difference, that when they wish to communicate with one another they have to resort to the language of Munnipore. The Pooeer-on do not appear at any time to have been numerous, and they are at present confined to a few villages situated in the North Eastern corner of the space before indicated as the region of the Koupooee tribe.

The *Quoireng* tribe, have a language distinct from those of the Songboo and Pooeeron but with a great similarity in all other respects. They inhabit all the hills north of the Koupooee, between the high range that skirts the valley of Munnipore and the Burak, as far as the Angamee tribe, from whose aggression they have suffered much. From these aggressions and their own feuds, they have much decreased in number, but are still a very considerable tribe, possessed of much energy which developes itself in trade with the Angamee and the British frontier District. The Khongjai or Ku-ki, until lately, occupied the hills to the South of the Koupooee whilst in this position, little or nothing of them was known, but they caused fear from their vicinity. South of them lay the Poi, Soote, Taute, Loosei, and other tribes, better armed than they were, and of the same genus as themselves, but at feud with them. By these they were driven from their native hills, the task being rendered easier by the internal animosities of the Khongjai themselves, and the Khong-jai are now scattered around the valley of Munnipore, and thence through the hills to North and South Cachar. Thus they broke into distinct tribes. Although occupants of the hills to the south of the valley of Munnipore their traditions do not give the southern hills as the place of their origin, but rather lead them to the belief that it was in the North. The salique law rigorously prevails amongst the Khonjai, but the influence of woman is great amongst them.—*McCulloch's Records. G. I. F. D. pp.* 42, 59.

The *Kuki* country lies to the south of the Garo, Kasia, and Mikir areas, or the hill ranges of Garo, Jaintia and Cachar in Sylhet, Tipperah and Chittagong—among the mountains to the north-east of the Chittagong province. There are new Kuki who came from the ruder parts of Tipperah and Chittagong, and their form of speech is not always intelligible to an old Kuki. The Manipur dialects and the new Kuki are mutually intelligible. In 1848-49, four Kuki tribes,—the Thadon, the Shingshion, the Chungsen and the Lumgum, were driven into north and south Cachar and into Manipur, from their locations by the Lushai people who speak a Kuki dialect but dwell further south. They were driven back by Colonel Lister and his Sylhet light Infantry. He entertained the new Kuki as soldiers, and they are found to form good outpost soldiers on the frontiers of both the Lushai and the Angami countries. Puthen is their chief deity, he is benevolent: and Ghumvishve is a malignant deity. The Kuki likewise worship the moon. They have no professed minister of religion. The Thempu, their priest and diviner, is not hereditary and his office is not coveted from fear of the initiatory rites. The Kuki occupy Sylhet, Tipperah and Chittagong, with an offset in Cachar who are called the old Kuki. Those in Cachar are skilful in the cultivation and weaving of

cotton. The Cachar old Kuki are under 4,000 and are arranged into three divisions the Rhangkul, the Khelma and the Betch. The Kuki are also called Lungkta. They are little civilized, are of an active, muscular make, but not tall. The tradition of the Kuki respecting their origin is, that they and the Mug, are the offspring of the same progenitor, who had two sons by different mothers. The Mug, they say, are the descendants of the elder, and the Kuki of the younger son. The mother of the younger having died during his infancy, he was neglected by his step-mother, who, while she clothed her own son allowed him to go naked. According to Coleman, p. 234 the Kuki are divided into a number of distinct tribes, totally independent of each other. The rajahships, he says, are hereditary, and the rajahs by way of distinction, wear a small slip of black cloth round their loins; and, as a farther mark of superior rank, they have their hair brought forward and tied in a bunch, so as to overshade the forehead, while the rest of the Kuki leave their's hanging loose over the shoulders. The Kuki arm with bows and arrows, spears, clubs, and dah, a hand hatchet, resembling the knife of the Nair on the Malabar Coast, and a most destructive weapon in close combat. They also wear round their necks large strings of a particular kind of shell found in their hills: about their loins, and on their thighs, immediately above the knee, they tie large bunches of long goat's hair of a red colour, and on their arms they have broad rings of ivory, in order to make them appear the more terrific to their enemies. The Kuki are vindictive; blood must always be shed for blood. They have but one wife but they may, however, keep as many concubines as they please. Adultery may be punished with instant death by either of the injured parties, if the guilty be caught by them in the fact. The *Kuki* on the Eastern frontier are an entirely different race from the *Kooki* of the *Chittagong* jungles. The name by which they are commonly known is "*Tipperah.*" In physiognomy some of them are like the *Munipooree*, but the greater part bear more resemblance to the *Khasia* tribes having strongly marked *kalmuk*, or Mongolian features, with flat faces and thick lips, not in general shorter in stature than *Bengali*, but far more muscular and strongly made. Many of them, with complexions scarcely darker than a swarthy European. The villages contain perhaps from 100 to 200 inhabitants each, and each house is raised on bamboo piles 4 or 5 feet from the ground. The Kuki race of Assam were much addicted to make inroads on the plains, not for plunder, but to procure heads, and they have been known to carry off fifty heads in a night. On the death of a chief, the body is smoke dried and kept for two months with the family. If a rajah fall in battle, they immediately proceed on a head hunting expedition and bring in the heads of those they kill, hold feastings and dancings and, after cutting the head into pieces, send a portion to each village. This is considered in the light of a sacrifice to the manes of the deceased. In the spring of 1871, they made several inroads into Assam, for the purpose, as was alleged, of obtaining heads for the manes of a chief's daughter.—*J. H. Reynold's Embassy, Vol. of* 1864 *of B. A. S. J.*

The *Looshai* dwell on the southern frontier of Cachar. In 1848-49, they drove up the Kuki, from the south, into Cachar. In their turn, they are being pressed up into Cachar, by the Poi, a tribe who are advancing from the south-east. The Looshai inhabit the hilly tract lying between Cachar and Chittagong, and claim and hold all the tract of country to the south of the parallel of the latitude of Chatter Choora hill, and east of hill Tipperah to the Tepai river, is Burmese frontier.—*Aitcheson.*

Khumia and Kuki.—Khum, means a village, Khumia, a villager. The Khumia and Kuki tribes occupy the hills of Sylhet, Tipperah and Chittagong, the Khumia on the skirts and the Kuki on the tops of the hills. The Kuki are the ruder or more pagan, though also tinctured with hinduism. They term their supreme being, Khojein Putiang, to whom they sacrifice a gyal and an inferior deity is named Shem Saq, to whom they offer a goat. Shem Saq, is put up in every quarter of a village, in the form of a rude block of wood. Before this they place the heads of the slain, whether of men in war, or of animals of the chase.—*Latham* ?

If a *Kuki* man die at night his body is burned in the morning, vegetables and rice are placed on the spot where the body was burned, and the relatives of the deceased address the ashes of the consumed corpse thus, "We bid you farewell to-day; whatever money and rice you have acquired, leave with us." On the following day friends resort to the deceased man's house, and offer up a sacrifice of a fowl to the gods Tevae and Sangron. Liquor is freely partaken of, the good qualities of the deceased are recited, and much lamentation is made. When a married man dies, all his friends assemble and bewail their loss. Vegetables and rice are cooked, and placed on the left side of the corpse with a gourd or bottle of liquor. Amongst the Beli clan of Kuki soon after death the corpse is washed with warm water, and covered up with a cloth. The

Tevae and Sangrou, are the principal deities worshipped; to them fowls, pigs, and spirituous liquor, are offered, in sacrifice, on all occasions of sickness, famine, or other affliction which they conceive is the surest method of averting evil and bringing their wishes and undertakings to a successful termination. The Kuki have no images or temples of any kind. The object of the Kooki inroads on the plains is not plunder, for which they have never been known to show any desire, but they kill and carry away the heads of as many human beings as they can seize, and have been known, in one night, to carry off fifty. These are used in certain ceremonies performed at the funerals of their chiefs, and it is always after the death of one of their rajahs that their incursions occur. The Kooki have been accused of cannibalism, and in one instance the charge seemed substantiated, but they disclaim the imputation with much vehemence. Nothing comes amiss to a Kooki—the elephant, rhinoceros, and beef, being equal delicacies. The new Kooki clans are presided over by rajahs and muntrees, who decide all matters of dispute brought before them; and in such respect do they hold their rajahs that their word is law. One, among all the rajahs of each class, is chosen to be the Prudham or chief rajah of that clan. The dignity is not hereditary, as is the case with the minor rajahship, but is enjoyed by each rajah of the clan in rotation. The Kuki smoke dry the dead bodies of the rajahs. After the death of a rajah his body is kept in this state for two months before burial, in order that his family and clan may still have have the satisfaction of having him before them. Should a rajah fall in battle by any chance, they immediately proceed on a war expedition, kill and bring in the head of some individual, hold feasting and dancings, and then, after cutting the head into pieces, send a portion to each village of the clan. This was done on the murder of the Kooki rajah by the Nimzae Nagarace. This is considered in the light of sacrifice to appease the manes of the deceased chief.

The Kooki cultivate rice and cotton, but in a manner quite opposed to the system pursued by the Cacharee and Naga, the former of whom raise three crops of rice from the same land, and the latter four. The crop is not cut till November, whereas that of the other hill tribes is cut in August and September; their cotton is also very fine. Besides this they grow tobacco, and all the usual vegetables met with in the hills.

The men are powerful and hardy but turbulently inclined. Having been accustomed to war in their own country, they are exceedingly well suited for soldiers, and those that have been enrolled in the Kooki levy at Silchar have turned out well. They are also particularly modest and decent, each man living with his family in a separate house. The widows also live in houses of their own (in this respect like the Naga and Cacharee), built for them by the villagers. The men wear a large cloth, sometimes two, wrapped loosely round the body, and hanging from the shoulder to the knee. Underneath this they wear nothing, the whole body being bare, in which they consider there exists no want of modesty, as such has been their custom from time immemorial. The women wear a short striped petticoat, reaching from the upper part of the stomach half way down to the knee. Married women have their breasts bare, but all virgins are covered, wearing a similar cloth to the petticoat wound round the bosom underneath the armpits. They wear their hair prettily plaited at the back, the two ends being brought round in front and tied just above the forehead in the form of a coronet. Like all hill people, the Koo-ki are most dirty in their habits, very seldom washing their bodies. The sites of the Kooki villages are well chosen on the broadest parts of the highest ridges, with water near at hand, generally a small hill stream. Some of the chief villages contain as many as 200 houses, commodiously built on platforms raised between three and four feet from the ground. Every part of the house is formed of bamboo, there being but few trees of any kind.—*Butlers Travels and Adventures in Assam, pp.* 85, 99.

Naga, is a word supposed derived from the Hindi, *Nanga*, naked, and is the name applied to a population composed of several tribes on the hills which bound Assam. The Naga lie north of Munipur and its dependencies. They use little clothing, manufactured and dyed by their women. They come in contact with the Mikir, Kuki and Cachar. The Naga villages of from 20 to 100 houses are fixed, and they crop and leave their lands fallow. They inter their dead at the threshhold of their doors. The Naga is simple, social, and peaceful, unless when blood has to be avenged and then he is treacherous and cruel. Semeo is the name of their god of riches, Rupiaba is a malignant deity, with one eye in the centre of his forehead, and Kangaba, is a blind, malicious deity.—*Latham.*

Angame is a rude pagan tribe on the range of hills in upper Assam, on the eastern frontier of the Mikir and Cachari. They speak one of the Naga dialects.

The *Kakhyen* are divided into sects, each of which is headed by a Tsaubwa who is inde-

pendent, except in so far as a dread of the Burman king can influence his conduct. The next in rank to the Tsaubwa is called the Pawmyne. Both offices are hereditary. The Tsaubwa of Ponlyne, a village to the north-east of Bhamo, was the first chief whom Major Sladen met. Before the Burman officials he maintained a dogged silence about the route. In a private interview, after a little haggling, he was glad to accept Major Sladen's terms. The greatest difficulty in treating with these chiefs was to find an honest interpreter. One after another exaggerated the dangers of the road, and perverted the statement of the Tsaubwa, trusting that their secret orders from Mandalay would bear them out against the penalties with which the King *publicly* threatened those who obstructed the expedition. An old Muniporee woman, who acted at one time as interpreter, was beaten in the streets, Shikaries were forbidden to show game to the Englishman. Another difficulty was the change of British Indian rupees into the currency of the Shan and Kakhyen. This could not be effected; and Major Sladen started with a determination to melt his silver if the coins were not accepted. The issue showed how they were appreciated. Ponlyne, one of the first stages after Bhamo, will give us the picture of a Kakhyen village. The houses are elongated bamboo sheds, with a portico devoted to the cattle and poultry. Half the house is set apart as sleeping cells for the family; the other, forming an open hall running along the whole length of the house, is a public lounge. Here the stranger is admitted to Kakhyen hospitality. Kakhyen beer—a very good substitute for the English original, is put before the guests and the natives help themselves liberally. The chiefs are very fond of liquor. The Tsaubwa of Ponlyne several times gave the party annoyance, after leaving Bhamo, by his habits of intoxication. The beer is drunk, when fresh brewed, in plantain-leaf cups. The women wear a picturesque jacket ornamented with lines of silver plates, chased and enamelled. The lower garment is a single cloth ornamented according to the taste and ability of the wearer. In the evening the villagers assemble and dance to an accompaniment of sticks, stepping off the side "crab-fashion." When a villager dies, his friends dance round the body to propitiate the spirits called *Nat* and to *drive* away the soul from its former habitation. The *Nat* had to be propitiated before the British travellers could proceed on their journey. The *Meetway* or priest wrought himself into a devotional mood by tearing his hair, groaning, kicking and stroking his head and face. Fifteen rupees were laid on a cloth and offered to the priest, through whom the *Nat* spirits intimate their acceptance or the contrary. The money was spurned. Other five rupees brought the spirits to reason, and blessings and good omens followed the travellers. When unpossessed, the Kakhyen *Meetway* is an ordinary layman. As an initiatory rite, to show his fitness for the priestly office, the novice must climb a ladder with sword blades, sharp-edge uppermost, for steps, and seat himself upon a platform thickly studded with the sharpest pikes. Major Sladen found the *Nat* spirits very amenable to presents, and the *Meetway* generally interpreted the oracles in his favour. In vain, during long delay at Ponsee, was a bullock offered to the gods to turn them away from the cause of the British officers. Rupees were better than burnt-sacrifice. The domestic intercourse of the Kakhyen is very loosely regulated. Like the Non-Aryan tribes on the Eastern frontier of Bengal, there is no restriction on intercourse until marriage, but after that unchastity of the female is punished by death. The mirrors, beads and trinkets with which Major Sladen's Expedition had been provided, attracted crowds of females to the camp, each with a little present in return for which she hoped to carry away some finery.

The *Singhpo or Sintipho* people who inhabit the eastern districts of Assam according to their own traditions "descended from heaven; but it is known that about four or five centuries ago they migrated from a mountainous region on the borders of China, gradually advanced to the mountains skirting Assam, and towards the close of the 18th century established themselves on the low lands which they at present occupy."—*Cole. Myth. Hind. p.* 326. The peoples called Muttuk, Singpho proper, and Jili, form three divisions of the Singpho group. The country of the *Muttuk* lies at a short distance from where the Brahmapootra river enter the Assam valley, dwelling close to the banks and principally on the southern side. The people are called Muttuk, Moran, and Moamerria or Mowameria, and are subjects of the Bursenapati, a vassal of the rajah of Assam; they are vaishnava hindus. They are in tribes, as the Khaphok, Khanung, Khalang, and Nognum, and their language is said to contain seven dialects, so different as to render them almost unintelligible to one another. The *Singpho proper* are a powerful intrusive population residing partly in Assam and Munnipur, and partly in the unexplored east. They are of a mixed buddhist and pagan creed, and live in separate villages under chiefs called Gam. There are four tribes known—the Thengai, Mayang, Lubrang and Mirip (Miri Mru, &c). They have a domestic slavery, such bondsmen being called Gum-lao. They practise polygamy. Property is divided between the

eldest and youngest brother, the intermediate remaining with these two as clansmen.

The *Jili* are conterminous with the Singpho proper. Their language being ⅔ Singpho and ⅓ Garo.

The *Kaku* religion is more or less buddhist, and the chief object of their worship is Gautama. But they likewise worship the elements and their gods, amongst whom are Megh Duta, and Ning Shi, to the latter of whom they dedicate skulls of buffaloes and the skulls of their enemies whom they kill in battle. Dr. Latham (*Descriptive Ethnology*) considers the words Kaku, Kuki, Kakui and Kakhyen to be identical.

The *Muttuk* is a branch of the Singpho group. The principal tribes on the frontier of Upper Assam are the Muttuk, the Khamti, and the Singpho. The Bur Senaputtee or chief of the Muttuk branch of the Singpho entered into an engagement in May 1826, whereby he acknowledged the supremacy of the British, and bound himself to supply 300 soldiers in time of war. The management of the country was left in his own hands, except as regards capital offences. In January 1835 the obligation to supply troops was commuted to a money payment of Rupees 1,800 a year. In 1826, similar agreements had been made with the Khamtee chief of Suddeya, but in 1839 they attacked the town of Suddeya, and many persons, as also Colonel White, the Political Agent, was slain. Agreements were also made in May 1836 with the *Singpho*. These tribes were implicated in the *Khamtee* rising in 1839, but they were allowed to surrender under conditions. Many of the Singpho clans have become extinct, and the main body have left Asam for Hookong, in Upper Burmah.—(*Aitchison's Treaties, &c., page* 127.)

Chittagong, also called Islamabad, in latitude 22° 20′ 5. N., lon. 91° 44′ 1 E. is a town 7 miles from the north of the river of the same name. Flag staff hill is 151 feet above the sea. It is a large town of mahomedans and of the Mug, a tribe, who, as some writers suppose, inhabit many parts of the Malay peninsula, and the coast to the northward of it. The town stands on the north shore of an extensive delta, formed by rivers which issue from the lofty mountains separating this district from Burmah, rising 4,000 to 8,000 feet; they are clothed with forests and inhabited by turbulent races, conterminous with the Kuki, of the Cachar and Tipperah forest, if indeed they be not the same people.

The hill tribes of Chittagong have been pushed up from Arakan. They call themselves by two names of pure Arakan origin—the Kyoung-tha, or sons of the river, and the Toung-tha, or sons of the hills. The latter, to which the Looshai belong, are the more savage and independent as their name would lead us to believe. The former have a written language and even possess several copies of the *Rajah-wong*, or History of the Kings of Arakan. All are Mongolian in physique, and are probably of Burmese origin. They have an honest bright look, with a frank and merry smile; and their look is a faithful index of their mental characteristics. They live in bamboo houses raised above the malaria of the ground. They practice *joom* (*Cheena or Kumari*) cultivation, burning down the jungle to prepare the soil for mixed seed scattered broad-cast, and moving off to a new site next season. And they have a mild form of debtor slavery, which Captain Lewin thinks we have too suddenly interfered with, so that the hillmen fall victims to the usurer. Among the independent tribes beyond the British border, prisoners of war are sold like cattle. Their wives are procured, while raids are also caused by the usage of "wehrgeld," which they call "goung hpo" or the price of a head. When a villager dies, his friends charge the village which he may have last visited with his death, and demand a price for his life. Polyandry, however, does not seem to exist among these tribes, though the women are so overworked and thus rendered so liable to disease that it might have been expected. Raids for women seem to keep up the necessary supply. Captain Lewin, in his Report, draws many a charming picture of rural courtship. As among almost all the Tibeto-Burman tribes, chastity is enforced only after marriage. All the unmarried lads sleep in one house in the village under the care of a "goung" or head man. The merry-makings and customs which are connected with this "bachelor's hall," as Colonel Dalton calls it, are the same as in the Kol and Gond countries. In the hills marriages are unions of affection, not of convenience or interest. Girls marry at 16, lads at 19. The most favourite offering to a sweet-heart is a flower, and the lover will often climb the hills before dawn to procure the white or orange blossom of some rare orchid for the loved one's hair. It may be mentioned, in passing, that the hair, being neither cut nor washed, but increased by a *chignon*, is indescribably filthy, and that one of the most curious legends of the people relates to the introduction of the louse by Bengalees. The girls know how to make modest advances. One of Captain Lewin's police sought a week's leave of absence on this ground—"A young maiden of such a village has sent me flowers and *birnee* rice twice, as a token, and if I wait any longer they will say I am no man." The language of flowers is well known among the Kyoung-tha. A leaf of pawn or betel leaf, with betel nut and sweet spices

inside, accompanied by a certain flower, means "I love you." If much spice is put inside the leaf, and one corner turned in a peculiar way, it signifies "come." The leaf being touched with turmeric means "I cannot come." A small piece of charcoal inside the leaf is "Go, I have done with you." The love songs are as pure as they are pretty, and no improper ditties are allowed in the hearing of the village maidens. As the lads and lasses work in a crowd, at harvest times, they respond in chorus, or when the leader has finished, the whole party break out into the *hoia* or hill call, like the "jodel" of Switzerland, and the cry is taken up from hill to hill till it die away in the distant valleys. In their mode of kissing, instead of pressing lip to lip, they apply the mouth and nose to the cheek, and give a strong inhalation. They do not say, "Give me a kiss;" but, "Smell me." The religion of these tribes is a mixture of buddhism and nature-worship. Captain Lewin describes a festival at the Mahamunnee temple in Arakan. The bamboo is adored by some as the impersonation of the spirit of the forest. But wherever, as in the case of the Chuk-ma, the tribes come into contact with the Bengalee, they show a tendency to gravitate towards hindooism, the caste of which would soon kill the joyousness and check the freedom of their life.

The Khumia and *Kuki* tribes occupy the hills of Sylhet, Tipperah, and Chittagong; the Kuki at the tops of the hills and the Khumia on the skirts. The Kuki are the ruder or more pagan race, though also tinctured with hinduism. They term their chief deity Khojeia Putiang, to whom they sacrifice a Gyal and an inferior deity, named Shem Saq, a rude block of wood, is put up in every quarter of a village: to him, a goat is offered, and they place before it the heads of the slain in battle, or the heads of animals killed in the chase. The Kuki say that they and the Mug are the offspring of the same progenitor.

The *Chukma*, are a race occupying the Toonia Joom mahals, a forest tract in the hills of the Chittagong district, along with Mug, Reang and Tipperah races, all more or less nomadic. Some one of these races, till lately performed human sacrifices annually, and in the year 1852, several of them were tried for murder by sacrificing. The place of sacrifice was a cleared district in the jungle and staked round with bamboos about six feet high. The sacrificial pole was a "Phula bans," a bamboo scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. During the celebration of these sacrifices at Agartollah, a gun is fired every evening at sunset, when every person hurries to his home.

Arracan province is a narrow belt of land 290 miles long, hemmed in between the sea and the Aeng or Youmadong range of mountains, which lies very near the coast. It is traversed from north to south by a large river, the Koladyn, navigable for a considerable distance into the interior; and by numerous smaller rivers, all of which have tidal channels and form a sort of delta along the coast which is skirted by many islands. From the proximity of the mountains to the coast, and their considerable elevation, the rain-fall is very great amounting to 160 and 180 inches annually. The races dwelling in the valley of the Koladyn and its affluents are the Kuki, the Mru, the Sak, the Niru Sak, the Ka-mi, the Ku-mi, the Ra-Khyen the Kin-ni, Shendu, and the Prou-ka-nij, tribes professing a creed partially buddhist and partially pagan.

Mugh is a term which the British have given to the Arakanese but that people restrict it to the descendants of Arakanese by Bengali mothers. The *Mug or Mugh* race form six-tenths of the native population of Arrakan, one-tenth being Burmese and the remainder Hindu. In Arakan and in the basin of the Irawadi, are several tribes of the same stock with the Burman, and their languages are in their present form so much akin to it that they may be almost considered as forming, with Burman, dialects of one tongue.

Burmah, politically, is partly under British, partly under a Native rule. There had been embassies and commercial intercourse from the 16th century, but the first war between the two powers occurred in 1824-5-6 when much of the Amherst and Tenasserim provinces became occupied by the British. Rangoon fell to a combined Naval and Military Force on the 14th April 1852 and when peace was declared all Pegu and Arakan were retained by the British. Burmah is ruled by a king and by the Atwen-woon, or Burmese Privy Councillors, of whom there are four. They are inferior in rank to the Woon-gyi, but between them and the Woon-dook precedence is disputed. The Burmans proper occupy the valley of the Irawaddy, mixed with Karen, from L. 18° N. to the delta. They are buddhists. Their language, the Burmese, is spoken in Arakan, in the valleys of the Irawaddy and Sitang, and in Tenasserim to the south of Tavoy. The Aracanese and Burmese are called Myamma and are of the same race. There are numerous Shan states far to the north-east, but they generally owe fealty to the Burmese monarch. The Burmans are lively, inquisitive, active, irascible and impatient. The Burman woman's lower garment is a narrow cloth of various colors, of a pleasing contrast, which descends generally from the waist or from below the arm to the feet. It is made to overlap.

and is tacked in in front, at the waist, but it is so narrow that most of the inner thigh is shown at each step. The young people are little restricted in their intercourse and the marriage ceremony and that of divorce are simple, the women are naturally affectionate, very intelligent, engage largely in market and shopping business and even undertake extensive mercantile transactions. The ruling races are the British and the Myama, which other nations pronounce Burma, but the tribes and natives under their sway are numerous. Burmese history says that anterior to the advent of Gaudama, a nation dwelling between Nepaul and the Ganges was attacked and conquered by the king of Oudh, from the west, and the people fled east until they reached the valley of the Irawady where they settled and built a city which they called Tagoung, 100 miles north of Ava. This event may have occurred whilst the Ariyan races were occupying the Punjab, and the face of the Burman supports that history as it has a Tartar origin stereotyped on it in characters that cannot be mistaken.

A greater variety of nations and diversity of languages are found in further India, than in any other region of equal area, yet no one of them appears to be indigenous. The Indu-European races have crossed the Brahmaputra and established themselves and their language in Assam. The Tartars have poured in from Tibet in the north and many tribes give indubitable evidence of Tibetan origin. On the east the Tonquinese and Cochin Chinese are known from their tongues to be offshoots from the Chinese, while the Malay tribes have come from the south up to 10° N. and spread their language into the Mergui Archipelago.

The Andaman people are not of the northern races but are a negro race similar to those in the interior of the great Nicobar.

The Nicobar people, probably migrated from Sumatra, but the interior of great Nicobar Island is occupied by a negro race.

Burmah has the Tai or Shan on the east: the Malay on the south, the Kaffir and Hindu on the west and the Tartar and Chinese on the north, within these boundaries are many tribes with several synonyms, but nearly all may be referred to four great families, the Talaing, the Burman, the Karen and the Shan.

The ancient capital of the Talaing was called Thadung, Thatung or Satung. Its ruins are still to be seen between the mouths of the Sitang and Salween rivers and the colonists seem to have been of hindu origin, possibly arriving several centuries before the Christian era. They seem to have extended their empire to Pegu and Arakan, in the early centuries of the Christian era, and to have held sway for sixteen centuries.

The Arakanese call themselves Ra-kaing: they are a branch of the Burmese who separated themselves from the main stock at a very early period. The people of India call them Mug, a name of unknown origin and unknown to the Ra-kaing themselves.

Mien, according to Colonel Burney and Lan Meen, according to Buchanan, are the Chinese names of Burmah, and Da-ma, spelled Mran-ma or Myamma is that portion of the Burmese who occupy the country above Prome.

The Burmans, and still more the people of Aracan, Cassay, and Assam, who, no doubt, have intermixed more or less with the hindoos, have more beard, more prominent features, and a darker complexion than their neighbours to the south; and this in proportion as they are respectively nearer to, or more distant from, the country of the Hindoos.

Every male Burman is tattooed in his boyhood from the waist to the knees: in fact he has a pair of breeches tattooed on him: the pattern is a fanciful medley of animals and arabesques, but it is scarcely distinguishable save as a general tent, excepting on a rather fair skin. Erskine in his course in the Pacific, mentions that the natives of the Samaon or Navigator's Islands, have exactly the same fashion.

The *Pun-gyi*, or *Poon-gyee*, meaning Great Exemplar or Great Glory, is the name by which the members of the monastic rule of buddhism are commonly known in Burmah.

The Bilu, in the Burmese buddhist myths, are the equivalents of the hindu Rakshasa. They are generally, however, described as engaged in some humorous mischief.

Burmese funerals are conducted with tumultuous rejoicing. On the occasion, in 1870, of burning the remains of the queen mother, the troops, with the numerous elephants gaudily trapped placed here and there, made the scene barbarously splendid. Following or proceeding the bier were the princes and princesses, the queens with the Pakan Meng, the late king. He and the first queen whose mother the deceased was, walked in front of the bier. About a quarter to eleven the great inner gates were again thrown open for the exit of the king and retinue. H. M. was seated in a large gilded palanquin, borne on the shoulders of some 40 or 50 men, and was accompanied by four of his daughters and one son, all young. He, like all the others, was dressed entirely in white. Advancing up to about ten yards from the front of the enclosure, the palanquin was halted, the retinue and guards filing off right and left and forming a large hollow square. Prayers were said by several Phongye, the king gave directions as to the exact minute at which the cremation was to commence, the bearers turned round, the procession was reformed, and moved inside the great

gates which were again partially closed, while drums, tom-toms and cymbals were beaten, and trumpets sounded, amidst a tumultuous noise. The queen, princes, Pakan Meng, &c., returned to the palace shortly after the cremation was completed in the same order as they came out. The coffin was overlaid with gold to the extent of 7½ viss which was afterwards distributed among the Phoongye or to be applied to the building of a pagoda. Charcoal was employed at the burning of the body and was kept at a red heat by numerous bellows placed all round. The whole of the body with the exception of a small part of the back of the skull was reduced to ashes or at least consumed on the fire. This small piece, little bigger than a rupee, was placed in a gold cup closed by a lid studded with rubies, while the remains of the charcoal and ashes were placed in earthern-ware vessels to be carried to the river. The gold cup was confided to an official who took his place in the hearse. Having arrived at the river bank, those deputed for the purpose entered two gilded boats lashed together, but a little apart, which were rowed out into the centre of the stream. Here a halt was made, the bearer of the gold cup with it rolled up in his putzoe jumped into the water and while he was underneath let it go. At the same time the jars of ashes had their contents poured into the stream, the man was picked up and there was an end of the whole.

The Tibetan and Burmese idiom in a sentence is the reverse of the English, and Csoma de Koros says that the words "In a book seen by me," would be translated into Tibetan "me by seen book a in." Many of the roots of these two tongues are of common origin, thus further indicating that they are cognate languages. Until recently human sacrifices were made. When the gates of the new city of Tavoy were erected about A. D. 1780, Dr. Mason was told by a witness that a criminal was put into the hole for each door post and the post thrown in so that the blood gushed up at the sides,—the object being that the slaughtered man's spirit might become a nat and hover about and haunt the spot and protect the gate.

Talieng or *Mon*, is the name of the natives of Pegu. The Burmese call them Talieng. The Siamese appellation is Ming-mon. Part of this population dwell on the Delta of the Irawadi, Mon being the name used by themselves, for the native populations of Pegu, Moulmein, Amherst and Martaban; but their neighbours call them Talieng, and the same names Mon or Taljeng are given to the vernacular language of Pegu. The alphabet, like that of the T'hay and Burmese, is of Indian origin, being essentially that of the Pali form of speech, and like all alphabets of this kind, it embodies a buddhist literature. The Mon language is quite unintelligible to a Burmese or Siamese.

The Talaing language has the intonations characteristic of the Chinese family, but to a much less extent than the Chinese itself, the Tai or the Karen. The roots are principally monosyllabic; but this language is remarkable for its numerous compound consonants. Like all other Indu-Chinese languages, grammatical distinctions are made by particles prefixed or suffixed. In its vocables, it is the most isolated language in further India, but it has a radical affinity with the language of the Ho or Kol, The Talaing people call themselves Mon, which has this bearing on their origin that a Ho or Kol tribe are called Moondah and Mon.

The Eastern portion of the Burmah district from the Yomadoung to the Lemroo river is mountainous and hilly. The hill men living on the eastern frontier are Khyen, Mroo-khyen, and Koo. The *Khyen* differ from the Burmese in dress, language and habits: they occupy both banks of the Lemroo river from the Wah Kheong to the Khee Kheong and the low hills west of the Jegaendong range visible from the plains, to the valley of the Tarooe Kheong and the low hills and plains within the Tandan, Ganacharain, Prwanrhay and Dainboong circles. They are a quiet, inoffensive people, and number 3,304 souls who pay land revenue and capitation tax to the amount of Rs. 3,883.

Mroo Khyen—The most northern village occupied by the Mroo Khyen, paying revenue, is Sikcharoa, situated 14 miles north of the junction of the Saeng Kheong with the Lemroo river. The Mroo Khyen occupy the valleys of the Wah Kheong, Saeng Kheong, Mau Kheong and that part of the valley of the Lemroo between Peng Kheong and Saeing Kheong. They number 4,020 souls of whom 37 cultivators pay an annual revenue of Rs. 111.

The *Koo* occupy the mountainous country near the sources of the Lemroo river and its principal feeder the Peng Kheong, within the 22nd parallel of north latitude, westward of the Yomadoung range; they have never paid any revenue and it is only after entering the hills for 8 or 10 days, that the first villages of these wild people are met with. The approximate number of houses is 2,897, and allowing 5 persons for each house, the number of inhabitants may be estimated at about 14,485. Those living on the Peng Kheong have intercourse with the neighbouring Ku-mi of the Koladyn circle, from whom they differ but little in their habits.—*J. H. Donel, Esq., in Vol. 32 of 1864 of B. A. S. Jour.*

The races of Burmah are as under:

Talaing, Peguan, or Mon.

A. BURMESE TRIBES WHO SPEAK BURMESE.

Burmese proper or Mrnma.

Arakanese.
Mug.
Kanyan.
Toongooer.

Tavoyer, a branch of an Arakanese colony of Burmans.

Yaur, *Yau*, or *Yo*, or *Jo*, or *Quoi*, is a small Burmese tribe dwelling in the valley of the Yau river, great traders and the chief carriers and pedlars of northern Burmah.

Zebeing or *Yebain*, Burman Karen, a very dirty people, in the valley of the Setang above Tounghoo. They rear the silk worm and weave silk.

Pyu, the Burmese who occupied Prome, distinct from the Burmese proper.

Kado, a Burmese tribe now scattered over the interior of the Monyeen district and that of Pyeenzala, west of the Irawaddy.

Danu or *D'hanoe* or *D'hanu* or *D'hanao*, a rude Burmese tribe near M'we-yen.

B. SHAN OR TAI TRIBES.

The *Shan or Tai*, are a part of the Tai who encircle Burmah on the east and north from the gulf of Siam to Assam and the Brahmaputra. The powerful Siamese, on the extreme South East are the youngest, but the most powerful member of the Shan family: and exceping the Siamese, the whole Tai race are now tributary to surrounding nations. They trace their origin to an offshoot from the Laos, whom they formerly denominated Great Tai, while they called themselves Little Tai. They were originally tributary to Cambodia, but became independent A. D. 1350.

The *Ahom*, on the extreme North West, came into Assam about the beginning of the 12th century, about the same time that the Siamese went south.

Before the 13th century, then, the Tai formed a compact body on the East and perhaps north of Burmah, probably pressed on by the Moghuls in China, Kublai Khan having fixed himself in Assam in the time of the first Ahom chief.

The exact position of the Great Tai, the Laos of geographers, is unknown.

Lao or *Lau* or *Lawa* or *Wa*, is a wild tribe on the mountains between the Irawaddy and the Meenan north of the latitude of Ava. There is a small settlement in Amherst. The term Lau or Lawa is applied by the Chinese to all the chief nations on the S. W. frontier of Yunan. One writer calls the feudatory tribes in Yunan by the term Lolo or Lao, called Shyans by the Burmese. Some writers regard the Lao as a distinct tribe of Shan.

Paloung or *Paloa*, a Shan tribe north and east of Bamo.

Phwon or *Mwoon*, a Shan tribe on the Irawaddy above Bamo.

Karen, are divided into the Sgau, Bghai, Pwo nd Shan Karen and have nine distinct dialects.

Karen, is a Burmese word applied to most of the mountaineers in Pegu and southern Burmah. Some of them are known as the white, red and black Karen, from the colours of their clothes; also Burmese Karen and Talaing Karen, as dwelling amongst these nations. They are not a prior race in Burmah. The Shan call them Yang, pronounced in the different parts of Burmah as Yen, Yein, Yen-ban and Yen-seik. The red clothed Karen call themselves Ka-Ya and some of the B'ghai clans, Kay-ay. They describe themselves as having come from the north, and crossed the great sand desert that separates China from Tibet. They believe that formerly they had books. The name Karen embraces several distinct tribes, speaking widely different dialects of one language. But all the Karen family between the mouths of the Tenasserim and sources of the Sitang arrange themselves into the Sgau tribes, the Pwo tribes and the B'ghai tribes.

(*a.*) SGAU TRIBES.

Speak the Sgau dialect As the seaboard is approached the Sgau and the Pwo are found mingled together from Bassein to Mergui. They are, however, found from Mergui in Lat. 12 N. to Prome and Tounghoo in Lat. 19 N. a few have passed westerly into Arakan, and on the East they have wandered to the east of Zimmay over the watershed that separates the Meinam from the Salween. They are the most numerous of all the Karen tribes. They wear a white tunic, with a few horizontal bands of a red colour near the bottom, and from this, they are called White Karen. Where the population is sparse they cultivate the most favorable spots, first, before hewing down the trees abjuring the departure of all evil, and then dibbling in the rice seed, which they do not sow broad cast like the Burmese, planting also cotton, capsicum, Indian corn, and Job's tears between the rows They also fish largely, for they eat all creatures, lizards, snakes, deer, wild hog, elephant, rhinoceros, wild ox, buffalo; they gather the wild cardamum, or wash for tin. They have no mechanical art, but some of the women weave and embroider. Their betrothals are in infancy and the married couple early associate, but there are frequent separations. All the Sgau and the Pwo burn their dead, but a bone is taken from the ashes and in the dry-season is buried with a festival, with music and dancing. The bone is placed in a booth and around it the articles belonging to the deceased are hung with a torch at the head and another at the foot to represent the morning and evening stars.

The *Sgau Maunepgha* occupy the hills between the Youk-tha-wa and Meet-gnan creeks their dialect is different from the Sgau.

The *Paku* dwell south of the Mopgha tribe of the Pwo east of the Mau-ne-pgha in the watershed

between the Sitang and Salween. They wear a white tunic without stripes.

The *Wewa* dwell on the eastern side of the watershed between the Sitang and Salween. They are in the lowest stage of the civilization, and wear the cast off clothes of their neighbours.

(*b.*) BGHAI TRIBES.

Occupy all the country from the Sitang to the Salween rivers and from the mouth of Thouk-Ye-khat creek to near the British boundary and the Shan state of Mobhya. They speak two distinct dialects, the B'ghai and the red Karen, both of which are more nearly related to the Sgau than the Pwo, there being no final consonants in either. They dwell south of the Ka. They are more savage than the other Karen tribes and little is known of them except that they make forays and kidnap their neighbours. Each village has a single raised and palisaded and fenced house with a walk down the centre and a hearth for each family, and one with 75 hearths has been seen. A stranger can only approach with a guide. On his arrival a place is pointed out for him to sit, and if he move, he is speared as an enemy. A ladder during the day time leads to a trap door. They are known as the Bghai, by the Paku and Sgau. They bury their dead in coffins like those of the chinese, made of a single log of wood, with a hollow place for the corpse. They are subdivided into the Bghai-ka-ten, or B'ghai who wear a tunic with perpendicular red bands on a white ground, and are named by the Burmese according to their localities *leik bya-gie and leik-bya gnay*, or great and little butterflies. The other division wear short white trowsers, and are again subdivided into the B'ghai-mu-htai, the Eastern B'ghai or red Karen, who dwell beyond the eastern mountains in the valley of the Salween; and the Bghai-ko-hta or upper B'ghai, because they reside on the rivers above them, but to these, the Burmese give the name of Ka-yen, Ayiang or wild Karen. They rear the silk worm. They eat dog's flesh without salt, and rice without vegetables. They are wretched barbarians. —*Mason's Burmah, pp.* 11-88.

Lay May? or Black Necks are a small Bghai tribe N. E. of Tounghoo whom the Bghai call Pray.

Manu Manau called by the Red Karen, "Pray," dwell between the Sgau and Red Karen.

Bghai-mu htay, or Karen-ni, the Red-Karen call themselves Ka-ya, their term for a man. The Shan call them Yang-laing which also signifies Red Karen. The men wear short white, trowsers with perpendicular black or white stripes, or black ground with red or white stripes. The women have a red or black turban, with a square cloth, tied by the two corners over the right shoulder like a Roman toga. They also have a petticoat. The men go armed and each has a pony: every Red Karen has his back tatooed with radiating lines. They dwell on a table-land several thousand feet high, undulating, with good soil and many springs. Their country is the finest in southern Burmah, and their villages amount to about two hundred with from one hundred to four hundred houses in each. They are skilled in the arts, are vigorous, hoe their land, and use cattle with panniers. They take spirituous liquors largely. Many of the population are slaves. The Karen-ni are civil, good tempered and intelligent; but they evince great ferocity in their forays.

Lwsy-lohug, a Karen tribe met by Mr. Tracey dwelling south of the Ka-khyen, on the edge of the Table-land west of lake Nyoung Ywe, two degrees north of Tounghoo. They dress like and are doubtless a branch of the Red-Karen.—*Mason, Burmah*, 641.

Ying-ban, a tribe supposed to belong to the Red Karen, whose dress and language they use, they dwell about 100 miles north of Tounghoo.

(*c.*) PWO TRIBES.

Are eight in number and speak the Pwo dialect. The Pwo and the Sgau as we approach the sea-board, are found mingled more or less together from Bassein and the Sitang to Mergui living in the same villages, but apart from, though more numerous than the Sgau. The Sgau call them Pwo, but their own name is Sho, and the Burmese call them Meet-khyen, or in some sections Talaing Karen. They are muscular and prefer the plains. All the Pwo burn their dead.

Shoung, dwell on the Shoung, a tributary of the Sitang, on the northern boundary of Tounghoo, they call themselves Shoung-khi-pho, or sons of the head waters of Shoung.—*Mason Burmah, p.* 92.

Kay or Ka, dwell east and north of the Shoung, calling themselves Ka, but Kay by the Bghai, the Red Karen calling them Pa-htoung and the Burmese Gay-kho. They are a pugnacious race. They rear the silk-worm and make and wear silk. When a chief or owner of slaves dies, provisions and one slave is said to be buried with him, to be his attendant in the next world. They dwell on both sides of the boundary at Tounghoo, separating British Burmah from the Ava territory. They speak a dialect of Pwo.

Taru dwell north and east of the Ka and west of the Red Karen. The Burmese call them Belu, but they style themselves Khu-h'ta, They shave the head, leaving two side locks. *The Taru or Khu-hta*, are the most northern of the tribes of Burmah with whose language any acquaintance has been made. They speak a dialect of Pwo.—*Mason Burmah, pp.* 89, 91, 92, 642-3.

Mop-gha, occupy the range of hills between Thouk-ye-khat and Kannie creeks, skirting the Bghai on the west.

Hashu or Hashwi, occupy the water shed between the Thouk-ye khat and Poung-loung.

Thoungthu, or southern mountaineers, are scattered through Cambodia, Burmah proper and the Shan states and are seen at Mergui and Tavoy.

Khyen or Kayn or Chin, a considerable tribe on the Yoma mountains that stretch from Arakan to the Naga hills and scattered in small settlements on the north of Pegu as far as Tounghoo. Dr. Mason regards them as Karen, Yule thought them Kooki, and Phayre regarded them as Burmese. They tattoo the faces of their women, to mar their beauty. They call themselves Shyou or Shyu—Sho, and the Burmese style them Pwo-meet-khyen, river Khyen.

(*d.*) SHAN KAREN.

The Shan word for Karen is Yang, softened into the Burmese Yen, hence several Karen tribes, with Yen as an affix.

Yen or Yein, a tribe mixed with the Shan, east of Ava, tolerably civilized.

Yen-seik inhabit the Shan states east of Ava, civilized.

Ying-bau, reside north of the Red Karen.

Pandung.

Toung-yo-tha, sons of the mountain range, a barbarous race in the interior, east of Ava.

Black Karen dwell in the Shan country, north of Mobya and wear a black dress.

(*e.*) MISCELLANEOUS TRIBES.

Ka-Khyen or Ka-Koo dwell east of Bamoo Mr. Kincaid identifies the tribe with the Siamese term Singh-pho, which the Burmese pronounce Thing bau, and is a term applied by the Shan and Burman to all the tribes dwelling north of Mo-goung. Captain Hannuy describes them as perfect savages in appearance, with long faces and straight noses. They are nominally tributary to the king of Ava. They bear a strong resemblance to the Karen. They yield a nominal tribute to the king of Burmah; but have never been subdued. They dwell to the east of Bamau and the people of all that region live in great dread of them on account of their savage ferocity in kidnapping and selling into slavery the neighbouring tribes with whom they are constantly at war. They are said to be addicted to the use of ardent spirits. The Karen regard them as a tribe of B'ghai, They are of a handsome figure but dark and slender. The women wear a long frock like the white Karen, but of a dark red colour.

Ka-ni, Kumi, Kimi, Kun-wi, or *Khumi, Kami* signifying man, are a Burmese tribe in Aracan.

Kyau, a small tribe in Arakan, whose language is affined to Burmese.

Koon or *Khon*, a tribe of the head waters of the Kola dan river, beyond the Arakan boundary.

Sak or Thoek, called Chatu by the Bengali, are a small tribe, who inhabit the eastern branch of the Nauf-river in Arakan.

Mru, a tribe in Arakan, occupy the hills between Arakan and Chittagong; they seem of the same lineage as the Myamma.

Shendoo, call themselves Heuma, and dwell in the mountains north of Arakan.

Selung or *Salon*, a tribe who occupy the islands of the Mergui Archipelago, to the south of Tavoy. They are fishers, for the sea-slug. They reside in their boats, which are good: are decently clad and intelligent: and are inclined to settle in villages and cultivate. They dig up the slug at the low water of spring tides during the N. E. monsoon.

Pulong, a tribe lying around Bamo on the Ka-Khyen river.

Yau.—A tribe who inhabit the skirts of the Arakan mountains westward of Pagan, and who speak a peculiar dialect of Burmese.—*Latham*.

The Karen dialects of the lower Irawadi and Tenasserim, are more closely assimilated with the Yuma languages than with the Burman. Karen has been more assimilated to the Burman phonology, but it has remarkable affinities with the Mon Anam, or Mon Lau alliance. Glossarially it is mainly Tibeto-Ultra Indian of the earlier form or that which characterises the Yuma and Naga Manipuri languages. Mr. Logan (*J. I. A. February and March* 1853) observes that no information had then been obtained respecting the languages of the Karen-ni or Red Karens, the Ka-Kui, the Kua, the Ka du the P'hwon, the Pa-long, the Ka-Khyen, the Lawa and the Khunung of the Irawadi and the Salwin basins. Ka-ren is said to mean wild man. They are found in small communities scattered over twelve degrees of latitude and ten of longitude, from the table land of Tibet, to the banks of the Menam, and from the province of Yunau in China to the bay of Bengal. Their whole number has been estimated at five millions. Dr. MacGown includes amongst them, the Ka-Khyien, Khyien, Kemmi Karen-ni or Red Karen, the Pwo and Sgau Karen, who possess characteristics so much in common as to justify them in being regarded as divisions or fragments of one nation. They possess a Caucasian class of features with long faces and straight noses. They are remarkable as free from idolatry. A few have become buddhists, and atheists are met with. They have no priesthood. They have nevertheless a religion of extraordinary purity. They are addicted to a considerable extent to Nat worship, demonolatry or pneumatolatry. To propitiate these spi-

rits in the rivers, hills, plains and trees, they sacrifice buffaloes, swine and fowls. A portion of them worship their ancestors and make offerings to their manes. They commonly burn their dead. Those under the Burmese sway are less favorably circumstanced than the Siamese. They are guilty of drunkenness and are filthy. But they are truthful, continent, hospitable, kind and religious. Their traditions of the deity, creation and sin, are those of the Old Testament and they anticipate great temporal prosperity under a new coming king. Their traditions point to an Israelitish origin and they are by some supposed to be an Israelite band, though they do not practice circumcision. The first convert to christianity was Ko Thah Byu who was baptised at Tavoy in 1828,—but before his death in 1841, there were 1,300 native disciples. The missionaries amongst them have been Mr. Boardman, Miss Macombe and Messrs. Mason, Wade, Bennet, and Abbot, and in 1851 the converts were estimated at 20,000. Several of their dialects have been reduced to writing, some in Roman, some in Burman character, and the scriptures translated.—*Jour. Arch. June* 1851.—Dr. Moore, (*on the Lost Tribes*,) mentions that they call themselves also P'lai (Pali ?) On the river Salwen, they maintain a degree of independence but in all other parts of Burmah are in a depressed condition. Karens are high in domestic condition. Their women are on an equality. They regard polygamy as a sin. Their morality is superior. But they are intemperate in honor of visitors and at festivals. Their hospitality to strangers of every class is extremely generous. They have reception, cooking, and sleeping apartments. They raise large produce from the soil. Their personal appearance and dress are Jewish. They wear the beard, which the Burmese pluck from the roots. The men and women wear a tunic, that of the men embroidered in the loom, that of the women by the needle. Their clothing is wholly dissimilar from that of the Burmese. A fourth of their words are Burmese the rest like Singpho and Pli. Their words terminate in a vowel. This connects them with the Pali, and also with the Bhotani and Ahom, whose language is likewise so distinguished. Their word for the deity is Yuwah. Javo is the word in Tibet and Bhotan for the Supreme Being. But the Lamas of Bhotan also use Ow-ah-n-'chu. They propitiate evil spirits. There are two sets, one sacrificing hogs and fowls to evil spirits, but the other called *Purai*, will not sacrifice to evil spirits and regard hogs with detestation. They say that formerly they sacrificed oxen.

Karens employ wizards to curse their enemies. They have a knowledge of the creation, of the introduction of sin and death, and of eating the fruit of the tree of death similar to the Jewish. *They look for a Saviour. Their moral code* forbids idolatry. They are remarkably prepared for evangelization. They bury their dead, but a bone is taken to represent the person, and at a convenient season it is carried to some stream and the assembly sing a dirge around it. A bangle is suspended from a string and omens are drawn. The Karens paint the two posts of their doorways, the one red the other white. Karens walk round the dead to make a smooth path like the Bhotani in procession round the shrines of Buddha and like Jews who walk seven times round the coffins of their friends. The Jewish priests in offering oblations *Ps.* xxvi, 6, walked round the altar seven times. The Assam hill tribes like Karens consider the touch of the dead pollution, as in Numbers xix, 13, "whosoever toucheth the dead body of a man and purifieth not himself, defileth the tabernacle of the Lord, because the water of separation was not sprinkled upon him he shall be unclean." Karens are smaller than the Burmans but are said to differ in separate localities. They are said to be handsomer as a race, than the Mon, according to the European standard. The white *Miaou-tse*, who occupy the hill country of central China, present many points of resemblance to the Karens. They are brave, independent, and at certain intervals sacrifice an ox without blemish to the great Father. It is amongst the Miaou-tse that the old Testament is said to have existed from time immemorial, which they say came to them from heaven 2,000 years ago.

The Toungthu dwell between the Sitang and the Salwin and in Amherst Province, and are in their dialect more closely connected with the Yuma languages than with the Burman. The Toung thu has a large glossarial agreement with Karen, but it has special affinities with the Kumi and othar Yumi dialects and particularly with the Khy-eng. The Toungthu are Islamized Chinese and are said to resemble the Anamese, but as their dress resembles that of the Anamese this may create deception. They occupy a portion of province Amherst, and are the only people there who understand the plough. This has a metal blade. They are esteemed good cultivators.

Kala, in Burmah, is a term applied to a native of India but, more extensively, to any western foreigner, such as an Arab or a European. Major Phayre supposes it to have been derived from a name given to the aboriginal races of India, which is still traceable in the scattered tribes of Kol, Kuli, &c, &c.

Kling, is the Malay term for a native of India evidently derived from the ancient kingdom of Kalinga though Newbold supposes Kling a corruption from Teling or Telinga. The Chuliah and Kling comprehend the traders and settlers, both mussulmans and hindus, *from the Coromandel coast.* These names

have been given to them by the Malays from the earliest times of the ancient commercial intercourse subsisting between this part of Asia and India.—*Newbold's British Settlements, Vol. I, p.* 8.

Shuay Dagon pagoda of Rangoon, is in height 321 feet, above the platform and 487 feet above the ground level. The height of the great Shwe Madan at Pegu is 334 feet above the platform. The former sacred pile of the Burmese, the Shuay Dagon, lies about two miles north of Rangoon, and is built on ground that rises gradually from the river side to a height of seventy or eighty feet. The pagoda is a stupendous mass of solid masonry: and stands on two terraces which face the four cardinal points. The upper one is 900 feet long and 685 feet broad: the face of the building is octagonal with a circumference of 1,355 feet. The area on which it stands is 800 feet square. Its surface is one dazzling blaze of gold and forms a magnificent obj ct, as it rears its lofty height from clusters of beautiful mango, cocoanut and other eastern trees.—*Yule, p.* 283. *Winter's Burmah, p.* 8.

Bamau, is a frontier town of the Burman, kingdom, near which, in the Burmese traditions, their ancestors formerly dwelt.

Pagau, a Burmese town where Captain Yule found all the details of the architecture of Hindu origin; and it is known that Anoratha, or Anoratha Saumen, when he established budhism in Pagau, built all the pagodas and temples in Pagau after the exact models of those then existing in Thatung or Satung, of the same size, and in the same order. Such is the testimony of Talaing tradition, and he believes of Talaing history.—*Yule, p.* 9.

Siam.—The people of this country, consist of the Siamese Proper, the Khamti, the Laos and the Shan, who form the T'hay or Siamese group. The Siamese are physically superior to the natives of the Indian Archipelago, if we except those of Bali; indeed the Balinese and Siamese bear a striking resemblance to each other. The natives of Siam often attain a height about the middle size, and are generally well made. The hue of their skin is a shade darker than that of the Chinese, but they have fairer complexions than the Malays and Javanese. The dress of both men and women consists of a piece of cloth wrapped round the waist, one end being brought between the legs and fastened behind, which gives this portion of their attire the appearance of a pair of trowsers. In addition to the above mentioned drapery, the women wear a piece of cloth wrapped round the body, under the arms, but the men content themselves with the nether garment before described, not even those belonging to the higher classes, cumbering the upper part of the body with a single particle of clothing except upon state occasions. Both men and women have the hair shaved from their heads, with the exception of a small round patch which is left between the crown and the forehead. This being brushed up, is made to stand on end, which gives them a scared appearance. The Talapoin or priests are enormously disproportioned to the rest of the inhabitants. In Bankok alone their numbers exceed thirty thousand. The Siamese Proper occupy the lower part of the Menam. Indeed the valley of the Menam throughout its whole course is exclusively T'hay, and the T'hay attain their highest civilization, on the alluvial delta of their river. The old capital Ayuthia, founded in 1351, was abandoned in 1751 for Bankok lower down the river. No dialect of the T'hay is intelligible to a Burmese. The alphabets also differ, but on the whole the essentials of their civilization is the same, the chief difference being in the language. The Laos alphabet slightly differs from that of the Siamese Proper, but practically speaking, the language is spoken with remarkable uniformity over the whole T'hay area, and the Siamese Proper, the Laos, the Shan dialects and the Khamti are one. Many foreigners, Chinese and Cochin-Chinese, reside in Siam, also Portuguese, French, British and Dutch. Pali is the sacred literature of the Siamese, and is called Pali, Bali, and Pasa Makata (Bhasha Magadha) the language of Magada. Gambling in every form, as with the Chinese and Malay, is common, in cock fighting, fish fighting, cricket fighting and lotteries. The Menam rises and falls like the Nile, the Indus, the Ganges, the Brahmaputra and the Irawadi.

The *Khamti*, are a Siamese population belonging to the same stock as the Siamese, their language containing nearly all the Siamese words, and their creed and alphabet being Siamese.

The *Laos* are a people of the Siamese or T'hay group, the most civilized of whom occupy the valley of the Menam and its feeders; those of the west are called Thaung-Khao or white bellies, because they do not tattoo themselves like the Thaung Dari or black bellies. The Phi-phrai and the Phi-lok are their wood demons. The Thevada are their tutelary deities. The Laos dwell in Zimmay, also spelt Changmai and Xieng-mai, on the Menam between 19° and 22° N. L. due north of Siam proper and due west of the Burmese frontier, with Laphun and Lakhon, two small territories attached: there are 20 waterfalls on the Menam between Zimmay and Bankok. The Laos are buddhist; their language is the same as that of the Siamese. *Salt is the chief article of* barter. The Laos alphabet more resembles that of Kambogia than that of Siam; they use rice and distil and use a liquor from it.

In Siam, the poor are buried or exposed to beasts of prey; if above the lowest class the deceased after the bowels have been extracted, is laid in a wooden coffin externally lacquered and gilt and this is placed for some days on a high table. In the meantime, the priests light up tapers, burn perfumes under the coffin, and chant funeral hymns at night. A procession of relatives and friends dressed in white and covered with white veils follow the corpse. Beside it, are borne figures of various animals or singularly shaped monsters carved out of bamboo and the accompanying talapoins exclaim "we must all die, we are all mortal." The mourners attest their sorrow by their tears and often hire women for the express purpose. The body is then taken from the coffin and placed naked on the pile which is set fire to and the remains are scorched. The body is then replaced in the coffin and deposited under one of the pyramids erected about the temple. Graves are held sacred among the Siamese and their violation is considered as a heinous offence. They refuse the honor of burning to persons killed by accident, by lightning, to the still-born, to those who die in child-birth, or from small-pox, and to suicides. The remains of such are either thrown into the water or exposed to the beasts of prey. —*Latham, Descriptive Ethn. Earl's Archipelago, p.* 168.

Kambogia is a small kingdom lying between Siam and Cochin-China, containing about 500,000 people of whom 4-5ths are the native Kho. It contains the four provinces, Potisat, Kampong Suak, Kampong and Kampot Son. Kambodia or Cambodia was anciently called Kamphucha, its modern name is Khmer. It was formerly an independent kingdom from 8½ to 20° of N. Lat., but for three centuries its influence has been on the decline, Cochin China on the one side, and Siam on the other having appropriated large portions and only four provinces, two landward and two maritime, now remain to it. Its commerce is in rice, ivory, silk and cardamoms. The whole of the coast from Kamas, in Kambodia, quite up to what is called by the Simese Lem Samme-sau, the Cape Liant of Europeans, is an uninterrupted Archipelago of beautiful islands, Sovereignty over the kingdom of Cambodia, is claimed by Siam and Cochin China, and the Cambodian prince, unable to resist either of the sovereigns pays tribute to both. The chain of mountains, which divide Siam from Cambodia is little known, but where it has been seen or visited the elevations are found to be of a moderate height, and are clothed with vegetation. The Kambojans are no longer a distinct and independent nation, the eastern part of their territory having been subjugated by the Cochin Chinese and the western fully taken possession of by the Siamese and the latter, with the co-operation of the Kambojans under their rule, have retaken Pen-nom-pen, on the great river called Mé Kong. From this place north to the sources of the river, it is believed, the Cochin-Chinese have no possessions on the west side of the river. It is known that the river has numerous outlets to the sea, whether these are all in possession of the Cochin-Chinese is doubtful, but it may be stated that the Mé Kong is the western boundary of Cochin-China and consequently the eastern boundary of Siam. The only part of the continent of Asia, the Malay peninsula excepted, in which the Malays have settled and to which their language has extended, is Kambodia, correctly Kamboja, which appears to be a Malayan word. In that country, they seem to have established a little independent principality called Champa, well known both in Malay and Javanese story. Both the Malays of the peninsula and the Javanese appear to have carried on a commercial intercourse with Champa, and the same commerce still goes on between Champa and the British settlement of Singapore. The Cambodians who are subjects of Siam occupy the southern districts of the Me-kong down to the frontiers of Cochin China. Up to the latitudes 12° to 13° N. tribute is said to be regularly paid especially by the fertile provinces Bataleang. The river of Kamboja is one of the largest in Asia. It is said to have its origin in a lake within the Chinese province of Yu-nan, and to be navigable for boats even before it enters the kingdom of Lao, between the twenty-second and twenty-third degrees of north latitude. It falls into the sea by three mouths, between the ninth and eleventh degrees. These three embouchures are known to European navigators by the names of the western or Basak river, the eastern or central branch, and the northern or Japanese river. The first of these is the largest, and the more suitable for navigation, and is said to have from fourteen to eighteen feet water on the bar at its mouth at high-water of spring tides. Besides the Annam, the inhabitants of the present dominions of Cochin China consist of several other races. The principal of these are the Kambojans, whose name in their own language, is Khmer or Kammer, but who are called by the Siamese, Kammen; by the Cochin Chinese, Komen; by the Chinese, Tang-po cha, and by the Malays Kamboja: which last is, no doubt, the word which has been borrowed by Europeans; and most frequently written Cambodia. The ancient territory of the Kambojans appears to have embraced all the country lying west and south of the river of Saigun extending on the Gulf of

Siam as far north as the twelfth degree of latitude and in the interior, at least to the fifteenth. The Kambojans speak a language distinct from those of all their neighbours; but in physical form, manners, laws, religion, and state of civilization, they bear a closer resemblance to the Siamese than to any other people. A few of its people have embraced christianity.

Dr. Mason (p. 134) draws the conclusion that while Siam and Cambodia received their religion and literature, from Ceylon the whole western coast of Further India was civilized by people direct from Hindustan, probably from the ancient kingdom of Kalinga.

In Cambodia, it is s ated by a writer in the Journal of the Indian Archipelago (No. XI Nov 1852, p. 606) that Buddha is there styled Sâmonacudŏm. He is not regarded by the Kambojians as the first cause, the Creator of all things, but there prevails amongst them a pantheism, in which all nature is deified, but above all they place Buddha, and worship him daily. The Să ra Trayphum and the Sa tra Pâpithŭn are mentioned as two of their religious books.—*Bowring's Siam, I. p. 683, Vol. II. p. 464. Crawfurd's Emb. p. 459.*

Chong, are a hill tribe on the side of the Mekong basin, but towards the sea, between L. 11° and 12° N. They preserve more of the Australo-Tamulian character than any of the neighbouring tribes. Their hair instead of being stiff or harsh as in the Mongolian, Tibetan, and prevalent ultra Indian and Malaya Polynesian race, is comparatively soft, the features are much more prominent and the beard is fuller.

Kho, is a population of about 400,000 people occupying the Delta of the Mekhong, in Kambojia, between Siam and Cochin-China. The remaining 100,000 of the population being Chinese, Cochin-Chinese, Siamese, Malays, Portuguese and mixed races.

Cochin-China is the name given in Europe to a kingdom occupied by a people known as the Anam. The derivation of this European name is obscure, Kachao is the name given by the Anam people to the capital of Tonquin; and Cochin-China is known to the Malay navigators as Kutchi, but they give the same name to Cochin on the Malabar coast. Cochin-China has probably been so called from the alliteration or reduplication so common with easterns, aided by the proximity of China, and may be derived from Kachao, the capital of Tonquin and China, so that Cochin-China may mean the Kuchi near China. It has been supposed by D'Anville that the Sinkos of Ptolemy, the geographer, is Cochin-China and that the Aureo-Chersonesus of Ptolemy is the Malay peninsula. According to Latham the natives on the borders of British India, in the N. W. the N. E., S. E. and East, form an ethnological group, which contains the Tibetans, the Nepal tribes, several populations of the Sub-Himalayan range, the Burmese, the Siamese, the natives of Pegu, the Cambogians, the Cochin-Chinese, and the Chinese, in populations which cover perhaps one-fifth of Asi. They have a general similarity, they are somewhat fair in complexion, with what are called Mongolian features. There are, in their religious sects, mahomedans and shamanists, but the buddhist, Confucian, and Lao philosophies are used as religions, and almost all believe in the transmigration of souls towards a final absorption. One of these is the Anamese, or Anamitic group of peoples inhabiting Cochin-China and Tonkin, and they are a section of the division to which the Chinese belong. The Chinese form of Anam is Ngannam. The language is monosyllabic. The Tonkinese call the Cochin-Chinese Kuang and Kekuang, names probably the same as Khyen and Kakhyen The Cochin-Chinese, on the other hand, call the Tonkinese Kepak. The Cochin-Chinese, have a little more beard, and are fairer than their neighbours immediately to the west and south of them The Anam race, comprehending under this name both the Cochin-Chinese and Tonquinese, for there is very little difference between them, are fair, but are a short, squat, and ill-favoured people with long arms and short legs. They are probably lower in stature than any people of Central Asia. Their limbs are strong and well formed, and they are active and hardy. In point of features, they bear a nearer resemblance to the Malay than to any other people; their countenances exhibit an air of cheerfulness and good humour. The women well formed and graceful are, and to a remarkable degree, fairer and handsomer than the men, their hands, arms and feet, are well formed, and the carriage even of the lower orders is graceful. The dress of both sexes is becoming.—It is the old costume of China, before the Chinese were compelled, to adopt that of the Tartar conquerors. Both sexes dress nearly alike. For the lower part of the body, the covering consists of a pair of loose trowsers, secured at the waist by a sash. The main portion of dress consists of two or more loose frocks, reaching half way down the thigh. This, for such matters, as among other Eastern people, is uniform and constant, overlaps to the right side, and is secured by five buttons and as many loops. Its sleeves are loose, and with persons not compelled to labour, they dangle a foot, or even a foot and a half, beyond the extremities of the fingers; but the labouring classes, from necessity, wear them short. With the women, the inner frock reaches below the knee, and the outer down to the ankles. When a Cochin-Chinese is in full dress, as when he

makes visits or is engaged in the performance of religious rites, he always wears over the frocks now mentioned a loose silk gown reaching to the ankles. The hair of the head is worn long and put up in a knot at the back of the head, as was practised by the Chinese before the present fashion was imposed upon them by the Tartars. Both sexes wear turbans, which are put on with much neatness and the form of this article of dress, which is always determinate, distinguishes the civil from the military order of public officers. The poorer people, except when dressed seldom wear these turbans. When abroad, both sexes wear varnished straw hats, little less than two feet in diameter, tied under the chin. These, which are sometimes in the form of an inverted basin, and at others resembling a sugar-loaf, afford, however grotesque in appearance, good protection against sun and rain. The materials of dress consist of silk or cotton, the first being of more frequent use than in any other country. The inner frock is cotton of domestic manufacture, always in Crawfurd's time unbleached, for, then, there was not a rag of white linen in the kingdom. The outer frocks and gown with the better ranks, are always of silk, or flowered gauze; and the latter is commonly of Chinese manufacture. The trowsers, with the same class, are either plain silk, or crape domestic fabric. The turban is crape, always black or blue, but most frequently the former, and this is also a home fabric. The lower orders are generally clad in cotton; but, even among them, silk is not unfrequently to be seen. Their cotton dress is very generally dyed of a dark brown colour, as if trimmed. This colour is given to it by a tuberous root. Ornaments of the precious metals, or gems do not appear to be very general. The women wear occasionally armlets and bracelets of gold. Where gems are worn, those of most frequent use are pearls and amber, brought from Yu-nan. The women wear ear-rings and secure the hair by a bodkin with an ornamented gold bead. Men of all ranks, and women above the labouring class, always carry about them a pair of silken bags, or purses, strung together, and usually carried in the hand, or thrown over the shoulders. These are intended to carry betel, tobacco, and money. Women of the labouring class are forbidden to use them; and men of the same order, when they meet a person of condition, must, as a mark of respect, take them off their shoulders and conceal them. These purses are generally of blue satin, and with the better classes often richly embroidered. The shoes that are worn by the Cochin Chinese are slippers without heels. They are addicted, to an extraordinary degree, to the use of tobacco, which they chew and smoke. They are a mild and docile people. The lower orders are remarkable for their liveliness. They are always to be seen talking and laughing. The higher classes affect the grave and solemn demeanour of the Chinese. In their habits and persons, the Cochin Chinese are an uncleanly, dirty people, they perform frequent ablutions, but, nowithstanding this, their hair, their skins, their hands, including the long nails which they are so fond of wearing, are absolutely impure. Their linen, not bleached at first, seems never to be washed afterwards. At home, they wear their foul cotton shirts; and when they go abroad, without changing them, they clap over them their fine silk robes. This neglect of personal cleanliness they perhaps carry to a greater length than any of the nations of the further East. Their diet is indiscriminate. They eat vermin, and the flesh of the crocodile; hatched eggs with them are a delicacy; and their favourite sauce is a kind of soy, in part, at least, composed of the juices of putrid fish, and which, both from taste and odour, would be intolerable to any other people. Like the Siamese, they are nationally very vain, and consider themselves the first people in the world, being hardly disposed to yield the palm even to the Chinese, the only strangers whom they are disposed to consider respectable. They consider the Kambojans, barbarians, and scarcely think the Siamese much better. But their nationality, excessive as it as, is much less offensive than that of the Siamese; for with strangers they are sociable, good humoured, and obliging. Young women are not restrained to chastity, but are allowed freely to associate with men. But adultery in the married woman is punished with death. A Cochin-Chinese marries when he has the means, and among the poorer classes the age of the female is from 15 to 20. The wife is purchased, polygamy is habitual. Abortion is often had recourse to. In Cochin China divorce is completed by breaking a copper coin or a pair of chopsticks before witnesses. Cochin Chinese are ever gay and always talking, open and familiar, and entrust women with the chief concerns of the family and are quite as gay as the men. The Chinese always grave and affect to be thinking, close and reserved, never commit any affair of importance to a woman. The Chinese Code forbids a woman to talk unless by way of reply or to laugh beyond a smile, or to sing unless desired. In Cochin China all the labours of tillage devolve on the peasant women, and in towns the women in addition to their domestic duties, superintend all the details of commerce and even help in manufactures. The religion is buddhism, but Shaman superstitions also prevail. There are aborigines in Cochin China called Moy, they are the people which inhabit the chain of mountains which separate it from Cambodia. They were driven, to these strongholds when the pre-

sent possessors invaded the country. They are a strange race of people, very black, and resem ble in their features the Caffree. A tribe called "Mai," which may be the same people, is also mentioned in an Essay on the Indo-Chinese countries in Moor's "Notices of the Indian Archipelago," and which has been attributed to Mr. Crawfurd, the historian of the Indian Archipelago. The most numerous inhabitants of this province are the proper Kambojans. The Anam race are the masters. The original inhabitants of that portion of it lying to the eastward of the great river, and bordering upon Lao, are a tribe called Mai. The Anamese or Anamitic group of people who inhabit Cochin China and Tonkin, are a section of the division to which the Chinese belong. The Government of Cochin China is a pure despotism, the power of the king being absolute and without restriction. There are two classes of mandarins, the civil and military but for the administration of the affairs of the Government there are six depart-ments or ministers who are termed Luc-bo, whose occupancy of power does not extend be-yond three or four years. The laws and modes of punishment of the Cochin Chinese are nearly the same as those of China. Their language termed the "*Anamite*" is monosyllabic and evidently derived from that of China. Their written language indeed is merely borrowed in whole or in part from the Chinese, though the two languages have become so different that persons of the two nations cannot communicate either in reading or writing. Chinese however is the learned language of Cochin China with the pronunciation of the Cochin Chinese. The Anamite language from its monosyllabic cha-racter, presents but a small variety in the sound of the words, and a great number of significa-tions, all indicated by the tone, are given to words spelled alike. The religion of the learn-ed men is not well known, though they honour Confucius: that of the common people is the religion of Fo which they call Phat, but the people readily embrace Christianity and there were at least 440,000 Christians, when Dr. Le Fevre wrote in 1846 —*No.* 3 *Jour. Ind. Arch.—Latham, Desc. Ethn. Crawfurd's Dict. pp.* 321 *to* 488. *Earl's Archip. Tibeto-Burman races. General Observations.*

Mr. Logan remarks that perpetual aggres-sions, and frequent conquests, extirpations of villages and migrations, mark the modern history of nearly all the Tibeto-Burman tribes and of the different clans of the same tribe. In recent ages, the Lao have settled in the lands of the Sing-pho, the Bodo, the Burman, the Pegnan, the Kambojan and the Malay and have originated communities having no connection with each other. The Singpho at a late period forced their way from Burmah into Assam. The Bodo have occupied the country of the Mikir, and the Arung Angami and Kuki have intruded on both. The same tribes also, separated into clans and villages, are permanently at war with each other, Kuki flees from Kuki, Sing-pho from Sing-pho, Abor from Abor. In the Irawadi and Mekong basins, there are remnants of tribes strongly distinguished from the predominant races and tending, with the evidence of lan-guage, to show that the ethnic history of Ultra-India is very ancient and has undergone repeat-ed revolutions. One of the most remarkable is the Ka-Kyen. They are described as being in their appearance not Mongolian and totally different from the surrounding races of Shan, Burmese and Chinese. The Palong seems to resemble the Anamese, in some respects. A race of the same name (Panong), but to which the Siamese apply the generic name of Ka or Kha, inhabit the mountains of Laos, bordering on Kambojia. They are a coarse and debased variety of the Anam and the Kambojan type.

On the same side of the Mekong basin, but towards the sea, between 11° and 12° N. L. a hill tribe, called Chong, preserve more of the ancient Australo-Tamulian character than the surrounding tribes. In the Chong, the hair, insead of being stiff or harsh as in the Mongolian, Tibetan and prevalent Ultra-In-dian and Malaya-polynesian race, is compa-ratively soft, the features are much more pro-minent and the beard is fuller.

The Moi or Ka-moi, who, on the opposite side of the Mekong, occupy the broad expansion of the Anam chain towards Kam-boja, and appear to extend northwards along these mountains, marching with the Lau on the westward, are said to be black savages, with negro features. The Kambojans style them Kha-men. They are the Kho-men of Leyden and the Kha-men of Gutzlaff.

The Muong or Muang who inhabit the same mountains further north or on the west of the Tonkinese province of Thank-Hoa-noi, and stretch into China, are evidently an ex-tension of the aborginal or uncivilized Lau of Yunan. The name is the Lau term for town or village which is scattered over so large a portion of the Chinese maps of Yun-nan, indicating the present limits of Lau in that province.

The-Mon-Anam or East Himalaic tribes, oc-cupy the territory bounded on the north, by the left side of the valley of the Brahmaputra as far as the head of Assam, and a line drawn thence eastwards along the range in which the Irawadi has its sources, and across the con-verging meridional chains, beyond to the most eastern, the Mangli, which separates the Kiang from the M-Kong.

The first migrations from the northera side of the Himalaya is now represented by the

Anam, Kambojan, Mon and Lau tribes, who appear to have been at a later period gradually pressed by the Tibeto-Burman tribes, to the eastward and southward.

The Anam, Kambojan, Siamese, Mon, Burman and the other Ultra-Indian languages are all characterised by strong complex sounds. The Anam and Siamese abound in complex vowel sounds and the Burman family in complex consonantal sounds which are harsh in Singpho, less so in Rakhoing, and much softened in Burman.

The Anamese group, amongst whom are the Moy, are found in Cochin-China and Tonkin. They are a section of the division to which the Chinese belong. Two thousand years ago, or two centuries before Christ, the Chinese found the Anamese, in possession of the basin of Sang Koi. The Anamese, in size, form of the head, and person, expression and temperament, have a closer resemblance to some Indonesian tribes. The Javan group has a larger admixture of the Anam type than the Sumatran or Borneon. Anam heads are common in eastern Java and especially among the Bawians and Maduras. The Malayans and western Javans have frequently a more Siamese form. The Anamese want the large straight faces, flat occiput, lowness of the hairy scalp, comparatively small and firm mouth, hard staring eye and grave expression of the Siamese: Anam is Cochin-China: Laos and Ahom belong to Anam.

Lau.—About six hundred years ago, or the 14th century of the Christian era, the Lau were a powerful and conquering people in the upper portion of the basin of the Irawadi, where their Capital was at Mo gaung (Muang-gaung or Mung Khong) and whence in A. D. 1221, they sent an expedition which subjugated Asam and established Ahom rule. Their native country was a portion of the basins of the Mekong and the Menam, including Yunnan. About the same time, they took possession of a higher portion of the upper basin of the Mili, where their chief seat was at Khamti, whence the name by which this branch is still known. At present, the Lau, under the names of Shan and Khamti, are found in Upper Assam, and scattered over a large portion of the northern half of the basin of the Irawadi, nearly to the confluence of the Khyen-dwen with the principal stream. Sporadic villages are even found in Arakan; on the eastern side they are scattered along the Sa-luen as far as 18°. The whole of the Menam basin is in their hands, with the exception of a small part of the right side near its head; and they also occupy a large portion of the basin of the Me-kong. The eastern tribes are known as Lo-Lo, Lau and Thai.

In the basin of the Irawadi, the Shan are intermixed with the Tibeto-Burman tribes amongst whom they have intruded, but in large portions of it, they are the principal population and in the N. E. corner of the empire, the Khamti may be considered as independent. It is probable that the Siamese, with the tribes of the upper Me-nam and of the Mekong, are directly connected with those of Yun-nan and are not offshoots form the colony of Muang-gaung. The Siamese have advanced more than half way down the Malay peninsula and but for the check given to them towards the close of last century, by the establishment of Penang, as a British settlement, their sway would now have embraced Perah, and probably have extended to the confines of Malacca. The northern clans almost everywhere retain their independence, although owning a nominal allegiance and in some instances paying tribute to Burmah, to China, or to Siam, those on the frontiers of Yun-nan propitiating both the Golden Foot and the son of Heaven, by an acknowledgment of fealty, and some sending a triennial offering to the latter.

On the south-east of Assam are numerous Shan tribes, many of them subject to the Burmese. These belong to the Siamese or T'hay group who are composed of the Siamese proper, the Khamti, the Lao and the Shan who each speak a dialect of their own, none of which are like the Burmese.

Shan and Shyan call themselves T'hi or Thai and occupy great part of Laos and Siam and bordering districts of Burmah. In personal appearance, customs and languages, the Shan and Karen are but offshoots of the same stock. The Lao, the Shan and the people called Ahom were originally the same and once held Assam and Bhotan under their dominion. The Shan or Shan race, swarm in countless tribes over the countries stretching from the valleys between China and Tibet on the North, to the Gulf of Siam in the South, and if united would form the most formidable state in Eastern Asia. They occupy all the territories between the Irawadi and the mountains of Anam. At Bhamo, to the north, east, and south east of which they are numerous, the language of the Shan corresponds with that of the Siamese. Their habits, mode of living, cultivation of the ground, correspond with those of the Khy-eng and Karen. People of the T'hay group have a superior physical development, and resemble the Balinese.

The Lau, on the borders of China, differ little from the Chinese of Yunnan, and their stock, was probably the same. Where they are in contact with the older races, they have considerably altered. In the valley of the Menam, their height is about 1½ inches less

than the average Chinese, but as the average stature of the French is the same (5 feet 3 inches) the Siamese may still be considered as of the middle size.

The Lau or Shan race speak a language which was primarily east Himalaic, like Mon, Kambojan, Anam and Pa-long. Like them, it was carried at some remote period, into the Brahmaputra-Gangetic province, and received some Dravidian roots Subsequently it shared in the great eastern movement of the Himalaic dialects from the basin of the Ganges into that of the Irawadi, where it was intimately connected with some of the intrusive west Himalaic or Tibeto-Burman dialects. It was then pressed further into the east, into the basin of the upper Mekhong and Tong-King, and became the language of Yun-nan. During the Han dynasty, Chinese colonies began to occupy the valleys of Yun-nan, and from that time, Lau was exposed to the influence of Chinese and began to receive the modified form it possessed when the pressure of that great race on the older tribes of Yun-nan caused the Lau to swarm to the westward and southward. When they re-entered the basin of the Irawady, they had acquired from their partially Chinese civilization, a superiority over the Tibeto-Burman tribes of northern Ultra India, which made the Lau clans predominant along the central belt of Ultra-India from the Himalaya to the mouth of the Menam.

Thai is the native name of the Siamese and their chief division are the Lao, Shyan (or Ahom) and Khamti. Their general complexion is light brown, their hair black and abundant, nose not flattened. The names of the original conquerors, their alphabet and language, were Ahom ; Ahom or Ehom was the designation of the races mixed with the royalty of Arracan, and opposed to the pretensions of the king of Ava at a very early period of Burmese history.

The Siamese may be considered as a remarkable modification of the Burmah Chinese head, with a peculiar tendency to elongation and verticality. They have large straight faces, flat occiputs, lowness of the hairy scalp, comparatively small and firm mouth, hard staring eye and a grave expression. Siamese appears by far the most widely spoken language of Ultra India. It was at one time the lingua franca of Kidah, almost as much as the Malay, and even that wandering negro tribe, the Simang, spoke it in some places. It was also current in Assam and Yunnan at the opposite extremities of Ultra-India. Cambodia, the Laos of the Lu country, Luang, Phra Bang and Nan are tributary to Siam.

Arakan.—The sea board and the lower portions of the valleys opening into it, form the country of the Ra-Khoung-tha or Arracan tribe, of whom the Burmans are a branch. Some are found residing on the banks of the mountain streams and are distinguished by the name of Khyoung-tha. Their language proves that they do not belong to the Yuma group, but they are intruders from the north ; and their own traditions recognise the Ku-mi as the tribe in possession of the sea board, when they entered Arakan.

The Mrung in the upper basin of the Mayu and towards the hill frontier of Chittagong, are a colony imported from the Bodo country by the kings of Arakan, at the period when their conquests extended far up eastern Bengal.

The Mug are a highly Bengalised class of Rakhoing. They call themselves Myama-gyi or great Myama.

On the south of Assam, is the prominent Burmese race, who profess buddhism, and south of them the British province of Pegu containing Burmese, Mon also called Talieng, Khe Karen, Karen-ni or Red Karen, the Khyan, whose women tattoo their faces ; the Yet Baing on the Yoma range, and the Sham who form separate communities.

The alphabets of the Thay or Siamese, of the Burmese and of the Mon of Pegu are of Indian origin.

The Burman, the predominant people of the basin of the Irawadi, occupy the lower part of the basin above Pegu, the southern parts of the upper basin and the valley of the river beyond, as far as Ba-mo. They are also found in the delta, but their progress there has been comparatively recent, and the prior inhabitants still form the greater majority. Their native name Na-ran-ma, M'ran-ma, whence their softened modern M'yan-ma, M'yama, is the origin of the European corruption of Burman. The principal seat of the Burman power appears to have been for the longest periods in the same part of the basin where it now is. In the era of their greatest stability and prosperity, their capital was at Pagan (probably the place of that name above Ava) from the second to the middle of the fourteenth century. Previous to this, on their first advance from Aracan, they appear to have conquered the northern part of the ancient kingdom of the Mon—for their capital was for 305 years at Prome. It was not till the middle of the sixteenth century that they succeeded in annexing Pegu. But in the middle of the eighteenth, the Mon threw off the yoke and in their turn subjugated all Burma for a short period.

The Burmans differ from the Anamese in being stouter and darker, and in the head being Daya-Polynesian or Turanian oval, and not obtusely ovoid. The head varies greatly and

the coarser forms show a tendency to the Binua contraction of the forehead, rendering the lateral expansion of the forehead, very marked. The normal, or non-Indianised Burman head, appears in many respects, to resemble the coarse Sumatran, Javan, Borneon and Polynesian. This softened Turanian type is decidedly allied to the oblong square and oval Chinese type and not to the ovoid and orbicular type of the Tibetan, some of the Himalayan, Gangetic, the Anam and the Celebesian tribes. The Burmans on the west more often resemble the handsome Asianesian tribes found in Borneo, some parts of East Indonesia, and Polynesia. Burmans and Malays are somewhat stouter than the Siamese, the average height being probably about 5 feet 2 inches.

As in buddhist countries women are more nearly the companions and not the slaves of the men, and the Tibeto-Burmans and the cognate Indonesian tribes, permit great license to both sexes, prior to marriage, when chastity is not required.

The Mon, called by the Burmans, Ta-lain, and Peguans or Peguers by Europeans, the race occupying Pegu, are an East Himalaic people, who long successfully contested with the Burmans the sway over the basin of the Irawadi. They were annexed to Burma, in the middle of the 16th century, but again threw off the yoke in the beginning of the eighteenth century, and subjugated all Burma. Their range embraces the delta of the Sa-luen, where Moutama or Martaban was their chief port. They long preceded the Siamese in the Tenasserim provinces, and the languages of the Si-mang and Binua of the Malay Peninsula, retain deep traces of their ancient influence to the south. A colony is also found in the basin of the Menam, Before the great southern movement of the Lau, the Mon appear to have occupied that basin also, and to have marched and intermixed with the closely allied Kambojans of the lower Mekong. Mr. O'Riley thinks that the Mon are only distinguishable from the Burmans by their less Mongolian and more Rakhoing aspect. They appear to have been considerably modified by the Indian element, which has always been very powerful at the head of the Bay of Bengal. They seem to have been at one time the chief traders eastward of the Bay of Bengal.

The Karen also preceded the Burmans in the delta of the Irawadi, and are the joint occupants with the Mon. They are also found in the lower plains of the Saluen, the deltas of the Se-tang and Irawadi, the middle basin of the Se-tang as far as Tongo, and in Tenasserim. In Martaban there is also a remnant of an allied tribe, the Toung-thu, Both the Karen and the Toung-thu, belong to the Yuma branch of the Tibeto-Burman family.

The long and narrow hill *tract* between the valley of the Irawadi and the Sa-luen as far north as 23°, is occupied by cognate tribes called Ka-ren-ni (Red Karen) who are said to speak a very ancient dialect of the Yuma family. This branch has a parallel range on the western side of the Irawadi, and in their traditions they assert that they preceded the Burmans as the dominant people of the basin and they seem from very ancient times to have occupied the whole of the valley southward from the valley of the Banak on the west to the borders of Yunnan.

No trace of the Mon is left along the Yuma range,—tribes of the Karen family being the exclusive holders of its inner valleys. Some of the very imperfectly described tribes on the eastern side of the Irawadi, to the north of the Ka-ren-ni, viz. : the Za-baing Ka-Khyen, &c. may belong to the older immigration. But the Mon is the only remnant within the ancient Ka-ren province, and its earlier preservation is doubtless owing to the same causes, its arts, civilization and wealth, which have enabled it to hold its own against the Tibeto-Burman horde of the Irawadi.

The Nicobar Islanders appear to have been an early colony of the Mon race in its pure or more west Chinese and less Indian condition. They are flatter faced and more oblique eyed than the Rakhoing and Mon, in this resembling the more sequestered hill tribes of the Burman race. In some islands, they have been much mixed with Malay colonists. Nicobar phonology is allied to that of the Silong and Simang.

The *Pa-long*, Pa-on or Za-baing, are partially subject to, and located to the east of the Mo Meit (Mung Myit, Moung-m-ri) beyond the Ka-ren-ni, and along the Chinese frontier, as far as the latitude of Ba-mo (Mang-mo). They are civilized and remarkably industrious, being good carpenters, dyers and blacksmiths. Their *dha* or swords are exclusively used in and around Bamo. The Chinese who carry on the trade between Yun-nan and Burmah, by Bamo, describe the route, as passing across a range of hills inhabited by Ka-Khyeng and Palong, and then entering a Shan country the Ko-pyi doung of the Burmans. The Pa-long inhabit the valley south-east of Ba-mo, beyond the first mountain range. They approximate to the Shans of whom they are probably an offshoot, they wear the same dress and are buddhist, but they have affinities with the Kha-Khy-eng.

The Ka-du are scattered over the country between Kyun-dung and Moung-Khung, a space of nearly two degrees. They are said to be a race of people of different origin from the Burmans.

The Ph-won are found to the north of Bamo and describe themselves emigrants from a

country to the N. E. called Mo-toung, also Moo-long. Their language is said to be distinct.

The Ka-Khyen to the east of Koung-toung and Ba-mo, are described as perfect savages in appearance. They have long faces and straight noses, with a very disagreeable expression about the eyes, which is rendered still more so by their lanky black hair being brought over the forehead so as entirely to cover it and then cut straight across in a line with the eyebrows. They are found to the north of Bamo, as far apparently as the Shu-mai-kha, and amongst the Sing-pho hills between the Moung-Khung and the valley of Hu-Kong. They have predatory habits. They are probably prior to the Shan, Burman and Sing-pho.

In the Archipelago there seem to Mr. Crawfurd to be four races of man, the Malays proper; the Semang or dwarf Negro of the Malay peninsula; the Negrito or Aeta of the Philippines; the larger negro race or Papua of New Guinea and a race whom Crawfurd styles the Negro Malay, intermediate between the Papuan and Malay. The Malay are superior to all the others in intellect and civilization. They occupy the whole of the Malay peninsula, half of Sumatra, all the sea coast of Borneo. Their numbers are estimated at 1,500,000 in Borneo; 1,250,000 in the Malay peninsula; and 1,000,000 in Sumatra. He describes the Malay as short, squat, with round face, wide mouth, large high cheek bones; short small noses, black, small, deep seated eyes. Their hair is lank, black and harsh, and the men have little or no beard.

The Semang are a small Negro race.

The Negrito are short, but well made, active, soft frizzled hair, nose slightly flattened, features more regular and skin less dark than the African negro.

The Papua of New Guinea are true Negroes and have made some advances in civilization.

The Negro Malay are fairer than the Negro, darker than the Malay, intermediate between Malay and Papua.

Mr. Wallace, however, believes that the Archipelago is divisible into an Asiatic and an Australian portion, that the flora and fauna differ and that all the peoples of the various islands can be grouped either with the Malay or the Papuan, two radically distinct races who differ in every physical, mental and moral character, and he states his belief that under these two forms, as types, the whole of the peoples of the Malay Archipelago and Polynesia can be classed. He considers that a line can be drawn which shall so divide the islands as to indicate the one half which truly belong to Asia, while the other no less certainly is allied to Australia, and he designates these respectively the Indo-Malayan and the Austro-Malayan divisions of the Archipelago and he gives to Mr. Earl (*pp.* 12,13 and 36) the credit of having been the first to indicate the division of the Archipelago into an Australian and an Asiatic region.

He mentions that all the wide expense of sea which divides Java, Sumatra, and Borneo from each other, and from Malacca and Siam, rarely exceeds forty fathoms in depth, and the seas north to the Philippine islands and Bali, east of Java, are not a hundred fathoms deep; and he is of opinion that these islands have been separated from the continent and from each other by subsidence of the intervening tracts of land. In the islands of Sumatra and Borneo are the elephant and tapir, and the rhinoceros of Sumatra and the allied species of Java, the wild cattle of Borneo and the kind long supposed to be peculiar to Java all inhabit some part or other of southern Asia. Of the birds and insects, every family, and almost every genus of these groups found in any of the islands, occur also on the Asiatic continent and in a great number of cases the species are exactly identical. The resemblance in the natural productions of Java, Sumatra and Borneo with those of the adjacent parts of the continent, lead to the conclusion that at a very recent geological epoch the continent of Asia extended far beyond its present limits in a south easterly direction including the islands of Java, Sumatra and Borneo, and probably reaching as far as the present 100 fathom line of soundings. The Philippine islands agree in some respect with Asia and the other islands but present some anomalies which seem to indicate that they were separated at an earlier period and have since been subject to many revolutions in their physical geography.

But all the islands from Celebes and Limbok, eastward, exhibit almost as close a resemblance to Australia and New Guinea as the western islands do to Asia. Australia in its natural productions differs from Asia more than any of the four ancient quarters of the world differ from each other and all its striking peculiarities are found also in those islands which form the Austro-Malayan division of the Archipelago and the contrast between the Asiatic or Indo-Malayan forms and those of the Austro-Malayan are abruptly exhibited in passing from the island of Bola to that of Limbok, though the strait is only 15 miles wide, and in travelling from Java or Borneo to Celebes or the Molluccas the difference is still more striking, leaving the only inference that the whole of the islands eastwards beyond Java and Borneo do essentially form a part of a former Australian or Pacific continent although it may never have actually been joined to it, and it may have been broken up before the western islands were separated from Asia, and probably before the extreme south eastern part of Asia was raised above the waters of the ocean. The Aru, Mysol, Waigiou and Jobi islands are

all united to New Guinea by a shallow sea, and agree in their species of mammalia and birds.

On drawing a line to separate the Malay and Papuan races, it almost coincides with that which divides the zoological regions, but somewhat eastward of it, as the maritime enterprize and higher civilization of the Malays have enabled them to overrun from the west a portion of the adjacent region on the east, and to spread much of their language, their domestic animals and their customs far over the Pacific into islands where they have but slightly or not at all modified the physical or moral characteristics of the people.

Mr. Wallace believes that the Malay and the Papuan have no traceable affinity to each other; that the Asiatic races include the Malays and all have a continental origin; while the people of the Celebes and Pacific races in the islands on its east, are derived from lands which now exist or have recently existed in the Pacific Ocean.

He, however, allots the eastern Archipelago amongst three races, whose islands may be thus shown:

Indo Malayan regions.	Austro-Malayan regions.	Polynesian or Pacific regions. The Papuan group.
Sumatra	Lombok	Floris
Lingen	Sumbawa	Sumba or Haudana
Banca	Celebes	Adenara
Billiton	Moena	Solor
Java	Bouton	Lombata
Madura	Sula-mangola	Rutar
Bali	Sula-basi	Ombay
Baweean	part of Bourou	Wetter
Borneo	part of Ternate	Timor
Sulu Archipelago		Rotte
Palawan		Seruatty
Philippines		Babbar
Sumar		Timor
Mindanao		Timorlaut
		Larat
		Tenember
		part of Bourou
		part of Ternate
		Ke-Islands
		Ceram
		Banda
		Amboyna
		Batchian
		Oby
		Gilolo
		Morty
		Aru
		Vorkai
		New Guinea or Papua
		Australia
		Mafor
		Jobi
		Mysol
		Waigiou
		Salwatty
		Sook
		Biak

Mr. Wallace however, writing on the Archipelago however makes also a geographical, zoological and ethnological arrangement and divides it into five groups of islands, as follow:—

The Indo-Malay islands.	The Timor Group of Islands.	Celebes Group.	Moluccan Group of Islands	Papuan Group.
Malay Peninsula	Timor	Celebes	Moluccas	New Guinea
Singapore	Flores	Banka	Bourou	Aru Islands
Borneo	Sumbawa	Sula islands	Ceram	Mysol
Java	Lombok	Bouton	Batchian	Salwatty
Sumatra	and smaller islands		Gilolo or Jilolo	Waigiou
			Morty	Ke Islands
			Ternate	Aiou
			Tidore	
			Makian	
			Kaoa	
			Amboyna	
			Banda	
			Goram	
			Matabello	

The Malayan family approximates closely to the ruder or more purely Mongolian type of Ultra-India, and the identity in person and character is accompanied by a close agreement in habits, customs, institutions and arts, so as to place beyond doubt that the lank haired populations of the Islands have been received from the Gangetic and Ultra-Indian races. The influx of this population closed the long era of Papuan predominance and gave rise to the new or modified forms of language which now prevail. It is generally supposed that when they entered on their career of conquest, the Malays spread from the Menangkabau district in Sumatra. The rude maritime tribes who frequent the coasts and islands of the Malayan peninsula, and amongst whom several distinct tribes are distinguishable by their physical characters, speak a language mainly Malay but with differences in pronunciation. In all the sea ports and courts of the Archipelago the Malays are a tall handsome class whose fine eyes and well shaped features betray the presence of Arab or Indian blood. The Malay of Pinang and province Wellesley, is described as short; five feet two or three inches being considered the average height of a man, and that of a woman is a few inches shorter. Their bones are large and clumsily put together, but strongly knit; arms and legs usually short compared with the length of the body, and the whole frame robust and capable of much labour. The head is round and elongated at the summit, broad at the back, and set on a stout thick neck. Eyes long and narrow, rather deep set, black or dark hazel in color and seldom clear about the white Nose long, wide at the nostrils and not very flat. Forehead broad and receding; cheek

bones very prominent and jaws wide and square ; teeth regular, large and white, unless discolored by lime and gambier. The facial angle seldom exceeds fifty degrees, while that of the European is seldom less and sometimes is nearly ninety or perpendicular, hair black and coarse. It is plentiful on the head, but other parts of the body are smooth. The mustaches alone are retained on the face, other hairs being removed by pincers,—mouth large with thin lips : ears large and ill-shaped. The body is fleshy and muscular, legs remarkably so, thighs so large as to be unwieldy. Habit of body lean, Malays seldom become obese. The women are pretty when young, but soon show signs of old age : they become wrinkled and haggard after bearing a few children and in old age are hideous.

Malays are frank, courteous and honest, brave, generous and sensitive to a fault, grave at times and anon overflowing with mirth in youth ; in advanced life sedate.

They are proud, and, if ill-treated, revengeful ; but under generous treatment are gentle, kind, humane, grateful, docile and faithful. Capable of the warmest attachments, and yet impelled to madness and the commission of the most revolting deeds by real or imaginary unkindness. They are dutiful children and kind parents. They treat their aged kinsmen with the greatest kindness and even feel it a duty to relieve the wants of an indigent relation. Old men and women are always regarded with respect. The Malays are frequently quite Burmans in appearance, but the normal and least mixed Malays are more Binua and also more Siamese than the western Burmans. The Malays of Johor when employed in gathering camphor, use a fictitious vocabulary, constructed in a similar manner to the deferential dialect of Javan, and used to propitiate the spirit of the camphor tree.—*Mr. Logan. Mr. Crawfurd.*

Negro races occupy the Andaman and Great Nicobar islands, and the Minkopi of the Andaman group have some peculiarities which indicate a difference from others of the Negro tribes. The Semang, a pagan tribe of the Malay peninsula, are said to be of Negro origin, as also, the Aheta, Ita or Negrito race of the Philippines. The Negros or Buglos Island from Lat. 9·4 to Lat. 9· 50 N. There are the Papuans or Alfoeren or Alfour or Arafura, the inland inhabitants of New Guinea, Ceram and all the larger islands in the south-eastern part of the Indian Archipelago, also the Mindanao Papuans and the Negritos of Mindoro. The Arruans of the Arru Islands have African features and bear a strong resemblance to the natives of Port Essington.

The Mincopi occupying the Andaman Islands and are the least civilized race perhaps in the world ; being nearer to a state of nature than any people we read of. Their colour is of the darkest hue, their stature in general small, and their aspect uncouth. Their limbs are ill-formed and slender, their bellies prominent ; and like the Africans, they have woolly heads, thick lips, and flat noses. They go quite naked, the women wearing only at times a kind of tassel, or fringe round the middle, which is intended merely as ornament, as they do not betray any signs of bashfulness when seen without it. The men are cunning, crafty, and revengeful ; and frequently express their aversion to strangers in a loud and threatening tone of voice, exhibiting various signs of defiance, and expressing their contempt by the most indecent gestures. At other times they appear quiet and docile, with the most insidious intent. They are skilful in shooting fish, manage their canoes well, and are fond of singing and dancing. They take little pains to cultivate the soil and are ignorant of the art of working in metals. They make their canoes by hollowing out the trunks of trees by means of fire. The Andamaner has the appearance of the small sized negro race about 5-2 inches high and would seem to be the descendants of the same wave from the West that has left its features in the South of the Peninsulas of India and Malacca, the Semang and the Negrito of New Guinea. The Andamans have a climate milder than that of the Tenasserim and Pegu coasts and more resembling that of Colombo or of the low lands of Penang. The negroes of the Andamans are in the very lowest and most abject state of human society, without fixed dwellings, unclad, and unacquainted with the meanest of the useful arts of life. In disposition they are shy, unsocial, and mischievous. They seem to have been isolated for the past two or three hundred years, and when the British last settled on their islands in 1858, they were found in the lowest condition to which human beings can fall. They are not cannibals as was long supposed, —but live on pork, fish, grains, roots, cocoanut and other fruits, and broil the flesh of their animals before eating it. They may be called hunters and fishermen, hunting game in their own wilds and jungles, using the bow and arrow, with which they are expert, and employing the bark of a tree for fishing lines. They have no clothing, but go entirely naked and seem unconscious of that feeling of shame which guides the other races in the world to cover their persons. They construct huts, but of the rudest character. They are intensely averse to the intrusion of strangers. They are small in stature, seldom rising in height over five feet. The head is smaller than that of the ordinary Asiatic, and depressions exist in the temporal region. The teeth

are nearly white, but often so irregular as to seem in double rows. They are muscular, and are deficient in the roundness and fullness which give such symmetry of form to other races. In youth, to beautify their persons, their bodies are scarified all over with broken glass, which gives the skin a bead-like appearance, the lines running longitudinally down the arms and bust. When pleased with any thing to which their attention is drawn, they gently bite with their teeth the lower edge of the palm of the right hand and then smartly strike the left shoulder. They also contract the lips as in kissing and make a hissing noise like that of grooms in cleaning horses. When they speak to one another their pronunciation is so indistinct as to resemble a chatter, but they are sharp in catching words and sounds. They are said to be passionately fond of music, though they have no musical instrument. In dancing, they hop on one foot, beating it down smartly in regular time, keeping both hands raised above the head. They change feet, keeping cadence with the song, work the head, bow the body and thus spring and jump till the dance is closed. The Andaman language is said to be disyllabic.

The Simang and *Bila*. In the northern portion of the Malayan peninsula, within the territories of the Malay provinces of Oveda, Perak, Pahang and Tringanu, is a negro race known to the Malays under the names of Simang and Bila. The complexion of these is black, or sooty, the hair woolly, the features approaching to the African, and the stature dwarfish. An adult Simang male, said to be of the mean height of this people, was found to be only 4 feet 9 inches high. Some of the Simang, or Bila, have fixed habitations, and practise a rude agriculture, but the majority lead an erratic life, gathering the rude products of the forest to exchange with the Malays for the necessaries of life, or subsisting by the chase. The Simang and Bila appear to have several tongues, and that of the Simang though containing Malay and Javanese words is considered by Mr. Crawfurd to be an original tongue. The Simang like the Philippine negroes are of diminutive stature. The average height of the Simang being under five feet.

In the remoter portions of Asianesia, some of the black tribes possess all the traits of the Guinea negro, but the Simang and Mincopi of the Andaman appear, like the greater number of the Asiancsian negro tribes, to have been partially modified by mixture with other races. This is certainly the case with the Simang, some of whom are Australo-Tamulian in appearance, while others differ little save in their frizzled or spiral hair and dark complexion, from some of the adjacent Binua. The average height of the adults of a party of Simang Bukit on the Ijan, a feeder of the Krian, was four feet eight inches, the highest, four feet ten inches. Head small, ridged, that is, rising above the forehead in an obtuse wedge shape, the back rounded and markedly narrower than the zygomatic or middle zone; the face generally narrower and smaller than the Malay: eye-brows very prominent, standing out from the forehead and projecting over the ocular furrow which extends across the face, the root of the nose sinking into it and forming a deep angle with the base of the superciliary ridge. The nose short and somewhat sharp at the point, and often turned up, but the alæ spreading; eyes fine, middle-sized and straight: iris large, piercing, conjunctive membrane yellow, the upper eyelashes, owing to the deep ocular depression or prominent ridges are compressed or folded, the roots of the hair being hidden. The cheek bones generally broad, but in some cases not remarkably prominent, save with reference to the narrow forehead. Mouth large or wide but lips not thick or projecting; the lower part of the face oval or round but not square. The deep depression at the eyes and sinking in at the root of the nose give a very remarkable character to the head compared with the Malay. The projecting brow is in a vertical line with the nose, mouth and chin, and the upper jaw is not projecting or prognathous. The person is slender, the belly protuberant, owing to their animal life in the jungle and precarious food. This induces them to cram themselves whenever they can and the skin of the abdomen thus becomes flaccid and expansible like that of an ape. The skin generally is fine and soft, although often disfigured by scurf, and the colour is a dark brown but in some cases lighter and approaching to the Malay. The more exposed hordes are black The Simang of Tringanu are not of such a jet black, glossy, colour as the Kidah tribe. The hair is spiral not woolly and grows thickly on the head in tufts. They have thick mustaches, the growth being much stronger than in the Malay race. The head is neither Mongolian, nor negro of the Guinea type. It is Papua-Tamulian; the expression of the face is mild, simple and stupid. The voice is soft, low, nasal and hollow or cerebral; a line of tattooing extends from the forehead to the cheek-bones. The right ear is pierced, the orifice being large. The hair is cropped save a ring or fringe round the forehead. The Simang are found in all the rivers of Pera and are classed as the Simang Paya who frequent the low and marshy alluvium between the sea and the hill; the Simang Bukit who wander in the forests of the hills, and the Sakai who are confined to the mountains of the interior. There are said to be thousands of the Simang

in the interior of Patani, Tringanu, Kidah and Pera, wherever the country is covered with forest and there are few or no Malays. Simang tribes of Kidah and Pera have a language mainly dissyllabic like other Asianesian ones. An individual who, many years ago, was brought to Pinang, and who has hitherto represented the race in European ethnology, probably belonged to such a horde. His lips were thick, and Mr. Anderson says he exactly resembled two natives of the Andamans, who were brought to Pinang in 1819. Mr. Anderson adds that a Semang of Tringanu, who lived in Pinang was 'not of such a jet-black glossy appearance' as the Semang from Kidah whom he saw, and the two Andamani *Jour. Ind. Arch. Vol. iv. p.* 427.)

Semang, is a Malay word applied by the mahomedans of Kedah, Perak, Tringanu and Salangore, to the pagan tribes of the interior, though the Semang Paya reside on the plains or borders of the morasses, the Semang Bukit, are the occupants of hills, the Semang Bakow reside in the neighbourhood of the sea, in the creeks and districts where the mangrove grows, frequenting the sea-shore, and occasionally taking up their quarters in the mangrove jungles. The Semang Bila are those who have been somewhat reclaimed from their savage habits, and have had intercourse with the Malays. A mere remnant of tribes which, according to native tradition, occupied a consi. derable portion of the interior of the Peninsula at a comparatively recent period. At the present time the race is only known to exist on the mountain Jerei, in the Kedah territory, a little to the north of Penang; in the neighbourhood of the mountain range which lies immediately opposite to the latter settlement; and in the uplands of Tringanu, on the east coast of the peninsula; but it seems probable that scattered remnants are to be found in several other spots, which have not yet been visited by Europeans. *The Sakai and Allas* tribes of Perak, which have hitherto been classed with the Semang, or woolly-haired race of the neighbourhood of Pinang, have curly but not woolly hair; and although they retain the Papuan custom of boring the septum of the nose, and also mark their skins with cicatrices they cannot be considered as Papuans; indeed their language and leading characteristics show them to be wild tribes of the Malayan race. The Semang, however, who are identical in every particular with the Pangan of the interior of Tringanu, are Papuans in all their purity, with woolly and tufted hair in every respect similar to other unmixed tribes of the race. Of the origin of the Semang, the Malays possess no tradition. Certain it is, however, that the tribes of them which inhabited various parts on both sides of the peninsula, were much more numerous, before many of the present Malayan colonies were founded by emigrants from Sumatra. They are at present most numerous in the interior of Jan, a small river to the north of the Mirbow, near the lofty mountain Jerei, in the Kedah territory. There are small parties also in the mountains, inland of Juru and Krian, opposite Pinang. Their huts or temporary dwellings, (for they have no fixed habitations, but rove about like the beasts of the forest), consist of two posts stuck into the ground, with a small cross-piece, and a few leaves or branches of trees laid over to secure them from the weather. Some of them, indeed, in the thicker parts of the forest, where the elephants, tigers, and other wild animals are most abundant make their temporary dwellings upon the cliffs and branches of large trees. The Semang subsist on the birds and beasts of the forest, and roots. They eat the elephant, rhinoceros, monkeys, and rats, and with the exception of the scanty supplies they obtain from the Malays, they have no rice or salt. They are very expert with the sumpit, a blow-pipe for projecting small darts, and poison the darts with ipoh, procured from the juice of various trees, which is deadly poison. They handle the bow and the spear with wonderful dexterity, and destroy the largest and most powerful animals by ingenious contrivances. It is seldom they suffer by beasts of prey, as they are extremely sharpsighted, and as agile in ascending the trees as the monkeys. Their mode of destroying elephants, in order to procure the ivory, or their flesh, is most ingenious. They lie in wait in small parties of two or three, when they perceive any elephants ascend a hill, and as they descend again, which they usually do at a slow pace, plucking the branches as they move along, while the hind legs are lifted up, the Semang cautiously approaching behind, drives a sharp-pointed bamboo, or a piece of neebong which has been previously well hardened in the fire, and touched with poison, into the sole of the elephant's foot with all his force, which effectually lames the animal, and most commonly causes him to fall, when the whole party rushes upon him with spears and sharp-pointed sticks, and soon despatch him. The rhinoceros they obtain with even less difficulty. This animal, which is of solitary habits, is found frequently in marshy places, with its whole body immersed in the mud, and part of the head only visible. The Malays call the animal "Badak Tapa," or the recluse rhinoceros. Towards the close of the rainy season, they are said to bury themselves in this manner in different places, and upon the dry weather setting in, and from the powerful effects of a vertical sun, the mud becomes hard and crusted, and the rhinoceros

cannot effect its escape without considerable difficulty and exertion. The wild buffaloes of North Australia are often found in a similar predicament, and are sometimes shot by the hunters before they can extricate themselves—The Semang furnish themselves with large quantities of combustible materials, with which they quietly approach the animal, who is aroused from his reverie by an immense fire over him, which being kept well supplied by the Semang with fresh fuel, soon completes his destruction, and renders him in a fit state to make a meal of. The projecting horn on the snout is carefully preserved, being supposed to be possessed of medicinal properties, and highly prized by the Malays, to whom they barter it for their tobacco, &c. The hair of the Semang is spiral, not woolly,and grows thickly on the head in tufts. They have thick moustaches, the growth being much stronger than in the Malay race. The head is neither Mongolian nor Negro of the Guinea type. It is Papua Tamulian. The expression of the face is mild, simple, and stupid. The voice is soft, low, nasal, and hollow, or cerebral. A line of tatooing extends from the forehead to the cheek-bones. The adjacent Binua also tatoo. The practice is Indian, among the Konds, higher Abor tribes, &c., also ultra-Indian and Asianesian. The right ear is pierced, the orifice being large, but they do not pierce the septum of the nose like one of the adjacent Binua tribes of Perak, and many of the Asianesian Papuas. The hair is cropped save a ring or fringe round the forehead.—*Mr. Earl's Indian Archipelago.*

Bila. The Semang occupy the southern part of the Malay peninsula, along with the Simang, in the provinces of Quedah, Perak, Pahang and Tringanu.

The people of Kidah more often approximate to the eastern Negro type than in southern Malaya and Mr. Logan was particularly struck with the repeated occurrence of the deep nasal depression of the Simang, the Australians and Papuans. Small heads, with all the features as it were contracted or compressed, were common.

In the Binua, the cheek bones are broad in all directions and prominent, giving to the face below the base of the forehead a marked lateral developement, beyond it or to the forehead an appearance of being compressed. The lower jaw is massive, spreads out and does not rise rapidly, thus producing an obtuse chin and the anterior maxillary projection considerable.

The ruder Binua dialects of the peninsula are rapidly disappearing. The Binua or Sakai tongue of Pera appears to resemble in its phonetic character, the ruder dialects of the Burman group. This character is intermediate between that of the Simang on the one side and that of the ruder Sumatran, Javan and Borneon on the other. The Johor Binua, is more guttural. aspirate and harsh, remarkably broad and slow,

Kedah or Quedah, is called in Siamese Muang Sai or the Sai kingdom. It occupies from the 5th to the 7th degrees of north latitude and has the Straits of Malacca on the west. Mr. Crawfurd mentions that the purest Malay is written and spoken in this state, being often in the Archipelago, influenced by mixture with other tongues. It extends from the Trang river in 7° 20' N. to the Krian, in 5° 10' N., which separates it from Perak. The Trang formerly divided it from Siam. Interiorly, is a chain of mountains, running down the middle of the peninsula. The water on the Quedah coast is very shallow and ships must keep a considerable offing. The highest detached hill on the Quedah main is Gunong Gerai, or Quedah Peak, a mass of granite, whose summit is estimated at 5,000 feet above the level of the sea. According to Dr. Ward, north of Quedah Peak is an immense plain, almost level with the sea, covered near the coast with rising mangroves. Kedah is interesting to ethnologists from the several tribes within its limits. Of these, the Semang and Udai are found in the forests of the north; the Rayet Utan, the Jakun, Sakkye, Hala, Belanda and Besisik in others to the south; while the Akkye or Rayet Laut, lit. subjects of the sea, dwell upon the shores and islets of the peninsula. Wherever scattered, they live totally apart from the Malays, and differ from them widely in person, habits and religion; in short, are of a much lower grade in the scale of civilization. The Malays themselves sometimes class the various tribes under one general and expressive appellation, that of Orang Benua—men of the soil. They denominate the four original chiefs of the Binua "Nenek" or our ancestors: many of their own chiefs derive their descent from them, and bear a Binua title. The elders of the Binua exercise considerable influence over the elections of Malayan Panghulu. The Panghulu of Rumbowe is chosen alternately from a Jakun tribe (the Bodoanda Jakun) and a Malay tribe: the names of inland places are chiefly Benua terms. *Mutatis mutandis,* there is a striking resemblance in feature, between the Benua and the Malay, and scarcely less in their respective languages. Opinions in favour of the affirmative hypothesis are entertained by many of the Benua and Malay themselves. But from what branch of the great family of mankind the Benua spring, tradition is almost silent. Their general physical appearance, their lineaments, their impatience of control, their nomadic habits, a few similarities in customs, all point to a Tartar extraction.

The *Udai tribe* is little known—many Malays believe they are a class of Jakuns; while

others affirm that they are a colony from some foreign country: the Tuanku Puteh of Rumbowe informed Newbold that the Udai are a race of savages, thinly scattered over the states of Jellabu, Pahang, Tringanu and Quedah, and resemble in feature, the darker variety of Jakuns. Their size is represented as smaller, and their habits more savage. According to Sir S. Raffles and Mr. Anderson, the Semang of Quedah has the woolly hair, protuberant belly, thick lips, black skin, flat nose, and receding forehead of the Papuan: the natives, affirm they differ but little, from the Jakun.

The *Semang* of Perak, resemblies those of Quedah in personal appearance, but speak a different dialect. They possess, the same curling black hair, are a little darker in colour, and have not the thick lips of an African: they subsist by hunting, and make huts of the branches, and cloths of the bark of trees shunning the haunts of more refined beings. They are numerous in Quedah, and reside generally on or near mountains, such as those of Jerrei and Juru, and are found in Tringanu Perak, and Salangore. They live in rude huts, easily removed from place to place, constructed of leaves and branches. Their clothing is a scanty covering made of the bark of trees: sometimes a cloth obtained from the Malays; Birds and beasts of the forest, wild roots and yams, constitute their food: they worship the sun. The Malays have an idea, that, when a Semang dies, the body is eaten, and nothing but the head interred; a custom, which, if it exists, reminds us of one prevalent among the Issedones, a tribe of ancient Scythians, who after feasting on the body of the deceased, preserved the head, carefully removing the hair. The Semang women like those of the ancient Massagetæ, and the more modern Tartar Kie-Kia-sse tribes, are said to be in common like their other property. They have chiefs, or elders, who rule the different tribes.—*Newbold's British Settlement, Vol.* II. *p* 369 *to* 379.

Jakun.—The wild tribes inhabiting the Malayan Peninsula, Sumatra and a few of the neighbouring Islands are divided into three principal classes, which are subdivided into many others. The first of these divisions includes the Batta, who inhabit the interior of Sumatra and a few neighbouring Islands. The second is that of the Semang, who are found in the forests of Kedah, Tringanu, Perak and Salangor. Under the third head, the Jakun, are comprised many tribes. They inhabit the south part of the Peninsula from about Salangor on the west coast, and Kemaman on the coast, and extend nearly as far as Singapore. All these various wild tribes are ordinarily classed under the general and expressive appellation of Orang Binua. The Orang Binua are not mahomedans; it is stated by the Binua, and admitted by the Malays, that before the Malay Peninsula had the name of Malacca, it was inhabited by the Orang Binua. In course of time, the early Arab trading vessels brought over priests from Arabia, who made a number of converts to Islam: those of the Orang Binua that declined to abjure the customs of their forefathers, in consequence of the persecutions to which they were exposed, fled to the fastnesses of the interior where they have since continued in a savage state. Their general physical appearance, their lineaments, their nomadic habits and a few similarities in customs, point to a Tartar extraction. The principal habitations of the Jakun are found at the upper extremity of the rivers of Johore, Banut, Batu Pahat and Muar.

There is a remarkable difference in the physical appearance of the several classes of Jakun. Those of Malacca are generally as tall as the common run of Europeans; they are more dark than any other of the wild tribes; and in which respect there is not much difference between them and the more dark of the Indo-Portuguese of Malacca. The Jakun of Johore are a fine race of men: many of them are taller than those of Malacca; the face also is expressive and well characterized, and the expression of the eyes in many of them is a little severe. Their nose does not recede at the upper part, neither is it so flat or so broad at its base as this organ is in the Chinese, Cochin-Chinese and pure Malay. Several of them have aquiline noses. Some children and young men are beautiful. The women are plump but not overstout. The third class of Jakun those of the Menangkabau states, are very short, their physiognomy is low, and seems to announce great simplicity; many of them are ugly and badly made. The constitution of the Jakun is generally strong, and their bodies are very muscular. The hair of the Jakun is black, ordinarily frizzled, but very different from the crisp hair of the Caffree. Some of them leave the whole to grow on the head, as the Cochin-Chinese; others, as many of those of Malacca, cut theirs entirely; others chiefly of the Menangkabau states and of Johore, shave the head, leaving it only at the crown above three inches in diameter where they never cut it, the same as the Chinese; and to prevent this head of hair from being hooked by the branches of tree in their silvan habitations, they tie it up in the form of a top knot. They have scarcely any beard, and many of them have none at all. The women leave their hair to grow, and then tie it up in the same way as the Malay women; but they are not very particular in this respect. It has been stated that in the forests of Pahang are numerous tribes of the Jakun, who are as white as Europeans: that they are small, but very good looking; and the Malays form a party and beat the forest in order to catch these poor

creatures. They take their captives to Pahang or to Siam, where on account of their whiteness and comeliness they sell them at a high price. All their knowledge in religion is merely theoretical. They do not worship the sun nor the moon nor any idol; the Jakun of Malacca, are the least in number, and cannot be more than three hundred, about one-half of whom are seen in the following places; viz., near Reim and Ayer Panas, at Ayer Baru, Gassim, Kommender, Bukit Singhi; in the river of Muar near Pankalang Kota, at Poghalay, Sagil, Segamon, Lemon, Jawee; in the small river of Pago, and in that of Ring. The remainder are to be found, at Bukit More, Ayer Tross, Bukit Gadong, Tanka, and it is reported there are a good number at Segamet. The Jakun of Johore, inhabit that part of the peninsula which is under the sway of the sultan of Johore, and cannot amount to more than one-thousand, scattered over that large extent of country. There are Binua on the Simrong and other branches of the Indau which are in Johore. The southern part of Pahang is inhabited by the same tribe of Binua who are found in Johore. Some of them indeed have habitations which can scarcely be called houses. The Jakun of Johore build houses in the Malay way, some of which are fine buildings. Several were much more comfortable than any Malay house seen in the interior of Johore: houses divided into several rooms, some of which were for the private accommodation of the Jakun ladies of the family; the furniture consisted of some pots, plates, several other vessels and a good quantity of mats: other houses were much more common, but yet pretty comfortable, clean, and always divided into two or three rooms at least, and furnished with a frying pan of iron to cook rice, a few shells of cocoanut to keep water, and baskets used to bring food. All these houses are raised about six feet from the ground, and are entered by a ladder like the Malay houses. The best houses of the Menangkabau Jakun are about the same as the more simple and common houses of the Jakuns of Johore, the others are rude edifices on the top of four high wooden poles; thus elevated for fear of tigers, and entered by means of a long ladder. The roofs are often thatched with Chucho leaves. There is but one room in which the whole family is huddled together with dogs and the bodies of the animals they catch. The huts are so made as to be moveable at a moment's warning: they are ordinarily situated on the steep side of some forest clad hill, or in some sequestered dale, remote from any frequented road or foot path, and with little plantations of yams, plantains, and maize; some have also patches of rice about them. The bones and hair of the animals whose flesh the inmates of these scattered dwellings feed upon, strew the ground near them, while numbers of dogs generally of a light brown colour give timely notice of the approach of strangers. The Jakun of Malacca are the most ignorant, the poorest and most miserable, their best houses are about the same as the worst of those of the Menangkabau Jakun, and several families live without even having any house at all. These gather themselves together to the number of five or six families, they choose a place in the thickest of the forest, and there they clear a circle of about thirty feet in diameter; having cleared this space they surround it with the branches of the trees they have just cut; to this they join other thorny branches they collect from other parts, and so make a sort of bulwark against tigers, bears and panthers, which are there in good number. Having done this they proceed to establish their dwelling in this enclosure, in the following way: each family works to construct what will serve for a bed during the night, a seat in the day time, a table for the repast, and a dwelling or shelter in bad weather, it consists of about fifteen or twenty sticks of six feet long, laid one beside the other, supported at the two extremities by two other transverse sticks which are set upon four wooden posts; the whole being about two feet in height, four feet broad and six feet long. One dozen Chucho leaves gathered by their ends, tied at the head of the bed, extend themselves and cover it until the other extremity: these beds are placed around the enclosure, in such a way that when all the persons are sleeping every one has his feet towards the centre of the habitation which is left vacant, to be used as a cook room, or for any other purpose. The clothes of the Jakun (when they use any) are ordinarily the same as those used by Malays, but poor, miserable, and above all very unclean; many of them use clothes without washing, from the day they receive or buy them, until they become rotten by use and dirt, and they are obliged to throw them away. If some vermin are found, which is often the case, principally upon the women who are more dressed, they are immediately eaten with delight as in Cochin China. If many of them are badly dressed, and some nearly naked, it is more from a want of clothes than in accordance to their own wishes, chiefly amongst women; for all desire to be clothed, and the most agreeable presents which can be offered to them are some trowsers, sarong, baju, or some handkerchiefs to put round their head, as is the Malay fashion. Those of them who go, habitually, nearly naked, do not appear so before strangers, excepting they have no clothes. The Jakun of Jahore, who are superior to others in many respects, are also the best dressed, having also a great number of rings on their fingers, some of which are crystal,

some of copper, and some of tin; but also a good many of silver: they take a peculiar pleasure in these ornaments, as well as in silver bracelets. The men have at least trowsers, a small baju and a handkerchief for the head. The Jakun of the Menangkabau states, have the same dress as is used by the Jakun of Johore, and the women the same ornaments, but are not so well clothed, many of them go nearly naked, at least near their houses; and those who use clothes, show often an embarrassment which proves that they are not accustomed to their use. The Jakun of Malacca are badly dressed, many of the women have only a sarong, and if they are married, a ring, the necessary present of the husband before he marries them. The greater part of the men have nothing but a strip of the fibrous bark of the Terap tree, beaten into a sort of cloth of a reddish brown colour, called a sabaring, round their loins; part of this comes down in front, is drawn between the legs and fastened behind. Jakuns have a propensity to idleness; but they are not so lazy as either the Malay or Hindoo. Their first and principal occupation is the chase, it being the first means by which they feed themselves and their families; and from having been brought up in that habit, in which the greater part of their life is spent, they should be skilful hunters, and which in fact they are both in their way and in the manner of using their weapons. When there is no more food at home, the husband leaves home, beats the forest, and sometimes returns with large pieces of venison, but sometimes with nothing, and on such days they go to sleep without supper. This is the ordinary evening work, when the sun is near setting. In the day time they remain at home where they prepare arrows and the weapons, the matter with which they poison their arrows, and cook and eat the animals caught the day before. The Jakuns who have no taste for cultivating rice, or who are not acquainted with the manner of doing so, are generally very miserable; they are then obliged to look to the Malays. To provide for their livelihood they traverse the jungle all the day seeking after rattan, dammar, garu wood, and several other articles of commerce, the next morning, sometimes, they cook the flesh before they eat it: but at other times they eat it raw, some merely put the animal upon the fire till the hairs are singed, when they consider it as cooked. A traveller saw some large monkeys which after having been thus cooked, were dished up upon a kind of mat as a meal to some seven or eight persons, who speedily in a few minutes, devoured the whole, leaving only the skeleton. Some Jakuns refuse to eat the flesh of elephants under the pretext that it would occasion sickness, but many others are not so scrupulous, when an elephant is killed either by themselves, or by the Malays. It is scarcely possible to meet a single Jakun without his spear, which is both a stick to walk with, and an offensive or defensive weapon as the occasion requires. The parang is an iron blade of about one foot long, and two or three inches broad with a haft like that of a large knife, they use it to cut trees employed in the building of their houses. Their marriages are ordinarily celebrated about the months of July and August when fruits are plentiful. The bridegroom frequents for some time the house of his intended, and when he has obtained her consent, he makes a formal demand to the father. A day is then appointed; and an entertainment is prepared, more or less solemn, according to the means of the two contracting parties, and their rank in the tribe. When the day of the marriage is arrived, the bridegroom repairs to the house of the bride's father, where the whole tribe is assembled. The dowry given by the man to his intended is delivered, and must consist at least of a silver or copper ring, and a few cubits of cloth: if the man is not poor, a pair of bracelets, some other ornaments, and several articles, as of furniture for the house of the new family, are added. Sometimes the woman presents also some gifts to her intended. Then the bride is delivered by her father to the bridegroom, and the solemnity of the wedding begins. Some authors state that amongst some tribes there is dance, in the midst of which the bride elect darts off into the forest, followed by the bridegroom. A chase ensues, during which should the youth fall down, or return unsuccessful, he is met with the jeers and merriments of the whole party, and the match is declared off. This story was related a little differently by a European who inhabited Pahang many years, who said that during the banquet a large fire is kindled, all the congregation standing as witnesses: the bride runs round the fire. Adultery is punishable by death. It is not allowed to keep more than one wife. Only one man was seen who had two, and he was censured and despised by the whole tribe. Amongst them a man can divorce his wife and take another. If the divorce be proposed by the husband, he loses the dowry he has given to the woman; if the woman ask the divorce, she must return the dowry she received. The children follow the father or the mother according to their wishes: if they have not yet the use of reason, they follow the mother. No assistance is ordinarily given to lying—in women; their physicians called Pawang, are not permitted to appear in such circumstances, and midwives are not known amongst them. It is reported that in several tribes, the children, as soon as born, are carried to the nearest rivulet, where they are washed, then

brought back to the house, where a fire is kindled, incense of kamunian wood thrown upon it, and the child then passed over it several times. The practice of passing children over fire was in all times much practised among ancient heathen nations; and it is even now practised in China and other places. With the dead, the corpse is washed, wrapped in some cloth and interred by relations and neighbours, in a grave about four or five cubits deep. The sumpitan, quiver of arrows, knife, &c., of the deceased are buried with him, along with some rice, water, and tobacco. Jakuns consider white as a sacred colour; and it is a peculiar subject of comfort, when, in their last sickness, they can procure themselves some white cloth, in which to be buried. They are candid and honest, extremely proud, and will not submit for any length of time to servile offices or to much control. Each tribe is under an elder termed the Batin who directs its movements, and settles disputes. The Jakuns hate the Malays, and the Malays despise the Jakuns. There is a natural and uncontrollable antipathy between these two people; but they stand in need of each other and their mutual intercourse is necessary.—*J. I. A. p.* 272. *January to May* 1848.

Johore, formerly the chief city of the empire of that name and residence of the sultan, is situated about 20 miles up the river so called. The town was founded in 1511 or 1512 A. D. by sultan Mahomed Shah II of Malacca who, after his expulsion from that place by the Portuguese, fled to the river of Johore. From that time the town of Johore has been the capital of the empire which took the name of the empire of Johore instead of that of Malacca. Johore is the residence of a Panghulu who is appointed both by the sultan of Johore and by the Tumungong of Singapore. It is now the generally received opinion that Johore derived its population from Menangkabau. The Johore Archipelago was probably inhabited from a very remote period, anterior even to the existence of any race in Sumatra, by a maritime branch of the same people, radically Malayan, who are now found in the interior of the Peninsula and of the southern half of Sumatra. Several tribes in various stages of civilization, still possess the Johore islands. Though little known to Europeans they can never have been without Malay or Hindu-Malay visitors for it was by the great rivers of Plembang, Jambi, Indragiri and Kampar, before whose embouchures these islands lie, that the natives of Ceylon and southern India must have gradually carried civilization into the interior of southern Sumatra.

Sakai, is a pagan population in the Malay peninsula divided into the Sakai Jina and Sakai Bukit, the latter being hillmen and mountainers—the former more settled and civilized. They are strict worshippers of the elements. Sakai is the Pahang word for an aboriginal.

Hala, a branch of the Sakai population of the Malay peninsula. They tattoo their face and breast, pierce their ears and nose and insert porcupine quills.

Negroes in the Malay Peninsula, and in the islands of the Eastern Archipelago are two great races. In addition to the men of brown or copper complexion, and lank hair, who are the most advanced inhabitants of the Malayan Archipelago, the Philippines, and the islands of the Pacific, there is another race, or races, widely differing from them. These, from their resemblance to the Africans, have been called Negroes also Negrito. The Malays apply to those best known to them, the people of New Guinea, the epithet of Puwa-puwa, or Pa-puwa, which, is an adjective meaning "frizzly," or "crisping" and is equally applied by them to any object partaking of this quality. The term Negro, from the Latin niger, is that usually employed to designate the black skinned races of whom mention is now made. Their numbers in Africa are vaguely estimated at twenty millions, including the Hottentot and Kafir off-shoots from the great family. The race on the American continent number about five millions. Their numbers on the Asiatic continent, on the shores of the Red sea and Persian gulf, and on the Malay peninsula, may not exceed half a million, but from the Andaman islands eastward to the races in the Pacific, of the people generally classed as Negroes, there are at least twelve varieties, differing from each other in physical appearance, some being pigmies under five feet and others large and powerful men of near six feet. Excepting in the Andamans, in all the Negro languages of which Mr. Crawfurd had seen specimens, Malayan words are to be found. Mr. Logan long resided at Penang and his opportunities of examining the various races of the south of Asia were great. He is of opinion that the various races in south Eastern Asia, reached their present positions along the great rivers and by traversing the seas, and he indicates the original seats as sea basins and districts, defining the former term as the seas with the marginal basins of their affluent rivers. Researches have established the affinity of the languages of Southern India, and Mr. Logan points to the prolonged intercourse between the western and eastern parts of the Indian Ocean extending from the Arabian Sea, Persian Gulf and Red Sea to the Mozambic channel on the west and to the Indo-Australian seas, on the east. He believes that the shores of the Indian Ocean were occupied by races in an advanced stage, before the seeds of a higher civilization germinated in the basins of the Nile and Euphrates, amongst whom were navigating

tribes who spread themselves over every habitable island of the Eastern Ocean from Madagascar to the Fiji group. Amongst all the foreign influences, he adds, of which the presence can be clearly traced, two are of the widest extent and greatest importance. The first, entirely African and Indo-African in its character, embraced the whole Indian Archipelago, Australia and Papuanesia, and certainly included a portion of Micronesia, though whether it extended to Polynesia he is doubtful. The races to which this influence must be referred, prevailed along the shore and islands of the Indian Ocean, from Africa to Polynesia, their sole limits being those of the monsoons, and he infers that when they thus spread themselves over Africa, India and the Indian Archipelago, there could have been no civilized Semitic, Iranian, Burmese or Siamese races, on that sea to hinder them. The language of their population belonged to a state intermediate between the monotonic and the inflectional, and had strong and direct affinities to the other families of language of this stage,—the Ugro Tartarian, Japanese, old Indian and African, and to a certain extent, too, the American, which last may be considered as constituting a peculiar family. Amongst the best preserved examples of these languages are the Formosa, Philippine and the Australian, and he thinks it probable that some of the eastern Milanesian languages will be found to be equally characteristic. There seems, he says, to be no doubt that Southern Asia has always been occupied as at present with several races, tribes and languages, and that S. W. Asia and Asianesia has been contemporaneously occupied by 1st, Archaic Indo-Australian. 2. Papuan, 3. Tibeto-Chinese or Ultra-Indian, 4. Dravidian, 5. Scythic, 6, Iranian. 7. Semitic races. And the spiral haired Negro race seems to have preceded the lank haired brown race; but whether Negro tribes and dialects did not in a still more ancient era, occupy Ultra-India and India, before any of the present non-negro races moved into their regions, he says, is a question deserving investigation. At present, a Negrito race of small stature, is found in several parts of Asianesia and traces of the Negro race are also found in Formosa and Japan. The peculiarities in the variably physical character of the Dravidian physical types, when compared with the Scythic, are African and Africo-Semitic. The very exaggerated occipital and maxillary protuberances are not characteristic of the typical African head, but of a debasement of it confined to certain localities. Several east and mid African nations have the so-called African traits much softened, and differ little from the Dravidian. Even woolly or spiral hair is not a universal feature in Africa, some tribes having fine silky hair. The Dravidian pyramidal nose, the sharp depression at its root, the slight maxillary and occipital projection, the turgid lips, the oval contour and the broad nose, are all African. He thinks there is reason to believe that the strong Africanism of some of the lower South Indian castes is really the remnant of an archaic formation of a more decided African character. From the position of India between two great Negro provinces, that on the west being still mainly Negro, even in most of its improved races, and that on the east preserving the ancient Negro basis in points so near India as the Andamans and Kidah, it is, therefore, highly probable that the African element in the population of the peninsula of India, has been transmitted from an archaic period, before the Semitic, Turanian and Iranian races entered India, and when the Indian ocean had Negro tribes along its northern as well as its eastern and western shores.

If we compare the dark-colored nations of Africa with the tribes of the South-Indian Archipelago, and of the islands of Western Australia, with the Papua and Affoura (Horafores, Endemenes), we fined the black colour of the skin, the curly hair and characteristic features of the negro, are not united in the same individual. Figures in the temples of Elephanta and Adjunta, have thick lips and peculiar negro features, with curled hair: the tribes on the Kodagherry Hills have flattened noses, dark complexion and large white teeth filed into the form of a saw, giving them an African appearance. The general physical type of all the purest aborigines, of India, is that known as Negrito, with limp, black, tangled, hair.—*Campbell, pp.* 23 *to* 48. *Jour. Ind. Arch. Vol. IV, Nos.* 5 *and* 6, *May and June* 1858, *p.* 310.

The Papuans occupy New Guinea and several of the adjacent islands. The Papuan face is compressed and projecting brow protuberant and overhanging, mouth large and prominent, the nose is very large, the apex elongated downwards, the ridge thick and the nostrils large,—the nose is an obtrusive feature, the beard is twisted and the hair of the head is frizzly.—*Wallace, ii.* 104.

The Malays consist of (A) four great tribes and a few minor semi-civilized tribes; and (B) a number of others who may be termed savages. The four great tribes are:—

I. *The True Malay* races, the Malay proper, who inhabit the Malay Peninsula, and almost all the coast regions of Sumatra and Borneo. They all speak the Malay language or dialects of it; they use the Arabic characters in writing and they are all mahomedans in religion.

II. *The Javanese*, who inhabit Java, part of Sumatra, Madura, Bali, and part of Lombok. They speak the Javanese and Kawi languages which they write in a native character. They are of the mahomedan religion in Java, but Bali and Lombok is brahminical.

III. The *Bugis* are the inhabitants of the greater part of Celebes and there seems to be an allied people in Sambawa. They speak the Bugis and Macassar languagee with dialects, and write these in two different native characters. They are all mahomedans.

IV. *The Tagala* of the Philippine islands are the fourth great Malay race, many of them profess christianity, their native language is Tagala, but they speak Spanish.

V. *Moluccan Maloys*, who inhabit chiefly Ternate, Tidore, Batchian, and Amboyna, may be held a fifth division. They are mahomedans but they speak a variety of curious languages, which seem compounded of Bugis and Javanese, with the languages of the savage tribes of the Moluccas.

(B) *The savage Malays* are the Battak and other wild tribes of Sumatra; the Dyak of Borneo; the Jakun of the Malay peninsula; the aborigines of Northern Celebes; of the Sulu Island and of part of Bouru.

The colour of all the Malay tribes is a light reddish brown, with more or less of an olive tinge, not varying in any important degree over an extent of country as large as all southern Europe. The hair is equally constant, being invariably black and straight, and of a rather coarse texture, so that any lighter tint or any wave or curl in it, is an almost certain proof of the admixture of some foreign blood. The face is nearly destitute of beard, and the breast and limbs are free from hair. The stature is tolerably equal and is always considerably below that of the average European. The body is robust; the breast well developed, the feet small, thick and short, the hands small and rather delicate. The face is a little broad and inclined to be flat; the forehead is rather rounded, the brows low, the eyes black and very slightly oblique The nose is rather small, not prominent but straight and well shaped, the apex a little rounded, the nostrils broad and slightly exposed; the cheek bones are rather prominent, the mouth large, the lips broad and well cut, but not protruding, the chin formed. The Malays, when mature, are certainly not handsome, but in youth up to 15 years of age, both boys and girls have pleasing countenances and in their way almost perfect. In character, the Malay is impassive. He exhibits a reserve, diffidence and even bashfulness which is in some degree attractive, and leads the observer to think that the ferocious, blood thirsty, character imputed to the race, must be grossly exaggerated. He is not demonstrative. His feelings of surprise, admiration or fear are never openly manifested and are probably not strongly felt. He is slow and deliberate in speech and circuitous in introducing the subject he has come expressly to discuss. Children and women are timid and run at the sight of a European. In the company of men they are silent and are generally quiet and obedient. When alone the Malay is taciturn, he neither talks nor sings to himself. When several are paddling in a canoe, they occasionally chaunt a monotonous and plaintive song. He is cautious of giving offence to his equals, he does not quarrel easily about money matters, and practical joking is utterly repugnant to his nature. The higher class of Malay are exceedingly polite, but this is compatible with reckless cruelty and contempt of human life, which is the dark side of their character. In intellect, the Malay race are rather deficient, they are incapable of any thing beyond the simplest combinations of ideas and have little taste or energy for the acquirement of knowledge. He is kind and gentle to his children. The Malay is of short stature, brown skinned, straight haired, beardless and smooth bodied, broad faced, has a small nose, and flat eyebrows, is quiet, bashful, cold and undemonstrative, grave, seldom laughs, and conceals his emotions. The Malayan race as a whole very closely resembles the east Asian populations from Siam to Manchuria. The Malay face is of the Mongolian type, broad and somewhat flat. The brow depressed, mouth wide but not projecting and the nose small and well formed, but for the great dilatation of the nostrils. The face is smooth and rarely develops the trace of a beard, the hair black, coarse and perfectly straight. The Malays rub noses, in lieu of the kissing of Europe. Most of the advanced nations of the Asiatic islands are gamblers, and the little fighting fish of Siam and cock-fighting are largely betted on. In the Archipelago, in Bali, Lombok, Celebes and the Philippines, cock-fighting is quite a passion. The only material exception are the Javanese. The passion for cock-fighting is indeed impressed in the very language of the Malays, which has a specific name for cock-fighting, one for the natural spur of the cock, and another for the artificial spur, two names for the comb; three for the crow of the cock; two for a cock pit; and one for a professional cock fighter. The passion is no where carried further than in the Spanish dominions of the Philippines. There, it is licensed by the Government, which derives from it a yearly revenue of about 40,000

dollars or about £10,000.—*Crawfurd Dict. p.* 11. *Wallace ii.* 104.

Orang Slectar, originally with the Biduanda Kallang, are joint occupants of Singapore. The speak a Malay dialect with a guttural accent.

Orang Rawa, a people of Rawa, Raw or Ara, in Sumatra, immediately to the north of Menangkabau and penetrated by the large but scarcely navigable river, Rakan. Menangkabau province is on the plateau in the interior of Sumatra, north of the present town of Padang.

The Achinese of Sumatra are supposed to be a mixture of the Batta and Malay with the Chuliah, as they designate the natives of the west of India, and differ much in personal appearance from other Sumatrans being, in general, shorter and of a darker complexion. They are mahomedans, and many perform the pilgrimage. They are active and industrious, but unscrupulous in their commercial transactions. Mahomedanism first began to make way in Achin in 1204, from which it spread slowly eastward to Java, Celebes and the Moluccas, and northward to the Philippines where it was gaining footing as the Spaniards arrived who supplanted it with christianity. Bali has not accepted it.

Bhatta, Batta or Battak, a Malay race, addicted to eating human beings. They have long been known to be given to this unusual practice. They occupy the valley of Mandeling and to the west, and the easterly portion are under the dominion of the Dutch. The language they use is said to be different from Malay and to have several dialects, but it has an alphabet invented by themselves, and in this matter they are perhaps the only human beings who advanced to a knowledge of letters but continued to eat each other. Marsden in his History of Sumatra notices them, and the writings of Marco Polo show that so long ago as A. D. 1290, they were known to indulge in this propensity, and Sir Stamford Raffles, in 1820, after visiting Tampanuli bay, mentioned that for a person convicted of adultery, of midnight robbery, prisoners of war, a person intermarrying with another tribe, a person treacherously attacking a village, a house, or another person, the punishment was to be cut up and eaten alive. The most recent traveller from the west, Professor Bikmore, from America, who was in Sumatra in 1866 mentions that they are an inland people, the Malays from Menangkabau having spread and occupied all the coasts. They believe in evil spirits and omens. On the Dutch acquiring the possession of the plain of the Mandeling valley, the Batta dwelling there were compelled to abandon their cannibalism; but all beyond Dutch territory, the race still continue to pursue their old customs. He had not however, been able to verify that part of Sir Stamford Raffles' information which includes marrying into another tribe as incurring the penalty. The rajah of Sipirok assured the Dutch governor at Pedang that he had eaten human flesh at least forty times and that he relished it above every thing that he had ever tasted. The Batta of Sumatra, wear the kallasan, a slightly curved sword and the jouo; also knives called tombak lada, and terjing: for drums the Batta use gongs, and in action set up a kind of war-whoop.

The Bugis tribes inhabiting Celebes, are celebrated for the temper they give to steel, and for their arms in general; in addition to those of the Malays on the Peninsula, they use defensively the baju ranti (chain jacket), and both a long and a round sort of shield. They swear by their krises, for which they have a great veneration, and on going into battle, drink the water in which they have been dipped, uttering imprecations on the foe. The inhabitants of *Pulo Nias,* an island off the western coast of Sumatra, wear for armour a baju made of thick leather, and a cap to match, covered with the ijo, the vegetable substance resembling black horse hair obtained from the Arenga saccharifera.

The Lampong who inhabit the eastern and southern extremity of Sumatra, go into combat with a long lance borne by three warriors; the foremost of these lance-bearers, protects himself with a large shield.

The Malay pirate prahu or prow are stockaded and armed with heavy guns, generally the mariam and lelah, to which last the Malays are very partial; also, matchlocks, long spears, pointed nibong stakes burned at the end, and others cut short for throwing when at close quarters, and large stones. The signal for attack is the sound of a sort of gong, called Tawa tawa.

The Batta race delay the burial of every person who, during his life had a claim to the title of rajah (of which each village has one) until some rice, sown on the day of his death, has sprung up, grown and borne fruit. The corpse, till then kept above ground among the living, is now, with these ears of rice, committed to the earth, like the grain six months before, and thus the hope is emblematically expressed that, as a new life arises from the seed, so another life shall begin for man after his death. During this time the corpse is kept in the house, enclosed in a coffin made of the hollowed trunk of a Durinon, and the whole space between the coffin and the body is filled with pounded camphor, for the purchase of which the family of the deceased rajah frequently impoverish themselves.—*Bikmore's Travels, pp.* 99, 4.8 *Newbold's British Settlements, Vol. ii. pp.* 212,

Banka Island lies, in its northern point, in Lat. 1° 52' N. and Long. 125° 24' E. It is hilly and of middling height. It has a chain of hills, generally called St. Paul's mountains, contiguous to its south end, 930 feet high, but Parmasang and Manopen hills, on the west side of the island are respectively 1350 and 1617 feet in height. The straits of Banca are bounded on the east by the island, and on the west side by the coast of Sumatra. The straits extend from Lucepara island about 129 miles, with an undulating course to the N. W. The tides are irregular, and greatly influenced by the winds. Banca is inhabited by four distinct races of people. The *Orang-Gunung* or hill-people, the aborigines of the country, who are established in the interior, where they lead a wild kind of life, but are submissive to the regulations established for the government. The sea-coasts are occupied by *Malays* who have emigrated from Sumatra: they are extremely indolent, all the labour, either in cultivating pepper or working the mines, being performed by the Chinese, consisting of between fifteen and twenty thousand souls. The *Orang-Laut* or sea-people, who are similar in their habits to the Baju found upon the coasts of Borneo and Celebes, though belonging to Banka, but can scarcely be said to inhabit the island, for they live entirely in their little prahus, and wander about the coasts. They subsist principally by fishing, and it is said that they are always ready to give information to the piratical rovers. The discovery of tin attracted numerous foreigners, chiefly *Chinese*, who with the working of the mines introduced the first attempts at agriculture and commerce; various settlements were formed, and a commencement was made in clearing the ancient forests, which had till lately not been disturbed, for the purpose of forming permanent places of residence. The principles of civilization were thus offered to the rude inhabitants.—*Earl's Archipelago. Horsburgh.*

Java. According to the traditions of the Javanese, Sumatra, Java, Bali, Lambok and Sumbawa, islands, were all formerly united, and they give the dates of A. D. 1192, 1282 and 1850, but these are not to be received. The dividing line between Asiatic fauna and that of Australia, must be drawn down the Straits of Macassar, and continued southward through the strait of Lambok between Lambok and Bali. Java, locally Jawa, is the name of the original occupants of the eastern part of the island, but in latter years, they spread all over the island and have given it their name. The Chinese call it Chi-poo. Marco Polo who described, though he did not visit it, calls it Giaua. Up to the middle of the 15th century, the people of Java, from Cheribon in longitude 109° to the west, spoke the Sundanese tongue: But in 1811, nine tenths of all the population of Java, spoke Javanese, and the Sundanese was already confined to the mountainous parts of the south and west, and to a small colony near Bantam. Sir S. Raffles, says that Java was originally peopled by emigrants coming in vessels from the Red Sea; from whence it is inferred that the ancient Egyptians might have been the ancestors of one class of the people. The Javanese are small in stature, but muscular in form, supple and active in their movements and of a light copper colour. The people of the Tenger mountains, shortly described in Raffles' History, may be a relict of an aboriginal race. This race, like a few others in India, and the Archipelago, adopt the singular practice of building their villages in terraces. This practice seems to have once prevailed in the Philippines. The inhabitants of the Serwatti islands, select the summits of the hills or the brows of cliffs which rise abruptly from the sea, as sites for their habitations. The crest or extreme summit of the hill is occupied by a large waring tree, the Ficus indica of Rumphius, beneath which the idols of the village are placed on square platforms of loose stones. Here the elders meet when any important matter is to be discussed. Below the tree the sides of the hills are scarped into a succession of platforms or terraces, on which are erected their oblong barn like houses with wooden walls and palm leaf thatch. At Letti, a neighbouring island, where the hills are far inland, the brows of the cliffs which overhang the sea are selected, and a similar mode of scarping into terraces is adopted when necessary. The same system also prevails at Baba and Timor Laut and the system of terracing is practised amongst the Malle Arasar, or hill kings, of the Pulney hills in the extreme south of India. The population of Java, in 1810 was 3,000,000 or 50 to the square mile. In 1815, the population had increased to 4,615,270, and in 1857, including Madura, it amounted to 11,594,158 and 180 to the mile. But the other Dutch possessions in the Indian Archipelago, contain an aggregate population of something less than 6,000,000. Java and Madura are divided by a narrow strait and may be considered as one territory, with a mean length of 650 English miles and 100 in breadth. The population arranged into classes are,

European Settlers	20,331
Dutch Army, European	10,765
„ „ African Soldiers	427
„ „ Malays and Javanese.	15,036
Natives	11,410,856
Chinese	138,356
Arabs and Asiatics	24,615

The women, in opposition to the rule in most tropical countries, exceed the men, by 700,000. Slavery continued to be sanctioned until 1859, when it was abolished, but had so fallen away as an institution that there existed, then, only 5,260 slaves to liberate. In Netherlands India, the Dutch Government has been, since 1824, a commercial firm assisted by the trading company established in 1824 under the patronage of king William, this has proved the salvation of Java, and their shares have been at a considerable premium.

The Kalang of Java, reside among the inhabitants of the Teng'ger mountains. The Kalang are said to have been at one time numerous in various parts of Java, leading a wandering life, practising religious rites different from those of the great body of the people, and avoiding intercourse with them; but most of them are now reduced to subjection, are become stationary in their residence, and have embraced the mahomedan faith. Whenever the Kalang move from one place to another, they are conveyed in carts, having two solid wheels with a revolving axle and drawn by two or more pairs of buffaloes, according to the circumstances of the party.—*Raffle's History of Java, Vol. I. p.* 329. *Bikmore's Travels, page* 28.

Madura Island, is of an even appearance and moderately elevated, its N. W. point is in lat. 6° 55¾' N. long. 112° 51¾°' E. and its east point in lat. 6° 59' S. long. 114° 11½ E. It is the most important of a line which runs along the northern and eastern coasts of Java. It is the principal of a group composed of more than seventy-five; and is separated from the great island by a strait, not more than a mile or a mile and a half wide, which serves to form the capacious harbour of Surabaya. It has the appearance of being a continuation of Java. Few animals are found, and none peculiar to Madura. The island is famous, however, for its breed of cattle, and supplies from its rich pastures provisions to many of the agricultural and seafaring communities of the neighbouring regions. The meat, when cured, resembles, but is far superior to, the jerked beef of South America. The people are similar to the hill-dwellers of Java, and from them the Dutch recruit the line of their native army with the best troops in their service.—*Raffle's History of Java. Earl, Eastern Seas. Horsburgh, Temminck, Coup d'Œil, Sur les Possessions Neerlandaises.* I. 335; 336-338, *John's Indian Archipelago, Vol. I. p.* 337.

Bawean.—The island of Bawean, or following its old name Lubek, forming a portion of the residency of Sourabaya, lies about sixteen Dutch (forty-eight English) miles to the north of Ujong Pangka, in 5° 90' South Latitude and 112° 38' W. longitude (Greenwich) and contains about 36 square (Dutch) geographical miles, or 44 English miles. The country in general is very mountainous, and it is only near the sea that some plains are found, on the largest of which, about 3½ miles in circumference, the principal village Sangkapura is situated. The Bawean race are probably descendants of the Madurese, whose language, with a few modifications, prevails, though they differ from them in dress; but in this respect agree closely with the Bugis. The inhabitants of the dessa Dipanga employ the Javanese language.—*Journ. Ind. Arch. Vol. V. No.* 7. See India, p. 355. Jati.

Bali island, continues to indicate its Indian origin, with a small portion of Java, the Batta in Sumatra, part of Lambok. In Bali hinduism has prevailed since A. D. 1478; the Philippine Islanders, the Dyak of Borneo and the rude tribes of the interior of the Malayan Peninsula exhibit hindu elements, and their religion may be styled a degraded hinduism. The Balinese entertain a great aversion to a maritime life, and are more rarely to be met with at the European ports than the natives of the other islands to the eastward. They are fairer in complexion, stouter in frame, and more energetic in their dispositions than the Javanese, and in appearance and dress bear a great resemblance to the natives of Siam, from whom it is probable that they are descended. The entire population of Bali, amounting to about one million, profess the hindu religion, and the burning of widows amongst them is carried to an extent unknown even in continental India. The slaves of a great man are also consumed upon his funeral pile, and when the immense annual loss of life produced by these frightful practices is considered, it is surprising that the island possesses so large a population. Bali women, like the Burmese, attend to the selling of goods and merchandise. —*Earl.*

Borneo, is the principal island of the Sunda group, and is the greatest island on the globe after New Holland. It is divided by the equator into two unequal and extended parts, of which the southern is the larger. If we comprise the numerous Archipelagos by which the great island is environed, this group may be said to occupy more than eleven degrees of longitude and about ten of latitude. The geographical position of the principal island is between 7° N. L. and 4° 20' S. L. and between 106° 40' and 116° 45' E. Lon. Its length from north to south will be about 300 leagues and its breadth varying from 250 to 150 leagues. Its superficies has been calculated by which Borneo is given a surface of 12,741 square leagues or 6,992 myriametres; which makes it 2,589 myriametres

greater than Sumatra, and 5,723 myriametres greater than Java. The Portuguese, Lorenzo de Gomez, was the first of the European navigators who approached the northern part of this island; he arrived in 1518 in the ship *St. Sebastien* on his route to China. We presume that he gave to the country the name of Burne, but he says that the natives term it Braunai or Brauni. The travellers Major Muller, Colonel Henrici, the members of the scientific commission, Diard, S. Muller and Korthals, who quite recently penetrated into different parts of the interior, as well as the rajah Brooke, assure us that the Dyak which form the aboriginal population of Borneo, do not use, and cannot even have any idea of a specific name appropriated to the whole extent of a country of which the sea board is even most often unknown to the savage and wandering tribes who are separated by great distances from each other, and who are dispersed in hordes of small numbers over the vast extent of one of the largest islands in the world. These different tribes are designated amongst themselves by the names which they give to the rivers on the borders of which they have established their abode; it is thus that all the Dyak of the great river Dusen (the Banjer of our maps) call themselves Orang Duson (men of Duson) and those of the river Sampit, Orang Sampit; the manuscript memoirs of Major Muller and of Colonel de Henrici make mention of a great number of tribes designated by the names of rivers which have their mouths on the western coast; in the north of Borneo Mr. Brooke makes mention of Dyak tribes under the names of Sarebus, Sakarran, Lundu, Sibnuw, &c. established on the rivers which bear those names.

The interior is still, however, almost unknown. The existence of lofty ranges of mountains in the centre is undoubted; and in the north-west, as far as the country was penetrated by Mr. Spencer St. John in 1858, the whole was found to be mountainous, each range becoming more lofty as he approached the interior, but presenting one uniform aspect of jungle covering hill and valley. From the summit of the great mountain Kina Balu, in the north-east of Borneo, 13,000 feet high, and when looking towards the interior in a southerly direction, Mr. St. John obtained a distant view of a mountain peak which he supposes to be very considerably higher than the one on which he stood, and to be situated very nearly in the centre of the island. The land on all sides gradually slopes towards the coast. Borneo may be said to bear the same relation to Eastern India that the continent of America has borne to Europe, being a region in which tribes inhabiting the remoter east have occasionally found a refuge from religious persecution and from the pressure of a superabundant population. Brazen images, ruins of temples, and other remains of hindoo civilization, are still to be seen on the southern coast. The shores are inhabited by nations totally unconnected with each other governed by their own laws, and adopting their own peculiar manners and customs. The west is occupied by Malays and Chinese, the north-west by the half caste descendants of the mahomedans of Western India, the north by the Cochin-Chinese, the north-east by the Sulu, and the east and south coasts by the Bugis tribes of Celebes. There are, besides, numerous tribes who live in prahus among the islands near the coast, there are no fewer than three distinct tribes, living in prahus, and wandering about the shores of the island: the Lanun from Magindano; and the Orang Baju and Orang-Tidong, source unknown. The Dutch claim a territory exceeding 200,000 square miles; but all beyond a mere fringe of the coast was, until the recent exploration of a portion of the interior, absolutely unknown. Its inhabitants are generally recognized as the Malay and Kyan and the Millanowe Dyak. The Malays are settlers from Sumatra, Java and Malacca, along the coast of Borneo. The Dyak are a prior race and are divided into Land and Sea Dyaks, the latter being richer and more powerful, those of the interior being broken up into innumerable clans, some of them being tributary to the sultan of Brunai, some of them under the Dutch in the south and west of the island, and some under the Sarawak government. The Millanowe are on the N. E. of the Sarawak territory. They are of a fair complexion and are occupied with agriculture, trade and peaceful pursuits. The Kyan are a powerful tribe of about 100,000 souls, and occupy the country from the south of the kingdom of Brunai right away into the interior. They strongly resemble the Dyak. The Dyak are generally well made, with a muscular, well knit, frame and are rather under than over the middle height. Their features are regular. Their colour is a deep brown occasionally varying to a lighter shade. The Dyak dwell in very long houses, occasionally large enough to contain a community. That portion of their creed which obtains the greatest influence over their mode of life, arises from a supposition which they entertain that the owner of every human head which they can procure will serve them in the next world. The system of human sacrifice was, upon this account, carried to so great an extent, that it totally surpasses that which is practised by the Batta of Sumatra, or, by any people yet known. A man could not marry until he procured a human head, and he

who is in possession of several may be distinguished by his proud and lofty bearing: for the greater number of heads which a man has obtained, the greater will be his rank in the next world. The chiefs sometimes make excursions of considerable duration for the sole purpose of acquiring heads, in order that they may be assured of having a numerous body of attendants in the next world. If they be at peace with their neighbours, they proceed in their canoes to the more distant parts of the country to which the numerous ramifications of the rivers afford them easy access. Upon their arrival near a village, if the party be small, they take up their position in the bushes close to some pathway, and attack a passer-by unawares. If the party be large, they are bolder in their operations, and an attempt will perhaps be made to surprise a whole village. For this purpose they will remain concealed in the jungle on the banks of the river during the day, and at night will surround the village so completely as to prevent the escape of the intended victims; and an hour or two before daybreak, when the inhabitants are supposed to sleep the soundest, the attack will be commenced by setting fire to the houses, and their victims are destroyed as they endeavour to escape. Apparently the practice is only general among those tribes inhabiting the banks of the large rivers, on which distant voyages can be made with facility, the Dyaks in the northern parts of the island being content with an occasional human sacrifice on the death of a chief.—The sacrifice of a cock is sacred as with the Karen and Chinese, and they believe that the Divine being eats the spirit or essence of the offerings made to him: they have a tradition about a deluge, from which the Chinese, Malay and Dyak escaped. The minor spirits, called "Antu" are largely worshipped: their name for the Almighty Good Spirit, is Yaoah or Jowah, almost the same as the Hebrew form of Jehovah: he is also called Tuppa, and in his worship, women are the celebrants. They had a craving for skulls, but head hunting is now scarcely heard of. They are brave, hospitable, simple, truthful, loyal and grateful, and are willing to receive instruction. Chastity before marriage is not insisted on, and they marry when grown up. The men wear a narrow loin cloth passed between the thighs. The women have a still narrower strip of cloth allowed to fall from the hips half way down the thighs and affords little concealment. The clans have different languages and they have no written character. —*Journ of the Indian Archipel., Vol. II., No.* VI., *June* 1848, *page* 365, *quoting Melville de Carnbee and published in Le Moniteur des Indes.*

The interior of the island is occupied by tribes of the brown race, whose warlike habits and skill in the use of missiles, will account for the disappearance of a less civilized race from the southern and western parts of the island. On the north-west coast, where the Dyaks are to be met with near the sea, the prior tribes have all retired into the interior. The Dyak, who are the Orang-Benua, or aboriginal inhabitants of Borneo, constitute by far the most interesting portion of its population. They are scattered in small tribes over the face of the island, those inhabiting the banks of the large rivers being generally under the dominion of one more powerful than the rest; but the tribes which reside in the depths of the forests, where the communication between them is more difficult, are generally perfectly distinct from each other, and these people would scarcely know that other human beings existed beside themselves, were not individuals of their little communities sometimes cut off by the roving warriors of a distant and more powerful tribe. The various tribes are said to differ considerably from each other, but Mr. Earl saw individuals belonging to several distinct tribes, who with the exception of a difference of dialect, might be recognized as the same people, those who lived entirely on the water being much darker than the rest. It is said by the Dyak themselves, that some parts of the interior are inhabited by a woolly haired people; but as they likewise assert that men with tails like monkeys, and living in trees, are also discoverable, the accuracy of their accounts may be doubted. He met with no Dyak who had seen either, but as a woolly-haired people is to be found scattered over the interior of the Malay Peninsula, their existence in Borneo seems by no means improbable. The Dyak are of the middle size, and, with the exception of those who are continually cramped up in their little canoes, are invariably straight-limbed, and well formed. Their limbs are well rounded, and they appear to be muscular, but where physical strength is to be exerted in carrying a burthen, they are far inferior to the more spare bodied Chinese settlers. Their feet are short and broad, and their toes turn a little inwards, so that in walking they do not require a very wide path. The native paths are found very inconvenient by a European traveller. The paths used by the Dyaks and Chinese being generally worn down several inches below the surface of the soil, and, as they are very little wider than the foot, pedestrian exercise proves both painful and fatiguing. The Chinese guides mentioned that strangers soon become accustomed to these byeways, from which he judged that the settlers had adopted the native mode of walking with one foot before the other,

since their arrival in the country. Their foreheads are broad and flat, and their eyes, which are placed further apart than those of Europeans, appear longer than they really are, from an indolent habit of keeping the eye half closed. The outer corners are generally higher up the forehead than those nearer to the nose, so that were a straight line drawn perpendicularly down the face, the eyes would be found to diverge a little from right angles with it. Their cheek-bones are prominent, but their faces are generally plump, and their features altogether bear a greater resemblance to those of the Cochin-Chinese than of any other of the demi-civilized nations in Eastern India. The Laos tribes inhabiting the inland parts of Cochin-China and Cambodia are undoubtedly the same race as the Dyak, speaking a dialect of the same language; and, as the Cochin-Chinese are probably descendants of these people, civilized by communication with the Chinese, the resemblance may be easily accounted for. The Cochin-Chinese, however, are physically superior to the Dyak, the natural results of a different mode of life. The hair is straight and black, and is kept cut rather short by both sexes, but if permitted, would grow to great length. Some of the Dyak women who are married to Chinese adopt the fashion of wearing tails. He never saw a nearer approach to a beard among the men than a few straggling hairs scattered over the chin and the upper lip. The Dyak countenance is highly prepossessing. The countenances of the Dyak women, if not exactly beautiful, are generally extremely interesting, which is, perhaps in a great measure owing to the soft expression given by their long eyelashes and by their habit of keeping the eyes half closed. In form they are unexceptionable, and the Dyak wife of a Chinese, whom he met with at Sinkawan, was, in point of personal attractions, superior to any eastern beauty who had come under his observation, with the single exception of one of the same race, from the north-west coast of Celebes. This one he met with at Sourabaya soon after her arrival from Celebes, she was, for a native, extremely fair, and her portrait would not have disgraced the "Book of Beauty." In complexion, the Dyak are much fairer than the Malay from whom they also differ greatly in disposition and general appearance, although not so much as to lead to the conclusion that they could not have sprung from the same source, giving rather the idea that the cause of the dissimilarity has proceeded from the long disconnection of the Malay from the original stock, in addition to their admixture and intercourse with foreign nations. The Dyak are a much superior people to the Malay, although the latter affect to consider them as beings little removed from the orang outang. Though the most numerous of the aboriginal tribes are found congregated in villages on the banks of the rivers and the large inland lakes they also possess several towns of considerable size. The capital of the most powerful tribe on the west coast is Sigao, a town about forty days journey up the Pontianak river, which has a population of several thousands. The Dyak inhabit thatched bamboo houses, erected upon piles, those belonging to each family or petty tribe being joined together by means of a stage or verandah running along the front. Many of the small villages are defended by stockades, and the ladders by which they ascend into their dwellings are always pulled up when they retire to rest at night. Under these dwellings the pigs are kept; for, although some of the tribes in the vicinity of the Malay have adopted the mahomedan religion, they are not sufficiently rigid in their observance of its tenets to abstain from the use of pork. The Dyak cultivate rice in large quantities, as it forms their principal vegetable food, their animal sustenance being pork, fish and the flesh of deer and other animals which are procured by the chase. Some of the tribes possess bows and arrows, but the sumpit or blow pipe, a wooden tube about five feet long, through which small bamboo arrows are shot with great precision, is in more general use. The arrows are steeped in a most subtle poison, which is said to destroy birds and smaller animals, when struck with them, almost instantaneously, a slight wound from an arrow on which the poison is strong, being said to occasion inevitable death, even to man. The effects of weapons of this description are always exaggerated by those who use them; the poison therefore, is not, in all probability, so destructive to the human species as it is represented; and although the Dyaks assert that no antidote is known, yet the preparation of the poison being similar to that practised by the aboriginal inhabitants of Celebes, for which a remedy has been discovered, the people of Borneo are probably acquainted with it. They show no hesitation in eating animals which have been killed by their arrows, taking the precaution, however, of removing the flesh immediately adjacent to the wounded part. The poison, which is called ippo throughout the island, consists of the juice of a tree, and its mode of preparation appears to be perfectly similar to that practised in Java, and other islands where it is employed. Borneo, as a mineral country, is perhaps the richest in the East; producing gold, coal, antimony, and iron, while caoutchouc and gutta percha, are amongst its vegetable products. The coal and iron fields of the Balawi or Rajang are more extensive than any yet dis-

covered on the island. From the river Baram, coal is traced to the upper parts of the Bintulu, and thence southward to the Rajang river, on the left bank of which, at Tujol Nang, there is a seam exposed upwards of thirteen feet in thickness. At different other parts of the river and also in several of its branches, coal is found in abundance. From Tujol Nang the strike of the coal is southward across Dragon's plain. It is again found in the river Lang-Tha (a distance from the former place of about fifty miles) where it is extensively exposed on the surface, and has been in a state of ignition for several years. Iron ore of a quality yielding from sixty to eighty per cent. of iron abounds in the Baluwi or Rajang district, from about forty miles from the coast to the source of the river, or over a district comprising nearly one-half of the extreme breadth of the island. The iron manufactured from the ore of the above district is much preferred to that of Europe by the Malays and other natives of Borneo as being superior, doubtless owing to the charcoal being the melting material used, as in Sweden. The varieties of animal life are great, some species of Actinia, of enormous size, occur in the China seas, and on the coast of Borneo and fish live within them. Of 29 species of birds in Borneo and 21 in Sumatra, 20 are common to both islands. Of 29 in Borneo and 27 in Java, 20 are common to both islands. Of 21 of Sumatra and 27 of Java, 11 are common to both islands. The Malay of Borneo, firmly believe in ghosts. If a man die or be killed, they are afraid to pass the place. A writer in the Journal of the Archipelago, describesa race called Idaan occupying the northern part of Borneo, who also suspend human skulls in their houses. St. John, in his Indian Archipelago, says that the dominant Malays and the colonists of China, are active and industrious but are a turbulent and intractable part of the population. The Dyaks, in their physical and social characteristics resemble the Tarajah of Celebes. The Dusun, are the villagers in the north, an agricultural people, the Murut are in the inland parts of Brune, the Kadyian of the same country, are an industrious peaceful nation, valuable for those qualities; and the Kyan, are more numerous, more powerful, and more warlike than any other in Borneo. They are an inland race inhabiting a district extending from about sixty miles up the interior from Tanjong Barram to within a similar distance on the eastern shore. Fierce, reckless of life, and hot blooded in their nature, they are nevertheless represented to be hospitable, kind, and faithful to their word, and honest in their dealings. Next to them are the Millowe, southward and westward, living on rivers near the sea—an industrious intelligent people, who occasionally take heads, but have not the ferocity of the Kyan. The Tatau, Balanian, and Kanowit have dialects of their own, and are wild and savage in their manner Another writer says, that beside the Malays of the coast, there are eleven other tribes located between them and the Kyan, namely the Kanowit, Bakatan, Lugat, Tan-yong, Tatau, Balanian, Punan, Sakapan, Kajaman, Bintulu and Tilian—the majority of whom are tributary to the Kyan. The six first mentioned are all more or less tatooed, both male and female, and certainly, have all sprung from the one called Kanowit, who, in habits, closely assimilate to the Dyak of all Saribus whose neighbours they are. The tribes Punan, Sakapan and Kajaman are the chief collectors of camphor and birds' nests.

Idaan, called also Meroot, are a Borneo race who inhabit the more hilly districts towards the north, in the vicinity of Kina Balou. They resemble the Kadyan; and some of their tribes who are near the capital are compelled to plant pepper and collect the produce. They appear anxious for an intercourse with Europeans: they are said to sacrifice human victims, like the Kyan. The *Idaan*, of different places, go under different denominations and have different languages, but in their manners and customs they seem to be nearly alike. The name "Idaan" is, in some measure, peculiar to those of the north part of Borneo; the inland people of Passir are called Darat; those of Benjar, Biajoo, the Subano of Magindanao appear to be the same people; perhaps, where the aborigines, in the several islands of the Oriental Polynesia are not negroes, they are little different from the Idaan of Borneo. The Idaan are reckoned fairer than the inhabitants of the coast, this has given rise to an opinion, seemingly wholly unfounded, that they are the descendants of the Chinese. The custom obtains of arranging human skulls about the houses of the Idaan, as a mark of affluence.

The Dyak houses are all raised on posts and are often 200 or 300 feet long, and 40 or 50 wide, floored of bamboo, and the unmarried men sleep apart in a separate building. The Dyak race is closely allied to the Malay and more remotely to the Siamese, Chinese and other Mongol races. All these are characterised by a reddish brown or yellowish brown skin of various shades, by a jet black straight hair, by a scanty or deficient beard, a rather small and broad nose and high cheek bones, but none of the Malays have oblique eyes which are more characteristic of the typical Mongol. The average stature of the Dyak, is rather more than that of the Malays, but considerably under that of Europeans. They are simple, truthful, honest, and are more lively, more talkative and less secretive than the Malay. Active sports

and games of strength and skill are quite a feature in their every day life, and they have many in-door games. Head hunting has been discontinued amongst the Sarawak Dyaks. They are temperate in food and drink, and the gross sensuality of the Chinese and Malays is unknown to them. The women do all the field work and bear only 3 or 4 children.—Mr. Dalton, penetrated some distance into the interior, where he remained among the Dyak race about fifteen months. During this period he resided chiefly at Tongarron, the capital of the most powerful Dyak chief, who adopted him as his Sabat or brother, by means of a ceremony in use among all the Dyak tribes, in which each party drinks a small portion of the blood of the other, mixed in a cup of water. Ties of this description are more sacred than those of consanguinity, a very fortunate circumstance for those Europeans who may visit the country, since the chiefs show the greatest readiness in forming these bonds of brotherhood, and will afterwards protect their Sabat at the risk of their own lives. Mr. Earl tells us that a black bird, strongly resembling a magpie in its habits and appearance, is much respected, or rather feared by the Dyaks, and suggests that those who visit the Dyak tribes should refrain from shooting them, the destruction of one of these birds, which are considered by the aborigines to be evil spirits, being deemed an offence that will entail calamity on the whole country. The Dyak race do not use, and cannot even have any idea of a specific name appropriated to the whole extent of a country of which the sea board is even most often unknown to the savage and wandering tribes who are separated by great distances from each other, and who are dispersed in hordes of small numbers over the vast extent of one of the largest islands in the world. These different tribes are designated amongst themselves by the names which they give to the rivers on the borders of which they have established their abode; it is thus that all the Dyaks of the great river Duson (the Banger of our maps) call themselves Orang Duson (men of Duson) and those of the river sampit, Orang Sampit; The manuscript memoirs of Major Muller and of Colonel de Henrici make mention of a great number of tribes designated by the names of rivers which have their mouths on the western coast; in the north of Borneo, Mr. Brooke makes mention of Dayak tribes under the names of Sarebu, Sakairan, Lundu, Sibnuw, &c. established on the rivers which bear those names.—*Wallace Malay Archipelogo, Vol.* I, *pages* 34 *to* 161. *Journal of the Indian Archipelago, No.* 2, *February* 1849, *Vol.* III. *p.* 141. *No.* 6, *p.* 365, *June* 1848. *No.* 4, *Sept.* 1849, *p.* 557. *St. John's Indian Archipelago, Vol.* II. *p.* 265. *Quarterly, Review, No.* 222, *p.* 497. *Marryat's Indian Archipelago, p.* 10. *Earl's Indian Archipelago, p* 227 *to* 270. *Reveu de deux Mondes. Pritchard, Researches into the Physical History of Mankind.* See Tawee Islands; Katiow; Jintawan; Orang Laut; Malay Mindoro; Legetan Islands: Sulu Archipelago; Kyan; New Guinea; Ladrone Islands, Lawang; Marco Polo.

The Malay Archipelago, from the Nicobars by the Malay Peninsula to the east, is 4,000 miles long from East to West, and 1,300 broad from North to South. The volcanic belt of the archipelago is marked by a chain of active and extinct volcanoes through the whole length of Sumatra and Java and thence by the islands of Bali Lombok, Sumbawa, Flores, the Servatty islands, Banda, Amboyna, Batchian, Makian, Tidore, Ternate and Gilolo to Morty island. Here the belt is broken and shifted 200 miles to the west, to north Celebes, from which it passes on to Siau and Sanguir, to the Philippine islands, along the eastern side of which it continues in a curving line to their northern extremity. From the extreme eastern bend of this belt at Banda, for 1,600 miles, to the North East coast of New Guinea, is a non-volcanic district. But there, on the North East Coast of New Guinea, another volcanic belt can be traced through New Britain, New Ireland, and the Solomon islands to the farthest eastern limits of the Archipelago. The united length of these volcanic belts is 90 degrees, their width about 50 miles, but, for about two hundred miles on either side of them, evidences of subterranean action are to be seen in recently elevated coral rock or in the barrier coral reefs which indicate recent submergence. In some part or other of all the line earthquakes are felt every few weeks or months, varying from a slight tremor to great movements shaking down villages and destroying life and property, and some of them devastating the adjacent lands. In Java, in 1772, the volcano of Papan-dayang was blown up by repeated explosions and a large lake left in its place. In Sumbawa in 1815, 12,000 people were destroyed by the great eruption of Tomboro.

Makian, an island of the Moluccas, was rent open in 1646, by a violent eruption. On the 29th December 1862, it again suddenly burst forth blowing up and altering its face and destroying the greater part of the inhabitants and sending forth such quantities of ashes as to darken the air at Ternate forty miles off and destroying almost the entire crops of that and neighbouring islands. Java has nearly 45 volcanoes active or extinct, many of them with volcanic cones, and averaging 10,000 feet high.

Sumatra, in reference to its extent, has few volcanoes and a considerable portion has probably a non-volcanic origin. Sumatra, the uncultivated parts of Java and Celebes, Borneo the Philippines and New Guinea are all forest countries, but on Timor and on all the islands around it there is absolutely no forest, and this character extends to Flores, Sumbawa, Lombok and Bali.

Mr. George Windsor Earl, in a pamphlet on the Physical Geography of South Eastern Asia and Australia, (1855) pointed out that the islands of Sumatra, Java, and Borneo are connected with the Asiatic continent by a shallow sea, and that a similar shallow sea connects New Guinea and all the adjacent islands with Australia, these last being all characterized by the presence of marsupial animals: and, carrying out Mr. Earl's suggestion, Mr. Wallace maintains that some to the islands had long been connected with the Asiatic continent, and others equally long with that of Australia, and that a line of separation can be drawn between them, and he designates the Asiatic portion, Indo-Malayan and the Australian division Austro-Malayan. The seas between Sumatra, Java and Borneo are so shallow that ships find anchorage in any part of it, as it rarely exceeds forty fathoms. And the seas eastwards to the Philippines and Java rarely exceed one hundred fathoms.

The elephant and tapir of Sumatra and Borneo, the rhinoceros of Sumatra and the allied species of Java, the wild cattle of Borneo and the kind long supposed to be peculiar to Java, are now all known to inhabit some part or other of Southern Asia; and, of the birds and insects, every family and every genus of the groups found in any of the islands occurs also on the Asiatic Continent and in a great number of cases the species are also identical. The great islands of Java, Sumatra and Borneo, even yet resemble in their natural productions the adjacent parts of the Continent almost as much as such widely separated districts could be expected to do, even if they formed part of the Asiatic Continent. The Philippine islands agree in many respects with Asia and the western islands, but present some anomalies.

The Eastern portion, on the other hand, from Celebes and Lombok eastward, exhibit as close a resemblance to Australia and New Guinea as the western islands do to Asia. Australia has no apes, monkeys, cats, tigers, wolves, bears, hyenas, no deer, or antelopes, sheep or oxen, no elephant, horse, squirrel or rabbit. In lieu, it has kangaroos, opposums, wambats and the duck billed palypus. It has no woodpecker or pheasants but has, in lieu, the mound making brush turkeys, honey suckers, cockatoos, the brush tongued loris, which are found no where else in the globe and all these peculiarities are found in the islands which form the Austro-Malayan division of the Archipelago. The islands eastward from Java and Borneo, form a part of a previous Australian or Pacific Continent, although some of them may never have actually been joined to it.

The Aru islands, Mysol, Waigyou and Jobie agree with New Guinea in their species of mammalia and birds and they are all united to New Guinea by a narrow sea. The 100 fathom line around New Guinea marks the range of the paradise birds. This separation has no relation to their geological character.

The Indo Malayan and Austro-Malayan divisions, hold two distinct types of the human race, the Malay and the Papuan, who differ radically in their physical mental and moral characters, and under one or other of these two forms, as types, the whole of the people of the Eastern Archipelago and Polynesia can be classed, and the line separating these two types comes near but somewhat eastward of that part of the zoological regions. This easterly jutting of the Malay line, has been caused by the maritime enterprise and higher civilization of the Malay races who have overrun the nearer part of the Austro-Malayan region and have supplanted the original inhabitants and spread much of their language, their domestic inhabitants and their customs far over the Pacific. To the Malay type and to the Papuan type, respectively, all the people of the various islands can be grouped. The Asiatic races include the Indo-Malay and all have a continental origin, while the Pacific races including all to the east of the Malay (except perhaps some in the northern Pacific) are derived not from any existing continent but from lands that now exist or have recently existed in the Pacific Ocean.

The varieties of animal life are great, some species of Actinia, of enormous size, occur in the China seas, and on the coast of Borneo, and fish live within them. Of 29 species of birds in Borneo and 21 in Sumatra, 20 are common to both islands. Of 29 in Borneo and 27 in Java, 20 are common to both islands; of 21 of Sumatra and 27 of Java, 11 are common to both islands.

The Malay of Borneo, firmly believe in ghosts. If a man die or be killed, they are afraid to pass the place.—*Wallace I, Wallace, pp.* 13 to 20, 161. *Journal of the Indian Archipelago, No.*, 2 *February* 1849, *p.* 141, *Vol.* III. *St. John's Indian Archipelago, Vol.* II. *p.* 265. *Quarterly Review, No.* 222. *p.* 497. *Marryat's Indian Archipelago, p.* 10. *Earl's Indian Archipelago, p.* 270. See Tawee Tawee Islands, India; Kaya; Katiow; Jintawan;

Orong Laut; Malay, Mindoro; Legetan Islands; Soloo Archipelago; Kyan; New Guinea; Ladrone Islands; Lawang; Marco Polo;

The Sulu Achipelago, is that chain of numerous islands which stretch across from the N. E. point of Borneo to the Island of Mindanao. Sooloo Island, from which the Archipelago is named, is high and of considerable extent, being 35 miles long and from 5 to 10 broad; it lies in long. 121° E. near the centre of the Archipelago. The Macassar men of Celebes determine many disputes by single combat, but never avenge themselves by personal assassination. On the contrary, the Sulu race have no idea of putting themselves on a footing with their antagonist, but always attack him in the dark, or off guard. It would scarcely be possible to scrape up a more infamous race than the Sulu. The only virtue they boast, is courage, which, unaccompanied with principle, is at best but negative, and in this instance doubtful. Honesty, industry, or hospitality, are unknown to the mass of them, at least in practice, but they are distinguished by civil dissensions, treacherous assassinations, vain-boasting, theft, laziness, dirt, envy, and dissimulation, or rather unconnected falsehood. The Sulu do not, like the mahomedans of Hindostan, confine their women; on the contrary, they mix in society as in Europe. —*Horsfield.*

Negrito. In the Philippines are a black, woolly haired race called Negrito. They are of small dwarfed stature, 4 feet 6 inches to 4 feet 8 inches high, which is 8 inches less than the Malays, and the Papuans are taller than the Malays. The hair agrees with that of the Papuan, and many negroes of Africa.

Mindoro island lies immediately adjacent to the south-west coast of Luzon, being separated only by a narrow strait: the Negrito race who are residing there are congregated in a mountainous district, called Bengan, where they live on friendly terms with the Manguianes, or wild tribes of the brown race, by whom they are surrounded, although very little intercourse subsists between them; so that here, at least, the system of sacrificing a neighbour, to avenge the death of one of their own tribe, seems to have been abandoned. The Mindoro Sea is bounded on the south-west side by the north-east coast of Borneo. It is much resorted to by British sperm whalers who obtain entire cargoes there. Mindoro Strait is 27 to 33 miles wide. The *Manguianes* are a mild and ill used people, but so little advanced in civilization, that European visitors, who have not had opportunities of personal communication with the Bangano, often leave the island with the impression, that they are only a more savage variety of the same race.—*Earl, pages* 133, 137, 326.

Magindanao Island. The people use the alphabet of the Tagala nation, of the great island of Lucon.

The Ladrones or pirates of the Eastern Archipelago consist wholly of the inhabitants of the free mahomedan states in Sumatra, Lingin, Borneo, Magindanao and Sulu.

Mindanao, is in lat. 5° 39 N., long. 125° 18 E. The interior of this large island is said to be inhabited by many small tribes of Papuans, but those only who reside near the north coast, where there are several Spanish settlements, are known to Europeans. The chief tribes of the north are called respectively Dumago, Tagabaloy, Malano, and Manabo, but very little is known concerning them, except that, in common with the other mountain Papuans of Mindanao, they are comparatively inoffensive.—*Earl's Archipelago.*

Lombok, the rajah of Lombok has the title of Anak Agong, which means "son of heaven." The indigenes are called "Sassak." The people of Lombok believe that some men can turn themselves into crocodiles, which transformation they adopt in order to devour their enemies. The Sassak are a Malay race, hardly differing from those of Malacca or Borneo and have been converted to mahomedanism. But the ruling race are brahminical and from Bali. The men are jealous and strict with their wives, infidelity is punished by the couple being tied back to back and thrown into the sea, where crocodiles devour the bodies. Even a married woman accepting a flower or betel from a stranger has been punished by death with the kris, and any one found without leave within the grounds of a house is krised and his body thrown out to the street. The people frequently do a-mok but it seems to be deliberately done. On one occasion, a person doing a-mok killed seventeen people before he could be killed. In war, a whole regiment will agree to a-mok, and then run on with such desperate resolution as to be very formidable to men less excited than themselves.—*Wallace, Vol. I. pp.* 73, 161, 174.

Celebes Island, in configuration, has been compared to a star fish, from which the radiating limbs on one side have been removed; and this very singular form also distinguishes Gilolo, an island not far distant from it to the eastward. Its salubrious climate restores to health constitutions impaired by residence on the marshy plains of the less elevated regions of India. Celebes occupies the centre of the tropical zone, and lies in the Molucca sea. Its length and breadth it is difficult to estimate, being composed of four peninsulas, with an area of 3578 miles. Its coast presents a great number of bays, gulfs, and capes of eccentric outline. The surface is lofty, with considerable hills, and towards the north are several active volca-

noes. Some of the mountains rise seven thousand feet above the level of the sea usually with round or flat tops. Though a mountainous island, Celebes presents along the borders of the sea wide plains covered with verdure and beautiful valleys, some of which enclose magnificent basins of limpid water, raised on a smooth plateau encircled by a rim of low hills. Thick forests cover the hills and large tracts of the level country with oaks, maples, sycamores, cedars, teak-trees, and the upas. Celebes is less populous in proportion to its extent, than many other island of the Archipelago. Klabat is a conical volcanic mountain, rising 6,500 feet above the sea in the northern peninsula of this island: the two southern prongs of this island form the gulph of Boni, which stretches three degrees northward into the centre of the island. Its entrance is about eighty miles wide, but narrows to thirty miles, till at its head it again expands to forty-five miles. Celebes, on its eastern coast, is fronted by islands, and many islands are scattered over the bays of Tolo and Tomini, or Goonong Tella. Celebes, on its north coast, is in general high, bold land. Its extreme point is called Cape Coffin, and the whole of the islands that stretch from it to Menado bay are sometimes called Banca islands. The tongue of land in the north of Celebes, known administratively under the name of the Dutch residency of Menado, comprehends all the northern extent of the island, from the bay of Palos in the west, to the cape of Taliabo in the east, and comprises the great bay or arm of the sea of Gunong-Tello, which stretches in a westerly direction between the two peninsulas. The Dutch residency of Menado includes under its jurisdiction the whole federative states of Minahassa; the small kingdom of the northern coast; the very extensive districts in the west part of the peninsula, where Government exercise sway, besides the islands of Sangir and Talaut to the north, as well as the lesser island of the west coast and the large gulf of Tomini. The population is composed of native christians, Malays, and Chinese. In 1840 there were reckoned in Minahassa:—

Natives	78,700	The districts of Gorontalo.	50,000
Christians	5,687	Sangir & Talaut islands	40,000
Malays	2,875		
Chinese	510	Total	178,272
Free Slaves	500		

Without taking into account the number of the Alfoura population of the interior, which cannot be very considerable, seeing that the elevated and woody parts of Kayeli, To-radja and To-meiku appear to be thinly peopled, the Minahassa confederation in the north of Celebes counts 286 villages; the principal districts are Tondano, Langoang, Kakes, Temehon, Sonder, Kawakkoang, Tompasse, Amurang, Belang and Kema. They are all under the direct authority of the Dutch government; the Resident and three other European civil employes, assisted by an indeterminate number of native functionaries, administer the government. The resident is under the orders of the governor of the Moluccas, the head quarters of which is Amboyna. Sangir, and the numerous islands of this group occupy a superficies of 13 square leagues; the Talaut and the Meangis islands united are 18 square leagues; these Archipelagos, formerly subject to the authority of the sultan of Ternate, now make part of the residency of Menado.

Several extinct volcanoes, and some still in full action, are found in the *Sangir group*; the devastations which they commit from time to time have often been fatal to the inhabitants. The eruption of Duwana, in 1808, completely annihilated the village of Tagalando, destroyed all the surrounding forests, and suddenly deprived the inhabitants of all means of livelihood, by the destruction of their fields. The Gunong-api causes numerous ravages in the island of Sjauw; its peak, 6,000 feet above the level of the sea, forms the culminating point of this group. Gunong-api covers with its base all the northern part of Sangir-besar: this volcano has not been active since 1812, when the torrents of lava destroyed the extensive forests of cocoanut trees with which this part of the island was covered, and caused the death of many of the inhabitants. These islands furnish more than twenty-five kinds of wood suited for building and furniture. Two harbours, sheltered from all winds, exist in the larger Sangir, one in the Bay of Taruna, the other, called Midelu on the eastern side.—As will have been seen from the above, Celebes consists of a small irregular central area, with four long peninsulas. The two on the south are separated by the Gulf of Boni; in the S. W. peninsula, two languages are spoken, the "Mangkasa" or "Mangkasara," and (of which word the Netherland capital Macassar is only a corruption of the Dutch), and the "Wugi" or "Bugi" which originally was more particularly limited to the coast of the Gulf of Boni. North of Macassar, in the most western part of the island, is another people, the "Mandhar," who speak a third language. On the island of Buton, which may be regarded as a part of the peninsula, east of the gulf of Boni, a fourth tongue is spoken. In the northern peninsula are the people speaking the "Gorontalo" and the "Menado" languages. Minahassa is in the northern extremity of Ce-

lebes. In the interior are a people whom the coast tribes call Turaju, who are said to be cannibals, and head hunters. This was stated many years ago by Dr. Crawfurd, who says (Vol. i. p. 243) "some of the savages of Borneo destroy their prisoners and devour their flesh. One nation of Sumatra acquainted with the art of writing and possessed of books, are well known to be cannibals. Among other tribes, the skulls of enemies are held as trophies round their habitations. Among the people of Celebes, when an enemy falls wounded on some occasions, they actually devour his heart, and there is hardly a warrior of note who at some time or other has not partaken of the horrid repast. Dr. Crawfurd had seen several who had done so, and one person told him it did not differ in taste from the offal of a goat or buffalo." Macassar is the most notorious place in the Eastern Archipelago for the Bugi people to run a-mok. On the average one or two occur in the month. It is in fact amongst the natives of Celebes, the national mode of committing suicide, and is therefore the fashionable mode of escaping difficulties. Ten or twenty persons are sometimes killed and wounded at one of the a-mok. Stabbing and killing at all he meets, the a-mok runner is at last overpowered and dies in all the excitement of battle. It is a delirious intoxication, a temporary madness, absorbing every thought and action. Macassar men is a common name of the Bugi race. The Macassar people were taught mahomedanism in the early part of the 16th century, but the Portuguese arrived A. D. 1525, and they embraced christianity. The Bugi are now the great navigators and traders of the Eastern Archipelago. In the beginning of the western monsoon, they go in great numbers to the Arru islands, which is the principal rendezvous for the people of Ceram, Goram, the Ki islands, Tenimber, Baba, and of the adjacent coast of New Guinea, a distance from Macassar of upwards of 1,000 miles. They carry English calicos, cotton goods of their own manufacture, Chinese gongs, and arrack, and the return cargoes are tortoise-shell, mother of pearl shell, pearls, birds of paradise, and tripang, the Malay term for all kinds of Holothuriæ or Sea Cucumbers. Of tripang alone, about 14,000 piculs are yearly shipped from Macassar, of a value of 600,000 dollars, or £150,000. It is estimated that the annual value of goods carried by the Bugi to the Arru islands from Macassar alone is 80,000 dollars, or 200,000 guilders, and of those taken to the Arru group from other places 20,000 dollars, or 50,000 guilders.—The Bugi are the most enterprising race of the Eastern Archipelago. Although they bear some personal resemblance to the Malays, arising probably from a common origin, in every quality but courage, they are essentially different. Exposed to the same temptations, and most skilful and adventurous navigators, they have never adopted the occupation of piracy, but abhor and resist it, and defend themselves against the Malay prahus with the most heroic and desperate valour whenever they are attacked, proceeding, if overpowered, to blow up their vessels rather than submit. The poorest of these hardy islanders is as impatient of a blow as a European gentleman; and it is permitted to any one to avenge an affront by the death of the person who offers it. A more than Spartan training is bestowed on children. The boys at the age of five or six are removed from their parents, lest they should be made effeminate by indulgence, and they are not restored to their family until they are of an age to marry. They are the Phœnicians of the Indian Archipelago, and there is not a coast from the northern shores of the Australian continent to the Malay peninsula where their ships are not habitually seen. These adventurers leave their country in the beginning of the eastern monsoon on a trading voyage, and proceed westward until they reach Singapore. With vessels of peculiar build, of from forty to fifty tons burthen, they conduct almost the whole carrying trade of the Archipelago. They own at least 1,000 ships, the outward cargoes consisting of cotton cloths, gold dust, edible bird's nests, tortoise shell, tripang or sea slugs for Chinese epicures, scented woods, coffee, and rice; and in spite of the jealous and restrictive policy of the Dutch, they have greatly contributed to diffuse British manufactures throughout the islands of the Eastern Seas. *Kilwaru* is the metropolis of the Bugi traders to the east. It is a mere sand bank, lying between Ceram Laut and Kissa and offers good anchorage in both monsoons. From the earliest times they have been accustomed to buy horses at Gorontolo in Celebes, and kill them to eat. The natural wealth of Celebes is diversified and abundant. Besides timber and other trees noticed in its forests, are found palms of various species, ebony, odoriferous sandal, dyewoods, areca, banyan, and bamboos often forty feet high and three in diameter. *St. John's Indian Archipelago, Vol.* I. *p.* 352, 353 *Raffle's History of Java, Vol. I. p.* 57. *Raffle's Memoirs, pp.* 67,263,264; *Journal of the Indian Archipelago, No. IV, Sept.* 1849, *p.* 553; *S, Temminck, Coup d, Œil sur les Possessions Neerlandaises, Vol.* III. *pp.* 85,86,87; *Pritchard, Phys. Hist. Mankind, Vol.* I. *p.* 452; *Borneo and Celebes. Mundy, Vol. I. p.* 4,382,114; *Hogendrop, Coup d, Œil; Brooke, Journals; Heylyn, Cosmography,* 219, *Wallace, Malay Archipelago* 15, 161. *Melville de*

Moniteur des Indes Orientales. Temminck, Coup de Œil surles Possessions Neerlandaises, iii. 81. *Horsburgh. Journ. Ind. Arch. for Dec.* 1850, *page* 764. *Bikmore's Travels in the Archipelago, pp.* 97, 99, 101, 379. *Quarterly Review, No.* 222, *p.* 502. *Wallace, Malay Archipelago*, I. 174, II. 63,64.

The population of Celebes was estimated by Mr. Crawfurd at 900,000; if it were as well peopled as Java, it would number 14,000,000 inhabitants.—(*Quarterly Review, No.* 222, *p,* 503.) But at present, according to St. John (i. p. 351), it does not exceed 1,104.000 people. Its cotton tape, silk tape and embroidered tape, were exhibited at the Exhibition of 1862. It produces teak. The people of *Minahassa*, in the north-east part of Celebes, differ much from all the other people in the Archipelago. They are of a light brown or yellow tint, often approaching the fairness of a European, of a rather short stature, stout and well made, of an open and pleasing countenance, but disfigured, as age advances, with projecting cheek bones, and with the usual long, straight, jet black hair of the Malays. The coast people, where there has been intermixture, are coarse; but in inland villages, where the race is pure, both men and women are remarkably handsome. They are quiet and gentle, submissive to authority, and are easily induced to learn and adopt the habits of civilized life; they seem capable of acquiring a considerable amount of intellectual education, and they are clever mechanics. Up to the early part of the 19th century, up to 1822, this people lived in tribes each under its own chief, always at war with each other, speaking different languages, unintelligible to each other. They built their houses on lofty posts, to protect themselves, they were head-hunters like the Dyak of Borneo, and were said to be cannibals. Human skulls were the great ornaments of a chief's house, and when a chief died, two skulls of an enemy, or failing that, of his slaves, were placed at his grave, and they worshipped deities in the mountain, the torrent, the lake, and certain trees and birds, and wore only a strip of bark. In 1822, the introduction of coffee planting and a settled Government altered all that, and the people, though still speaking different tongues, are now the best clothed, best-housed, best fed and best educated in the Archipelago. Much of this has been due to the tractable nature of this people, for near Menado is a race called Bantek, strong, but intractable, who have hitherto resisted all efforts to improve them. There are some of the less civilised tribes which have semi-Papuan features and hair; while in some villages, the true Celebes or Bugi physiognomy prevails. The plateau of Tondano is chiefly inhabited by people nearly as white as the Chinese, and with very pleasing semi-European features. The people of Siau and Sanguir much resemble these, and Mr. Wallace believes them to be immigrants probably from some of the islands of North Polynesia. The Papuan type will represent the remnant of the aborigines. The languages contain a Celebes-Malay element, and a Papuan element, along with some radical peculiarities derived from the Siau and Sanguir islands further north, and therefore probably derived from the Philippine Islands.

Sumbawa, one of the three peoples speaking distinct languages current in the island of Sumbawa are the Bima. Their alphabet, once distinct, has been displaced by that of the Celebes.

The *Orang Laut*, or sea-people, who are similar in their habits to the Baju, found upon the coasts of Borneo and Celebes, though belonging to it, can scarcely be said to inhabit the island, for they live entirely in their little prahus, and wander about the coasts. They subsist principally by fishing and it is said that they are always ready to give information to the piratical rovers. *Quarterly Review, p.* 222, 503. *Professor Bikmore's Travels, pp* 101 *to* 378. *Crawfurd's Dictionary of the Archipelago, Vol. i. p* 243. *St. John's Indian Archipelago, Vol. i. p.* 351. *Wallace's Malay Archipelago, Vol. i. p.* 175. *Horsburgh. Temminck, Coup d'Œil sur less Possessions Neerlandaises iii.* 5. quoted in *Journ. Indian Archipelago for Dec.* 1850, *p.* 764. See Tulour or Salibaboo Islands. Serangani Islands.

Bouro Island, is one of the Moluccas, Fort Defence, being in Lat. 3° 22½' S. Long. 127° 4' E. in Lat. 3° 6' S. Long. 125° 57' E. and is about two hundred miles in circumference. The island is high and has a semi-circular mountain on its N. W. part. *Bouro* has two races, the larger number are Malays of the Celebes type, often exactly similar to the Tomore people of East Celebes, who are settled in Batchian, but the other race resemble the Alfura of Ceram. The bulk of the inhabitants are a comparatively fair people, very closely resembling the natives of Amboyna.

Ternate is merely a high volcano, with its base beneath the ocean. Its circumference around its shore is six miles and its height is 5,400 miles. Severe and destructive eruptions took place in 1608, 1635, 1653, 1673 and next on the 26th February 1838, then on the 25th March 1839 and on 2nd February 1840. In that of 1673, a considerable quantity of ashes was carried to Amboyna. In that of 2nd February 1840, for fifteen hours, the solid ground rolled like the sea, but the heaviest ground wave was at 10 A. M. of the 15th February and the people then took to their boats. In this interval were great eruptions of ashes and

stones which fell like hail. Lava poured from the crater into the sea. For ten days, clouds of black smoke poured out. About midnight of the 14th, the shocks were more violent, and before half past three A. M. every house was levelled. Fissures formed in the earth out of which hot water rose for a moment and then the earth closed again to re-open at another place. Its population in 1865 was 9,000.—The lower part of the mountain behind the town is covered with fruit trees and hundreds of men women and children go daily to the mountain to bring in fruit, the Durian and Mango, Lansat, Mangusteen. When Drake visited Ternate in A. D. 1579 the Portuguese had been driven out of the island by the sultan. Ternate with Batchian constitutes the ancient Moluccas. In the last great earthquake of 1840 nearly every house was destroyed. The people are of three well marked races, the Ternate Malay, the Orang Sirani and the Dutch. The first are the descendants of the intruding Malay who drove out the indigenes (who were no doubt the same as those of the adjacent mainland of Gillolo) and established a monarchy, their language is quite unintelligible. The Sirani are the Christian descendants of Portuguese. Ternate town is at the foot of the mountains. Ternate, Tidore, Motir and Makian are only cones standing on the same great fissure of the earth. *Bikmore*, 306-312.—*Wallace*, I. 300,311.

Makian is an island 50 miles from Ternate consisting of a single grand volcano. In 1646 there was a violent eruption, which blew up the whole top of the mountain, leaving a truncated jagged summit, and vast gloomy crater valley. It was said to have been as lofty as Tidore before this calamity. On the 29th December 1862, another eruption of the vast mountain took place in which all the villages and crops were destroyed and many of the inhabitants killed. The sand and ashes fell so far that crops 50 miles off at Ternate were destroyed and it was so dark at Ternate that lamps had to be lighted at noon.—*Wallace.*

Savu and Rotti, small islands to the west of Timor, are very remarkable as possessing a handsome race, with good features, resembling in many characteristics, the race produced by a mixture of the hindoo or Arab with the Malay. They are certainly distinct from the Timorese or Papuan race and must be classed in the Western rather than the Eastern division of the Archipelago.—*Wallace, Vol.* ii. *p.* 277.

Gilolo ; Ceram.—The northern peninsula of Gilolo, and the great island of Ceram are inhabited by the Alfura of Sahoe and Galela. These people are quite distinct from the Malays and almost equally so from the Papuans. They are tall and well made, with Papuan features and curly hair. They are bearded and hairy limbed, but they are quite as light in colour as the Malays. They are an industrious and enterprising race, cultivating rice and vegetables and indefatigable in their search after game, fish, tripang, pearls, and tortoise shell.

Bouru island has a shorter, round faced people, with a Malay physiognomy, who may have come from Celebes, by way of the Sulu islands, and a taller bearded race resembling that of Ceram.

The Alfuro seem to have affinities with the Tagala race of the Philippines, through the Sanguir islanders.

A Papuan or Timorese is darker and has more frizly hair than the Polynesian New Zealander or Otaheitan, but their features are almost identical.

Mr. Wallace (ii. 250) believes that the numerous intermediate forms which occur among the countless islands of the Pacific are not merely the result of an intermixture of these races but are to some extent truly intermediate or transitional and that the brown and the black, the Papuan, the natives of Gilolo and Ceram, the Fijiyan, the native inhabitants of the Sandwich islands and those of New Zealand are all varying forms of one great Oceanic or Polynesian race. Professor Huxley, however, is of opinion that the Papuans are more nearly allied to the Negroes of Africa than to any other race.

The whole of the great island of New Guinea the Ke and Aru islands, with Mysol, Salwatty, and Waigyou are inhabited almost exclusively by the typical Papuan, and the same Papuan race extends over the islands East of New Guinea as far as the Fiji Islands. The people on the coast of New Guinea are in some places mixed with the browner races of Moluccas.—*Wallace, Vol.* ii. *pp.* 250, 277.

In the typical Papuan, the colour of the body somewhat varies: generally it is a deep sooty brown or black, somewhat approaching but never quite equalling the jet black of some negro races, but it is occasionally a dusky brown. The hair is harsh, dry and frizly, growing in little tufts or curls, which in youth are very short and compact, but afterwards grow out to a considerable length forming the compact frizzled mop, which is the Papuans' pride and glory. The face has a beard of the same frizly hair and the arms, legs and breast are also more or less clothed with hair of a similar kind. In stature, the Papuan is superior to the Malay, and the equal or superior of the average European. The legs are long and thin and the hands and feet larger than those of the Malay. The face is somewhat elongated, the forehead flattish, the brows very prominent, the nose is large, rather arched and high, the base thick, the nostrils broad with the aperture hidden, owing to the tip of the nose being

elongated. The mouth is large, the lips thick and protuberant, he is impulsive and demonstrative in speech and action, his emotions and passions express themselves in shouts and laughter, in yells and frantic leapings. Women and children take their share in every discussion. The Papuan has much vital energy? In the Moluccas, Papuan slaves are often promoted to places of considerable trust. He decorates his canoe, his house, his domestic utensils with elaborate carving. They are often violent and cruel towards their children. The Papuan is black skinned, frizly haired, bearded and hairy bodied, long faced, has a large and prominent nose, and projecting eyebrows, bold, impetuous, exciteable and noisy, joyous laughter loving and displays his emotions. If the tide of European civilization turn towards N. Guinea, the Papuan like the true Polynesian of the farthest isles of the Pacific will no doubt become extinct. A warlike and energetic people who will not submit to national dependence or to domestic servitude must disappear before the white man.—A race identical in all its chief features with the Papuan, is found in all the islands as far east as the Fiji

Mysol and Waigyou are Papuan mixed partly from Gilolo, partly from New Guinea Paradisea rubra, the rare red paradise bird, and Ptilonopus pulcheilus a lovely little dove occur here.

Alfura, is written Alfora, Alafora, Arafura and Halafora, and according to Mr. Crawfurd it is from the Arabic al and fora. Mr. Bikmore says that those of Ceram had crisp but not woolly hair like the Papuans, and he regards them as a division of the Malay. He states that at Ceram the custom of head hunting prevails amongst the Alfura.—*Bikmore*, 204. *Wallace, Vol ii. p.* 284.

Philippines. The Aheta or Negrito, are a Papuan race, the second name, meaning little Negro, being given to them by the Spaniards; but that of Ita or Aheta, so pronounced, but written Ajeta, is their usual appellation among the planters and villagers of the plains. The woolly haired tribes are more numerous in the Philippines than in any other group of the Indian Archipelago, they were estimated, by M. Mallat, in 1842 to amount to 25,000. The islands Samar, Leyte, and Zebu, have not any of them; but they are found in Negros, Mindanao, Mindoro, and Luzon. In the early accounts of them by Spaniards, they are described as being smaller, more slightly built and less dark in colour than the Negros of Africa, and as having features less marked by the Negro characteristics, but as having woolly instead of lank hair; and their social condition could not then have been much better than now, since they are described as living on roots and the produce of the chase; and as sleeping in the branches of the trees, or among the ashes of the fires at which they had cooked their food. They are all well formed and sprightly, but very low in stature, as they rarely exceed four feet and a half in height. The character of the Negrito is untameable, and it is impossible to surmount their tendency to idleness. Prompted by an irresistible instinct to return to the place of their birth, they prefer a savage life to all the charms of civilization. They are ebony black like Negroes of Africa. Their hair is woolly, and as they take no pains in clearing it, and do not know how to arrange it, it forms a sort of crown round the head, which gives them an exceedingly fantastic aspect, and makes the head appear, when seen from a distance, as if surrounded with a sort of aureole—*Earl's Papuans, pages* 121 *to* 131.

The Papuans of Dory, worship, or rather consult, an idol called "Karwar," a figure rudely carved in wood and holding a shield, every house is provided, with the idol, which is usually about eighteen inches high, is exceedingly disproportioned, the head being unusually large, the nose long and sharp at the point, and the mouth wide and well provided with teeth. The natives have also a number of "Fetishes," generally carved figures of reptiles, which are suspended from the roofs of the houses, and the posts are also ornamented with similar figures cut into the wood. Within the geographical limits of the Indian Archipelago, the Papuans only appear as inhabitants of the sea coast in New Guinea and the Islands immediately adjacent. In other parts of this region they are found only among the mountain fastnesses, maintaining an unequal struggle with the brown races by whom they are surrounded. In some of the Spice Islands, the group nearest to New Guinea, their extirpation is matter of history, as observed by Mr. Crawfurd ("*History Ind. Archipelago,*" *Vol. i. p.* 18.) In Ceram and Gillolo a few scattered remnants of the race still exist; but they hold little or no intercourse with their more civilized neighbours, flying into the thickets which afford them shelter and concealment on the first appearance of a stranger, experience having taught them that death or captivity will be their fate if they fall into the hands of their natural enemies. The characteristics of the mountain Papuans must therefore be sought in those islands where their numerical strength permit them to lead a life more fitted for human beings than that of their hunted brethren. It is an error to suppose that these poor creatures, disappear before civilisation. Their chief destroyers are

the wild and warlike hunting tribes of the brown race; and, excepting the case of the Moluccas, wherever European civilization has been introduced, the Papuans are more numerous than elsewhere. In the Philippines, for example, their number in the year 1842 amounted to 25,000 souls. (*Mallat, "Les Philippines," &c., vol. i. p.* 97, *Paris*, 1846) The large island of Mysol or Mæsual, which lies nearly midway between the north-western extreme of New Guinea and Ceram, is said to have been occupied exclusively by Papuans when this region was first visited by Europeans, and they still form the bulk of the inland population, but the villages of the coast are occupied by a mixed race, in which the Papuan element, however, prevails. The islands of Goram, Ceram-Laut, Bo, Poppo, Geby, Patani, Hoek, and the south-eastern extremity of Gillolo, are also occupied by people of the mixed race, who are remarkable for their maritime activity, and for their friendly disposition towards European strangers. The woolly-haired tribes are more numerous in the Philippines than in any other group of the Indian Archipelago, with the exception of New Guinea. M. Mallet, as already stated, gives the amount of the "Negrito" population in 1842 as 25,000. This can only be considered as approximative, still it is probably not far from the true amount. The race, therefore, can scarcely be less numerous now than on the first arrival of the Spaniards more than three centuries ago. Indeed, their distribution among the Islands of the group seems to have been much the same then as at the present day; for the island on which they were first seen was named by Magellan "Isla dos Negros," to distinguish it from the adjacent island of Zebu, where his ships remained for some months. Negros still contains a large population of Papuans, while Zebu is altogether free from them, and no record exists of their having ever been found there. Samar and Leyte are similarly situated with Zebu, but Mindanao and Mindoro contain several tribes of Negritos, and they form the chief population of the less accessible parts in the mountain ranges of Luzon, the largest island of the Philippine group. The accounts of the Negrito race given by the early Spanish navigators perfectly apply to their present condition. They are described as being smaller, more slightly built, and less dark in colour than the negroes of Africa, and as having features less marked with the negro characteristics, but as having woolly hair.

From a number of inquiries among Papuans who were marked with the raised cicatrices, it appears that those on the arm and breast, which are the largest and most prominent were made in order to qualify them for admission to the privileges of manhood, by showing their capability of bearing pain. The Malayan term for crisped or woolly hair is "rambut pua-pua." Hence the term "pua-pua," or "papua" (crisped), has come to be applied to the entire race; and expresses their most striking peculiarity. The features of the Papuans have a decided negro character: broad noses, thick and prominent lips, receding foreheads and chins, and that turbid colour of what should be the white of the eye, which is apt to give the countenance a sinister expression. Their natural complexion is almost universally a chocolate colour, sometimes closely approaching to black, but certainly some shades lighter than the deep black which is often met with among the negro tribes of Africa. The Papuan race, when placed in circumstances favourable for the development of their powers, are physically superior to the races of South-eastern Asia. Some of the New Guinea tribes would bear a comparison, in point of stature and proportions, with the races of Europe, were it not for a deficiency about the lower extremities. Even the more diminutive mountain tribes are remarkable for energy and agility—qualities which have led to their being in great demand as slaves among their more civilized neighbours. With regard to mental capacity, also, they are certainly not inferior to the brown races; but their impatience of control while in an independent state, utterly precludes that organization which would enable them to stand their ground against encroachment; and they invariably fall under the influence of the Malay people whenever the two races are brought into contact. The islands in which remnants of Papuan tribes may yet be found are Sumba or Sandal-wood Island, Buru, the Xulla Islands, and the small eastern peninsula of Celebes, which terminates at Cape Taliabo. Sumba is a mountainous island, three hundred miles in circumference, lying to the south of Flores, from the coast of which it is distinctly visible in clear weather. The inhabitants of Savu possess a settlement near the south-west extreme of the island, and the Bugi traders of Ende have two or three small stations on the north coast which are occasionally visited by small European vessels for the purpose of obtaining horses; but the natives of Sumba all dwell in the uplands, where they cultivate maize, yams and other produce similar to that grown on Timor, and are said to use the plough, which is unknown in any other island to the eastern of Sumbawa.—*Mr. Earl, pp. 6 to 185.*

Philippines.—The entire population of this Archipelago, is estimated at 4,000,000, of whom 3½ millions are christians. The Indian races are in general superstitious, credulous, fond of gaming, and particularly addicted to cock-fighting. The Negrito are said to be the

original inhabitants of the islands who retired before the invading Indians. The extent of this Archipelago is 300 leagues from north to south, and 180 leagues from east to west. It is made up of countless islands, traversed by a mountain range, and partially fertilized by the overflow of spacious lakes. This Archipelago received its name after Philip the Second of Spain, in whose name they were finally conquered, pacified, and peopled. The *Negrito* of the Philippines, are polytheists, but without temple or ritual. They believe in omens, invoke Camburan (God), the moon and stars, and adore the rainbow after a storm. They have also a worship of ancestors, a god of the harvest, of the fisherman and hunter; and a remnant of fetichism in a grotesque native devil. *Iloco*, is one of the languages spoken in the island of Lucon. In the Philippines are many separate nations or tribes, speaking distinct languages unintelligible to each other. The principal tongues of Lucon are the Tagala, the Pampanga, the Pangasinan, and the Iloco, spoken at present by a population of 2,250,000 people, while the Bisaya has a wide currency, among the southern islands of the group, Leyte Zebu, Negros, and Panay, containing 1,200,000 people. Mr. Crawfurd says that it does not appear from a comparison of the phonetic character and grammatical structure of the Tagala, with those of Malay and Javanese that there is any ground for fancying them to be one and the same languages,or languages sprung from a common parent and only diversified by the effects of time and distance, and that an examination of the Bisaya Dictionary gives different results.

Negros or *Buglas Island*, extends from lat. 9° 4′ to lat. 9° 50′. Of the central group of the Philippines, consisting of Panag, Negros, Samar, Leyte, Masbate, Bohol, and Zebu, the two former are the only islands in which Negrito tribes exist to the present day, and even as regards Panag, the fact must be considered doubtful. Negros, however, contains a considerable Negrito population, the crest of the mountain range, which extends throughout the length of the island, a distance of one hundred and twenty miles, being almost exclusively occupied by scattered tribes.—*Mr. Earl, p.* 141.

Bo, is an island of the Eastern Archipelago inhabited by a mixed race of Papuans and the brown race.

Flores, called also Endie or Mangerye, is an extensive Island, of the Archipelago, 201 miles long from E. to W. and from 42 to 45 miles broad. It is so named from the Portuguese word 'flor,' a flower, but is called Ende and Mangerye, from its chief south and west ports. Its chief trade at Ende is with Sumba or Sandalwood Island; the Mangerye port trades with the Bugi and Malay. The coast is occupied by the Malay or brown race, but in the interior is a people with frizzled hair, and a similar frizzled hair people live in the mountainous parts of Solor, Pintar, Lombatta and Ombay. On the south coast of Flores is a tribe called Rakka who are reported to be cannibals, accustomed to eat their enemies and their own relatives who die. Captain Keppel says that the natives captured from the island used to be much esteemed by the Celebes pirates, as slaves, and he gives the following translation from a Dutch journal:—"On the island of Flores, there lives a race called, on the south coast, Rakka, who not only devour their enemies, but with whom custom requires that the son shall eat the body of his deceased father in pieces, and sell the flesh to the inhabitants at the high price of its weight in gold. This flesh is greedily eaten by the people as a great delicacy. If the father was heavy and of great size, the son considers himself particularly fortunate. The population of Endore on the same island is also very greedy of human flesh. But these cannibals confine themselves to the heart, which, with incredible dexterity, they extract from the body, by giving a blow under the left shoulder blade. It is then cut into very small pieces, eaten completely raw by the bystanders, who belong to the same race." Captain Keppel adds I am not able to corroborate this. *Galeteng* is a locality in the island of Flores, occupied by a race so called. According to the statements of Bugi traders, who had settled in Flores, that island is inhabited by six different races speaking as many different languages, the Ende, the Mangarai, the Kio, the Roka, the Konga and the Galeteng, names derived from the principal places of their residence. —*Horsburgh. Bikmore*, iii. *Keppel's Indian Archipelago, Vol.* ii. *p.* 149. *Crawfurd Dict.* 1 *p xciv.*

Sumba or Sandalwood Island, with about 4,000 geographical square miles, is composed of a range of hills that rise immediately from the sea to a height of 2,000 feet, and almost of equal height; Romba peak, however, is 7,000 feet. Vessels visit it in the S W. monsoon from Surabaya and return in the N. E. monsoon with the active little ponies of the island. They are, after the ponies of the Balla of Sumatra, the best of all the horses of the Archipelago, Bikmore thinks its people are Malays, though this is questioned, and they are also said to have a different tongue. It yields sandalwood and copper.—*Bikmore*, 112.

Solor.—The coast tribes of Solor are remarkable for their skill in managing their praus and canoes, and are the most expert fishermen in these seas, frequently capturing the black fish, a small variety of the cachalot, or sperm whale, which no other fishermen in these seas will venture to attack. The blubber or fat obtained from them is used as food, and also as an oint-

cle of barter with the inland inhabitants; and the oil and spermaceti is sometimes disposed of to the Bugi and Macassar traders, who prefer it to cocoa-nut oil for burning in their prahus. Several Solor fishermen are always to be found at Coupang, the Dutch settlement on Timor, chiefly in the service of government, from whom they obtain a fixed allowance of rice and maize. These men, who are relieved by others every year, are sent in compliance with an old treaty, by which the coast natives of Solor agréed to furnish an annual quota of men for the public service. As all the youths have to take their turn, the system makes them accustomed to intercourse with Europeans, and is attended with very beneficial results.—*Mr. Earl.*

Timor is an island of 249 miles in extent, from lat. 10° 23' S. to lat. 8° 21' S., and long 127° 15' E. to long. 123° 30' E. It is about 300 miles long and 60 broad and is formed of high undulating mountains in the interior, though near the sea, it is of moderate elevation. The Portuguese settlement of Dieli or Diely, is in lat. 8° 34' S. and long. 125° 40' E., and on the north side of the island. *Timor* is occupied by tribes much nearer to the true Papuan than those of the Moluccas. The Timorese are dusky brown or blackish, with bushy frizzled hair, and the long Papuan nose. They are of medium height and of rather slender figures. They are said to be great thieves. The tribes are constantly at war with each other, but they are not very courageous or blood thirsty. They reverence the custom of "tabu" which they call "pomali" and a palm across a door indicates that the ceremony has been performed. In their excitable disposition, loud voices and fearless demeanours the Timorese closely resemble the Papuan people of New Guinea. In the islands west of Timor, as far as Sumba or Flores and Sandalwood Island, a very similar race is found, which also extends eastward to Timor Laut, where the true Papuan race begins to appear. Timor seems to form the north east end of the great range of volcanic islands, which extends north east and south west from Timor to Sumatra. It has only one active volcano, Timor Peak, near the centre of the island, which was blown up during an eruption in 1638, and has since been quiescent. Coupang in the west end of the island is the chief Dutch town, and Delli, in the eastern part of the island is the capital of the Portuguese possession. There is nothing that could be called a forest and the whole country has a parched and dry appearance. There are Malays and Chinese but the native Timorese preponderate and have nothing in common with the Malays, but are much more closely allied to the true Papuans of the Aru Islands and New Guinea. They are of the Papuan type, tall, have pronounced features, large, somewhat acquiline, noses and frizzly hair. The women talk to each other and to the men with loud voices and with a self asserting, quite different from Malay women. The mountaineers of Timor are a people of Papuan type, have rather slender forms, bushy frizzled hair, and the skin of a dusky brown colour. They have a long, somewhat acquiline, nose, with the overhanging apex, which is so characteristic of the Papuan, and so absolutely unknown among races of Malayan origin on the coast. There has been an admixture of Malay, perhaps of hindoo, as well as of Portuguese, and the coast occupants have wavy, not frizzled hair, a lower stature with less prominent features and the houses are built from the ground. The houses of the Papuan mountaineers are raised on posts. The dead of the Papuan Timorese are laid on a stage six or eight feet above the ground, sometimes open, sometimes covered, and are retained there till money for a feast can be obtained, when they are burned. The "Pomali" exactly resembling the Taboo of the Pacific, is in full operation here, and a few palm leaves stuck outside of a garden will preserve it from any thief. The inhabitants of the south-western part of Timor, in the neighbourhood of Coupang, are an exceedingly dark, coarse-haired people, and travellers have great difficulty in coming to a conclusion as to whether they belong to Malayan or Papuan races, so equally balanced are their characteristics. The anonymous author of an excellent "account of Timor, Rotti, Savu, Solor, &c.," in Moor's "Notices of the Indian Archipelago," seems to have fallen into this state of perplexity; and as his observations are evidently the result of long experience at Coupang and its neighbourhood, the following are a few short extracts which bear upon the point. The natives are generally of a very dark colour, with frizzled, bushy hair, but less inclining to the Papuans than the natives of Ende (on the island of Flores). They are below the middle size, and rather slight in figure. In countenance they more nearly resemble the South Sea islanders than any of the Malay tribes.

The people of the neighbouring island of Semao, are like those of Timor, with frizzly or wavy hair and a coppery brown colour.

Amongst the birds of Timor few are ornamental. There are Platycercus vulneratus; a green species of Geoffroyas; Tropidorhynchus Timorensis. Ptilonopus ciuctus, a white-headed pigeon; the pretty little lorikeet Trichoglossus enteles and T. iris; Sphecothera viridis, a green oriole, and the red Cyornis hyacinthina. Of the butterflies Papilio semnaus and P. liris the swallow tailed butterflies occur: also,

Cethosia Leschenaultii and several Picidæ. Small quantities of copper and gold are found.

The land mammals in Timor are only seven in number, Macacus cynomolgus common all over the Indo-Malayan Archipelogo ; Paradoxurus fasciatus, a civet cat ; Felis megalotis, a tiger cat ; Cervus Timoriensis ; Sorex tenis, and Cuscus orientalis. The south-east coast of Timor near Mount Allas is according to Bikmore occupied by the Papuan race with frizzled hair in tufts on the head. Mr. Earl says that some of the people on the table land back of Dilli, have opaque yellow complexions with hair of a reddish or dark auburn colour, and that the hair of others is straight, fine and of a reddish line, and that every intermediate variety of hair and complexion between this and the black or deep chocolate colour and the short tufted hair of the mountain Papuan is found in Timur, and it is possible that the races are there mixing as its position is next to Papua.—*Wallace, i. p.* 184 *to p.* 211. *Mr. G. W. Earl, from p.* 180 *to* 181.

Semao island, the natives of this place have been named by Mr. Crawfurd the Negro Malayan race. The people are like those of Timor with frizzly or wavy hair and a coppery brown colour. Semao island has abundance of monkeys, one of them the Macacus cynomolgus, or hair lipped monkey, which is found all over the western islands of the Archipelago.

Timor Laut or Tenimber Islands, form a group which consists of the large island of Timor Laut, the islands of Larat and Virdati, and the numerous small low lands fronting its northern side. Timur-laut, means Timor of the sea, or to the eastward.

The Kei group of Islands, adjoining the Arru Islands, are inhabited by the Arafura race. Ke, Kei or Ki is prefixed to the names of all their villages. The great Kei is about the size of Tanakeka an island near Macassar. The men profess mahomedanism, but eat hogs flesh, and the islands produce Maratigo and Banyaro woods, well adapted for masts. At *Dori*, the Papuans are called Myfore. They are about 5 feet 3 inches high, few attain 5 feet 6 inches. They wear their crisped hair its full length, and generally uncared for, which gives them a wild, scared appearance. The men, not the women, wear a comb. The Papuan women of Ke, are not secluded, the children are merry, noisy and have the nigger grin, and amongst the men is a noisy confusion of tongues and excitement on every occasion. *The Ki*, group of ten islands form the northern of the south-easterly islands. The natives are industrious and great boat builders.

Carpophaga concinna occurs in the Kei and in Banda where it is called the nutmeg pigeon. The islands, covered with luxuriant forests, are occupied by two races, one of them the Papuan who make cocoanut oil, build boats and make wooden bowls, their boats are from small planked canoes to prahus of 20 to 30 tons burden. They build the skin first and fit on the knees and bends and ribs. Money is not used but every transaction is in kind. The Papuan wears a waist cloth of cotton or bark. The other race are mahomedans who were driven out of Banda and wear cotton clothing. They are probably a brown race, more allied to Malays, but their mixed descendants have great varieties of hair, colour and features, graduating between the Malay and Papuan tribes, Cyphogastra calepyga, a beautiful species of the Buprestidæ, occurs here also the butterfly Orchis, Phalænopsis grandiflora, two large beetles, Therates labiata, and Tricondyla aptera. T. labiata is ever on the watch and from time to time emits an odour like otto of roses. T. aptera of the Malay islands resembles a large ant more than an inch long and of a purple black colour. It is wingless.—*Wallace, p. ii.* 103. *Archipelago to* 124. *Bikmore*, 243.

Ceram is the largest island of the Moluccas and, next to Celebes, of all the Archipelago. It is 162 miles long, but its greatest breadth is only 42 miles. The island is one long mountain chain that sets off transverse spurs, and some of the peaks are 5,000 or 6,000 feet in height. The people of Ceram approach nearer to the Papuan type than those of Gillolo. They are darker in colour, and a number of them have the frizzly Papuan hair ; their features are harsh and prominent, and the women are far less engaging than those of the Malay race. The Papua or Alfuro, man of Ceram gathers his frizzly hair into a flat circular knot over the left temple, and place cylinders of wood, as thick as one's fingers and coloured red at the ends, in the lobes of the ears. They are very nearly in a state of nature, and go almost naked, but armlets and anklets of woven grass or of silver, with necklaces of beads or small fruits, complete their attire. The women have similar ornaments, but wear their hair loose. All are tall, with a dark brown skin, and well marked Papuan physiognomy. The Alfuro or Papuan race are the predominant type in the island of Ceram. Of twenty-eight words of the language of Ceram, nine of the words are Malay, two Javanese, and seventeen are common to these two languages. The cluster of islets lying at the south-east extremity of the large island of Seran as it is called by the natives, or Ceram, as it is laid down in the maps, are known as Ceram. They are situated in latitude 30° 55' south, and in L. 133° E. and form

one of the most remote trading stations to the eastward, from which the produce of the Archipelago is conveyed in native vessels to this port. The Island of Ceram is the second in size of the Moluccas, having an estimated area of about 10,000 square miles. The mountains are from six to eight thousand feet in height, sending down innumerable streams to the sea. The vegetation is every where luxuriant, and the trees gigantic. Admiral Keppel had in his possession a circular slab of wood from the Island, three and a half inch thick, eight and a half in diameter. The sago palm in particular is more abundant and productive, than on any of the adjoining islands. Cloves and nutmegs grow wild. The names of the several islets which compose the Ceram group are Seranreh, Gesir, Kaliwaroo, Gorong, Manakoo, and Malomgee. Of these, the two largest re Gorong and Manakoo, and are the only ones of the group which exhibit any appearance of fertility: they are represented to be hilly and covered with wood, except where cleared for the purposes of cultivation, which however seems confined to the little rice which is grown on them. They produce fruit trees in considerable abundance, and among them the durian and mangosteen, as also the wild nutmeg, the coconnut and sago palm, the latter supplying to the natives the chief article of subsistence. Ceram has on its western side the three islands Bonoa, Kelang and Manipa. The commercial products from these islands consist of tortoiseshell, mother o'pearl shell, beche de mer, wild cinnamon, wild nutmegs, and birds of paradise. —*Bikmore*, 253. *Keppel's Ind. Arch., Vol. II. p.* 196.

Ceram Laut.—A cluster of islets lying off the south eastern extremity of the large island of Seram or Ceram in lat. 3° 55' S. and 133° E. They produce tortoiseshell, mother o'pearl shell, beche de mer, wild cinnamon, wild nutmegs, and birds of paradise. Ceram Laut is the most westerly and the largest of the range of small islands which extend 15 or 18 miles E. &. W. *Ceram Laut*, means Ceram lying to seaward.

Ceram Laut is the great place to which the Bugis carry the Papuan slaves whom they steal from New Guinea. Ceram Laut, and Goram are seldom visited by Europeans. The natives of the Ceram Laut islands repair chiefly to the northern coast of Papua, or the island of New Guinea, from which they are distant only about a day's sail, to procure the various articles of produce we have mentioned—that part of this vast island being called by the Bugis Papua—Nothing. Mother o'pearl shells are however procured by the Bugis themselves in greater quantities at the Aroo islands. The Papuans of New Guinea, it seems, have not yet been made acquainted with the use of firearms among themselves; they have the sumpit or blow-pipe, but their principal weapons are the bow and arrow, and a light spear or lance. Although the inhabitants of the Aroo island are represented by the Bugis as being of the same race as the Papuans, they enjoy a much more unrestricted intercourse with the inhabitants, who trade freely with them and permit them to settle. Mother o'pearl shell is obtained here in great quantities, and tortoise shells and trepang or beche de mer, are also procured. The Aroo people employ their Papuan slaves in diving for the mother o'pearl shell, and in fishing for beche de mer. The people of the Ceram isles appear to have themselves little or no communication with the Aroo islands.—*Journ. of the Ind. Arch. December* 1852, *p.* 690-691. *Horsburgh* ; *Bikmore* 242.

Goram, a group of three islands in the East Archipelago. S. E. of Goram is a high group composed of raised coral reefs 300 or 400 feet, with a volcano on the island of Teor which broke forth in 1659. In the Goram group, at Manowolko, east of Ceram, a slight infusion of Papuan on a mixture of Malay and Bugi has produced a good looking people. The Goram people are wholly traders, every year they visit the Tenimber, Ke and Aru islands, the whole N. W. coast of N. Guinea, from Oetanata to Salwatty and the islands of Waigiou and Mysol. They also extend their voyages to Tidore, Ternate, Banda and Amboyna. Their prahus are all built by the Ke islanders, who annually turn out hundreds of neat boats. The Goram people trade in trepang, medicinal Mussoi bark, wild nutmegs and tortoise shell, which they sell to the Bugi traders at Ceram Laut and Aru.—*Bikmore*, 243. *Wall.* II. 53, 60.

The Keffing group consist of 17 islands. Their inhabitants resemble those of the S. Coast of Ceram, and are not of the Papuan or negro race, they are great traders and constantly visit New Guinea and purchase birds of paradise, luri, crows, pigeons, megapodiidæ and scented woods.

Moluccas include five islands off the W. Coast of Gilolo, with Buru, Amboyna, and the other islands off the S. Coast of Ceram. The three large islands, are Gilolo, Ceram and Bouru with a great number of smaller ones, amongst others Batchian, Morty, Obi, Ke, Timor-Laut, Amboyna, Ternate Tidore, Kavia and Banda. These occupy a space of ten degrees of latitude by eight of longitude, and by groups of small islands they are connected to N. Guinea on the east, the Philippines on the north, Celebes on the west and Timor on the south. The land mammals are few in number. Of

bats however 25 species are known. The only one of the quadiamana, is Cynopithecus nigrescens, at Batchian, the Viverra tangalunga, Rusa hippelaphus, *Var;* Babirusa, Sorex myosurus; the flying opossum, Belidens ariel, a beautiful little marsupial animal like a flying squirrel, and three species of Cuscus, opossum like animals, with long prehensile tails, small heads, large eyes with a covering of woolly fur, their flesh is every where eaten. There are, however, 265 species of birds known, Amongst them the large red crested cockatoo, two species of the Eclectus parrot, and five of the beatiful crimson lories, 21 species of pigeons, 16 species of kingfishers and the mound making megapodii, for M. Wallacei inhabits Gilolo, Ternate and Bouru.

The insects are very numerous and very beautiful, Pieridæ, Danaidæ, Ornithoptera priamus, helena and remus, Papilio Ulysses, deiphobus and gambrisius; Iphias leucippe, one of the Pieridæ, also Hestra idea of the Danaidæ; two large Nymphalidæ; Diadema pandarus and Charaxus euryalus, and amongst the beetles Enchirus longimanus, Xenocerus semiluctuosus and a species of Eupholus.

Amboyna is alike the name of the island and of the chief city. The west side of the island is called Hitu and the east side Lai-Timur. Amboyna and Banda are supposed to have been discovered by Antonio d' Abreu, a Portuguese captain who left Malacca in 1511: but Ludovica Barthema (Vartoma) of Bologna claims to have been there in 1506. Amboyna town has 14,000 people. The city people seem to be mixtures of Papuan or Ceramese, Malay, Portuguese, with an occasional crop of Portuguese or Dutch, half civilized, half savage lazy people.— *Wallace, i.* 300; *ii.* 79 *to* 90. *Bikmore,* 130.

The Banda group consists of ten islands, the largest of which is Lontar or Great Banda, it is crescent shaped and Pulo Pisang, Banana island, and Pulo Kapal, ship island, lie in the hollow of the crescent and form the arc of a circle. Within this arc are three other islands, the highest of which is Gunong Api, next Banda Neira, N. E. of which is Pulo Krakka or Old Woman's island. D' Abreu, a Portuguese commander was the first European who visited them. This was named the nutmeg group and for nearly a hundred years the Portuguese monopolized the trade. In 1609, the Dutch attempted to take these islands, but the war lasted 18 years, and the natives who survived all fled to the neighbouring islands. The Dutch had to cultivate these islands with slaves, and when slavery was abolished, with convicts, of whom in 1865 there were about 3,000. Its three islands enclose a secure harbour and the water is so transparent, that living corals and minute objects are seen below. Almost all the island is covered with nutmeg trees, grown under the shade of the Canarium commune. About $\frac{3}{4}$ of the inhabitants are mixed races, Malay, Papuan, Arab, Portuguese and Dutch, but the aborigines, doubtless were Papuans, and a portion of them still exists in the Ke islands to which they emigrated, when they first took possession of Banda. Of the birds is a very handsome fruit pigeon Carpophaga concinna, which feeds on the mace and is found also in Ke and Matabellow, and a small Fruit dove, Ptilonopus diadematus.— *Wallace, i. p.* 289 *to* 291. *Bikmore,* 221.

Batchian. The interior of Batchian is uninhabited, there are only a few villages on the coasts. The people are the Batchian Malays, who differ very little from those of Ternate. Their language, however, has more of the Papuan element in it, with a mixture of pure Malay showing that they are formed from stragglers of various races, almost homogeneous. The Orang Sirani (qu. Nasrani or Suryani) are christians of Portuguese descent, like those of Ternate. Many of these have a Portuguese physiognomy, but their skin is generally darker than that of the Malays. They speak Malay, with a large number of Portuguese words and idioms. A third race is the Galela men from Gilolo, and the fourth race, is a colony from Timor in the eastern peninsula of Celebes who were brought here, a few years ago, at their own request to avoid extermination by another tribe. They have a very light complexion, open Tartar physiognomy, low stature and a language of the Bugis type. They are an industrious agricultural people and supply the town with vegetables. They make a good deal of bark cloth, similar to the "tapa" of the Polynesians. A cylinder of bark is taken off and soaked and beaten till it be as thin and as tough as parchment. It is used for wrapping up clothes also dyed with a bark dye and sewed into jackets. The Orang Sirani are very fond of dancing. In three hundred years, they have changed their language and lost all knowledge of their nationality but in manners and appearance they are almost pure Portuguese. Every where in the east where the Portuguese have mixed with the native races, the offspring are darker in colour than either of the parent stocks. This is the case with the Orang Sirani and with the Portuguese of Malacca and Goa. This is not the case in South America, where the Mameluco, the offspring of the Portuguese and Indian, is often fairer than either race, but always fairer than the Indian. Batchian and Tawali islands are separated by a narrow strait.

Makian, north of Batchian, is a volcano, of which in 1646 there was an eruption.

Motir, north of Makian is a trachytic cone.

Gold has been washed for in the island of Batchian ever since 1774.

Obi, Batchian and the three southern peninsulas of Gilolo, possess no true indigenous population. The Orang Sirani or Christian descendants of Portuguese are as civil, obliging, and industrious as the Malay, but they consider themselves of a superior order and are inclined to trade and commerce rather than to manual labour.—*Wallace, ii.* 19—41. *Bikmore*, 299.

Gilolo, is one of the Molucca Islands. Its north end is in about Lat. 2° 23' N. It has a long mountainous coast. High bold land, with three remarkable peaks. The indigenes live in the north of the island. They are radically distinct from all the Malay race. Their stature, their features, as well as their dispositions and habits are almost the same as those of the Papuan. Their hair is semi-Papuan, neither straight, smooth and glossy like all true Malays, nor so frizzly and woolly as the perfect Papuan type, but always crisp, waved and rough, such as often occurs among the true Papuans but never among the Malays. Their colour alone is often exactly that of the Malay, or even lighter. Of course there has been intermixture and individuals are occasionally seen whom it is difficult to classify, but in most cases, the large somewhat aquiline nose with elongated apex, the tall stature, the waved hair, bearded face, and hairy body, as well as the less reserved manner and louder voice unmistakingly proclaim the Papuan type. Here is the exact boundary between the Malay and Papuan race. It is only in the northern peninsula that these Papuan indigenes exist, the whole of the rest of the island, with Batchian and the other islands westward being exclusively inhabited by Malay tribes like those of Ternate and Tidore. This would seem to indicate that the Alfuro are a comparatively recent immigration, and that they have come from the north or east, perhaps from some of the islands of the Pacific, though it is difficult to understand why so many fertile islands should possess no indigenes. The Galela race are natives of a district in the extreme north of Gilolo, but they are great wanderers over the Archipelago. They are a very fine race, remarkably energetic and industrious, of light complexion, tall and with Papuan features, coming near to the drawings and descriptions of the true Polynesians of Tahiti and Owyhee. They build large and roomy prahus with outriggers, and settle on any coast or island they take a fancy for. They catch turtle and tripang, hunt deer and wild pigs and dry the meat, and cut down the forest and plant rice or maize. The people of Gilolo are called Alfura. Bikmore, however, erroneously states that they are strictly of the Malay type, and have not the dark skin and frizzly hair of the Alfura of Ceram and Buru, though representatives of that people may exist in Gilolo. The population of Gilolo are supposed to be 75,000, all but 5,000 of them are under the sultan of Ternate.

The Clove tree grows spontaneously on the Moluccas, viz, Ternate, Tidore, Motir, Makian, and Batchian.—*Horsburgh. Wallace, vi.* 13, 405. *Bikmore*, 313. See Pulo Gasses, Syang; Waygiou, Weeda Islands, Wutsau.

The Keffing Islands is a little group, in the Molucca sea, encircled by very extensive reefs projecting into deep water, and rendering it difficult of approach. The cachelot or spermaceti whale abounds in the ocean, and might support an extensive fishery. Some of the islets are low, sandy, girdled by reefs, and, as in Ghissa, with a lagoon in the centre, absolutely swarming with fish, while the shores are peopled by ducks and snipes. Pulo Manok, or Bird island lies midway between Ceram and the Serwatty group, a high solitary mountain resting on the bosom of the sea, with a truncated cone, desert, and the refuge only of myriads of birds, which deposit such vast quantities of eggs, that many of the natives of the neighbouring isles visit the place and subsist for whole days on this wholesome food. Sulphur is also found on the rocks. The little communities existing in these scattered groups present curious phases of social life. Dwelling in houses erected on posts, they in many instances surround their villages with rough walls of coral, occasionally carrying a similar fortification all along the shore. Many indications among them proves the existence of piracy. Slaves, nutmegs, trepang, tortoise-shell, edible birds' nests, are bartered for powder, shot, muskets and small cannon, besides calico and china-ware, betray the inclination of the people to the use of arms. Many of them, apparently peaceful traders are secretly addicted to piracy, though some bear a character for innocence and love of industry altogether inconsistent with this pursuit. Among these are the inhabitants of Motir, a gentle, tranquil, sober tribe, following the occupation of potters, and supplying the neighbouring islands with vessels and utensils of various kinds made of red clay elegantly moulded and of good quality. These compete in the markets of the Molucca sea, with the plates and pans brought by the traders of Keffing from the Ki Islands.—*Kolff's Voyage of the Dourga*, 220,345. *Darwin's Coral Reefs. Crawfurd's, Ind. Arch. III.* 447. *Temminck*, 111,307. *As. Journ. s.* 336, *quoted in St. John's Indian Archipelago, Vol. I. p.* 142.

Arroe or Arru Islands, extend from Lat. 7° 0' to Lat. 5° 52' S. and in Long. 133°. 56' E. run for upwards of 100 miles N. and S.

and lie between the Timor Laut group and the S. W. Coast of New Guinea. They are a closely packed group, distant about sixty miles from the south-west coast of New Guinea, and between forty and fifty miles in breadth. On the eastern side of the group are found banks of sand and mud, stretching far out to sea, which are only covered to the depth of a few feet at low tides. Inland are many fresh water swamps with thick impenetrable jungle in other places. Their produce is pearls, mother of pearl, tortoiseshell, birds of paradise and trepang. The timber of the islands is much praised. The Arru Islanders have much intercourse with strangers. They purchase from the Bugis the Papuan slaves brought from New Guinea, who are then employed in diving for pearls and in the beche de mer fishery. The Arru Islanders are impoverished by their excessive use of intoxicating liquors, imported from Java and Macassar. In personal appearance the people are between the Malayan and Polynesian Negro. They are not many degrees further advanced in civilization than the natives of the north coast of Australia to whom many of them bear considerable personal resemblance. Some of the Arru men profess christianity and some are mahomedans. In stature they surpass the civilized natives of Celebes. The dress of the men is a piece of matting or cloth girded round the loins and drawn tight between the thighs, and a salendan or shawl. No fillet is worn round the head. The hair is woolly and frizzled out like that of the Papuan. The men are of a jealous disposition and easily roused to anger by abuse of their women or ancestors, otherwise they are mild of disposition. The women wear a mat in front and one behind. When a person of consequence dies, these are stripped off and they rush into the sea where they disport for some time. Christianity was introduced into the Arru Islands many years ago by the Dutch of Amboyna and nearly all the principal people profess this creed. The Arru people ornament their houses with brazen trays, dulam or talam, and elephants' teeth, which are broken up when the owner dies. Tripang is abundant near the islands, in nearly all the varieties, but is indifferently cured. Neither the Kei or Arru islanders ever abscond to avoid paying their debts. The Arru islanders bear a strong personal resemblance to the aborigines of Port Essington; indeed, on several occasions in which natives from the neighbourhood of the late settlement visited the islands in European vessels, they were considered by the Arruans as belonging to some remote part of their own group. But the Arruans also possess so many characteristics in common with the *Outanata* of the opposite coast of New Guinea, that it would be necessary to include them in a general account of the Papuans. One of their most singular peculiarities, however, consists in the value which they attach to elephants' tusks, brass gongs, and huge porcelain dishes. An odd custom, and one that is probably unique in the world, consists in the destruction of a man's goods on his death, instead of a distribution of them among his surviving relations. All the chattels which he has collected during his life, including tusks, gongs, and precious China dishes, are broken in pieces and thrown away: and in the villages may be seen heaps of these fragments of property which custom or some singular superstition has deterred the living from appropriating. The natives of Aru are Papuans, with black or sooty brown skins, woolly or frizzly hair, thick ridged prominent noses, and rather slender limbs, most of them wear nothing but a waist cloth. Papuan boys sing cheerily as they walk along or talk aloud to themselves, which is quite a negro peculiarity. They have as food raw sago and vegetables, fish and molluscs, and tobacco, betel and arrack are their luxuries. Their houses are rude sheds. There are some mixed races amongst them. The Papuan talks, laughs, shouts without intermission. The women have only a mat of plaited strips of palm trees worn tight round the body and reaching from the hips to the knee. Their frizzly hair is tied in a bunch at the back of the head. They delight in combing it or forking it, using a large wooden fork with four diverging prongs, to separate and arrange the long tangled frizzly mass. They and the men wear earrings, necklaces of silver, brass, shell. The Arru Papuans told Mr. Wallace that some of their tribes kill the old men and women when they no longer can work, but he saw many old folk. Their hair is usually black and strongly curled. Like the African Somali, they wash it with wood-ashes or lime water, which impart to it a lightish colour and cause it to appear rough, both these peculiarities being considered very tasteful by the Alfoer as well as by the Papuans. The Arruans are taller and more muscular than the Malays and Bugi of Celebes, but are inferior in porportions, if not in stature, to the ordinary run of Europeans. The usual height of the men is from five feet four inches, to five feet eight inches, and there is a great inclination to slimness about the lower extremities among the taller men, some of whom attain the height of six feet. The Arafura of Vorkay (one of the southern Aru) possess no religion whatever. Of the immortality of the soul they have not the least conception. To all enquiries on this subject they answered, "No Arafura has ever returned to us after death, therefore we know nothing of a future state, and this is the first time we

have heard of it. Their idea was Mati Mati sudah. When you are dead there is an end of you. Neither have they any notion of the creation of the world. They only answer "None of us are aware of this, we have never heard anything about it, and therefore do not know who has done it all. The ports frequented by the foreign trading-vessels are all in the north-western part of the group, where the people are evidently of a mixed race, the natural result of strangers from the west having married and settled among them during an intercourse which appears to have extended over several centuries.

Baju, a maritime people in the Arru Islands, who venture far out to sea. Many of the Baju remain throughout the year near the Dutch settlement of Macassar, on the south end of Celebes, where they are found very useful in carrying despatches. They are chiefly employed by the Chinese in fishing for trepang, or sea-slug, and according to the policy invariably adopted by the latter in their dealings with the natives, are generally involved in debt, from which extrication is nearly hopeless. The demand against each boat or family usually averages about four hundred guilders (twenty-five pounds sterling), and, extraordinary as it may appear, no instance is on record of their ever having absconded to avoid the payment of their debts.—*Earl, p.* 335. *Quarterly Review, No.* 232, *p.* 512 *Wallace*, II. 141 to 180. *Lubbock Origin of Civil, p.* 122.

New Guinea.—Its S. W. part is known to native traders as Papua-kowiyee and Papua-Onen : it is inhabited by the most treacherous and blood-thirsty tribes, and up to the present time traders continue to be murdered there. The Papuan races of Mysol, Salwatty Waigiou, and some parts of the adjacent coast, have become peaceable. On the S. W. Coast however, and in the large island of Jobie, the Papuan race are in a very barbarous condition and take every opportunity to rob and murder. The race in the interior of Dorey are called Arfak, they are savages. The Papuans of Dorey hang the skulls of the Arfak under the eaves of their houses, which are built in the water, on posts and led up to by rude wooden bridges. There is a large Council Chamber, at Dorey, supported on larger posts on each of which is a rude carving of a naked man or woman with other revolting carvings near. The people of Dorey resemble those of the Ke and Aru islands, many of them are very handsome, tall, well-made, with well cut features and aquiline noses. Their colour is a deep brown, often approaching to black, and their frizzly hair is combed up into a mop-like form by means of a long six pronged fork. The language spoken at Dorey is not understood by the Papuans at Humboldt Bay. The Dorey people are great carvers and painters. Their food is roots and vegetables with fish and game as a luxury. The Arfak or hill-men of N. Guinea are generally black but some are brown like the Malay. Their hair, though more or less frizzly, is sometimes short and matted, instead of being long, loose and woolly. Mr. Earl describes the features of the New Guinea Papuans as of a decidedly negro character :—broad flat noses, thick lips, receding foreheads and chins, and that turbid colour of what should be the white of the eye which gives a peculiarly sinister expression. Their complexion is usually a deep chocolate-colour sometimes closely approaching to black but certainly a few shades lighter than the deep black that is often met with among the negro tribes of Africa. The many Papuan tribes in New Guinea, are generally in a state of warfare with each other and return from their warlike expeditions with heads. They are superstitious and worship a wooden deity called Karwar, 18 inches high, whom they consult on all occasions. A widow remains in the family of her deceased husband. The negroes of New Guinea are in various states of civilization. Some of the rudest dwell in miserable huts and seek a bare subsistence by the chase or the spontaneous productions of the forest. There are, however other Negro tribes living on the coasts who have made some advance in civilization. These dwell by whole tribes in huge barn-like houses raised on posts, like those of the wild inhabitants of Borneo, but ruder. Their beard is crisp. The forehead is high and narrow ; eyes large, dark brown, or black : nose flat and broad : mouth large, lips thick and teeth good: few have regular features, and most are apathetic. The ordinary men wear a waist cloth made of the bark of a tree, called "mar," which is wrapped round the waist and passed between the legs. Women wear a short sarong to the knee, generally of blue cloth. Men and women tattoo their bodies on occasions, by pricking the skin with a fish bone and rubbing in lamp black. The Dori people are a seafaring people and are expert swimmers and divers. Their prahus have outriggers and are excavated from the trunk of a single tree. Their food consists of millet, obi, maize, a little rice, fish and hogs' flesh and fruits. Sago is imported in small quantities. Theft is considered a grave offence : they are chaste and marry one wife. The dresses of the chiefs among the natives of Dori consist of the saluer, or short drawers of the Malays, and the kabya, or loose coat of calico, with a handkerchief tied round the head. The common men, and the chiefs themselves, when not in the presence of strangers, wear only a chawat, or waist-cloth of the bark of the fig, or of the paper-mulberry-tree, beaten out like

the bark-cloth of the Polynesian. The north coast of N. Guinea is generally high; towards the sea, there is low land, but a little way inland, a chain of mountains extends parallel to the coast and elevated in some places 4,000 or 5,000 feet above the sea. It is the great seat of the Papuan race, and is 1,500 miles in extreme length, or nearly double that of Borneo; but its superficial area is probably less than that of the latter island (200,000 square geographical miles), as there is every reason to believe that the south coast of New Guinea, immediately opposite to the Gulf of Carpentaria in Australia, forms a deep indentation similar to the Great Bay on the north coast, there being a space of two degrees and a half of longitude in which the land has not yet been seen. Of this unexplored space, 118 miles, or four-fifths of the whole, were taken possession of by proclamation, in the name of the king of Holland, in the year 1828. As the commanders of Her Majesty's ships employed in the Surveying service are said to have general instructions not to interfere with coasts claimed by foreign powers, unless the interests of navigation absolutely require it, this in some degree accounts for the fact that so large a space of coast, within 600 miles of a European settlement that has been established more than three centuries, remains still unknown to civilized nations. The names by which the island is known to Europeans and Asiatics, New Guinea and Tanna Papua, both distinctly refer to the leading peculiarity of the race by which the coasts are inhabited. The most striking geographical feature of the great eastern peninsula consists in a backbone of lofty mountains, which apparently extends throughout its length. Their practice of standing up to paddle their canoes is repeatedly noticed by Lieutenants Kolff and Modera, and it seems to be general throughout the coasts of New Guinea. The brown coloured natives of the Archipelago all sit, or "squat," while paddling their canoes, excepting the Baju Laut, or Sea Gypsies, who stand like the Papuans, and give as a reason for assuming this posture, the superior facilities it affords them of seeing turtle, and of chasing them when discovered.—*G. W. Earl, p.* 40. *Crawfurd Malay Gram. and Dic. Vol.* 1. *p.* clxiii. *Mr. Earl, page* 71.

Anus island in the Eastern Archipelago, is inhabited by Papuans. Their houses, built on posts, are placed entirely in the water. At very low water only is the beach partially uncovered. This beach consists of mud, in which mangroves grow luxuriantly and completely obstruct a landing. The gardens, from this cause, are situated on the surrounding islands, principally on an island with a high beach lying opposite to the kampong. The Anus Papuans wear their hair in tufts. Their appearance is good natured, faces regular, eyes beautifully black, the mouth broad with beautiful regular teeth, and the forehead high but narrow. Many have thin lips and finely curved noses, which give them a more European physiognomy. The men are generally handsome and well formed, stout, without being too thick, strong and muscular; the women very good looking; and some children with very regular soft faces and long pendant curling hair.—*Journal of the Ind. Arch., June* 1852, p. 330-1-2 and 3.

Brumer. The women of Brumer Island, on the south coast of New Guinea, are tattooed on the face, arms, and front of the body, but generally not on the back, in vertical stripes less than an inch a part, and connected by zigzag markings. On the face these are more complicated, and on the forearm and wrist they are frequently so elaborate as to resemble lace-work. The men are more rarely tattooed, and then only with a few lines or stars, on the right breast. Sometimes, however, the markings consist of a double series of large stars and dots stretching from the shoulder to the pit of the stomach.—*Lubbock Orig. of Civil, p.* 44. *McGillivray's voyage of the Rattlesnake, vol.* 1. *p.* 262.

Aiou or Yowl, is a group of islands situated about 70 miles W. N. W. from the Cape of Good Hope, on the W. Coast of New Guinea, and 30 miles N. E. from the island of Waygiou in the Gillolo Passage. The group consists of circular low isles, 16 in number. The largest lies in about lat. 0° 25' N. long. 131° 0' E. The group is surrounded by an extensive coral reef, nearly a degree in circumference, the south-western portion of which is separated from the main reef by a narrow, but deep channel. Aiou Baba, the largest of the group, lies on this detached portion of the reef and is about 7 miles round and 500 feet in elevation. The north-eastern or larger reef, which contains the islands of Abdon and Konibar, with several coral islets, is said to have an opening on the N. W. side which admits large vessels within the reef, but if this be the case, the harbour is not frequented, there being no temptation in the way of refreshments to induce large vessels to put in there. The inhabitants, who are Papuans, are few in number and occupy themselves almost exclusively in fishing and in catching turtle, with which the lagoons within the reef abound. The chief exports are tortoiseshell of good quality, which is obtained here in large quantities, and trepang. These are purchased by Chinese and sometimes European traders from Ternate, in Moluccas, the king of which place assumes supreme autho-

rity over all those parts of the Coast of New Guinea which his subjects have been in the habit of visiting for purposes of trade. The traders to Aiou all employ small vessels, which alone are adapted for going within the reef of Aiou-Baba, their chief resort. They bring red and white calicoes, thick brass wire, old clothes, glass beads, and all sorts of ornamental finery which the negroes of New Guinea delight in as much as those of Africa. The natives are tolerably friendly to strangers, but must not be trusted too much, as they are inclined to be treacherous and revengeful, which is the case, indeed, with all the Papuan tribes. A vessel visiting these islands for purposes of trade should always be provided with a native of Ternate or Tidore to act as pilot and interpreter.—*Journal Ind. Arch.*—*Horsb.*

The *Languages* in the islands of the Eastern Archipelago :—

	Languages.	Spoken at	Written character used.	Religion and Priests.
	1 Malay ...	Singapore	Arabic	
	2 Javanese ...	Java	Javanese	
	3 Sapak ...	Lombok	...	Indigenes of Lombok, a pure Malay race professing mahomedanism.
Celebes.	4 Macassar ..	S. Celebes near Macassar	Native	Mahomedan.
Celebes.	5 Bugis ...	Large part of Celebes	Native distinct form Macassar	,,
Celebes.	6 Bouton ..	Boutony	...	A large island S. of Celebes.
Celebes.	7 Salayer .	Salayer	...	A smaller do.
Celebes.	8 Tomore ..	E. Peninsula of Celebes in Batchian	...	Pagans.
			The people speaking these five languages of Celebes are of pure Malayan type, and all but the Tomore race, are equal in civilization to the true Malays.	
Celebes.	9 Tomohon, 10 Langowen	Plateau of Minahassa	These nine languages with many others are spoken in the N. W. Peninsula of Celebes, by the people called Alfuro. These languages are falling into disuse and Malay is becoming the general medium of communication. Most of the people are being converted to christianity.	
Celebes.	11 Ratahan, 12 Belang	S. E Coast of do.		
Celebes.	13 Tanawanko	West ,, ,,		
Celebes.	14 Kema ..	East ,, ,,		
Celebes.	15 Bantek ...	a suburb of Menado		
Celebes.	16 Menado ...	Chief town		
Celebes.	17 Bolanghitam	On N. W. Coast between Menado and Licoupang		
	18 Sanguir islands and Siau ...			Two groups of islands between Celebes and the Philippines. The inhabitants resemble the people of Menado.
	19 Salibabo Islands also called Talaut			
	20 Sulu Islands			E. of Celebes, Malays of the Moluccas type : Mahomedans.
Bouru	21 Cajeli ...	3 villages on the eastern side of Bouru		These people are allied to the natives of Ceram : Cajeli people are mahomedans.
Bouru	22 Wayapo ..			
Bouru	23 Massaratty ...			
	24 Amblau... ...	An island, S. E. of Bouro		Mahomedans.
	25 Ternate... ...	The most northern island of the Moluccas		Inhabitants somewhat mixed with the indigenes of Gilolo.
	26 Tidore	Next island of the Moluccas		Inhabitants undistinguisable from those of Ternate.
	27 Kaioa Islands	North of Batchian		
	28 Batchian ...	...		Mahomedans : inhabitants, like the preceding.
	29 Gani ...	A village on the S. peninsula of Gilolo		Moluccan Malays. Mahomedans.
	30 Sahoe ...	Villages in N. Gilolo		Inhabitants called Alfuro. They are indigenes of Polynesian type, but brown skins and Papuan hair and features : Pagans.
	31 Galela ...			
	32 Liang	Villages on the N. Coast of Amboyna		Of mixed Malay and Polynesian type. they are mahomedans or christians.
	33 Morella and Mamilla ...	Do. in N. W. do.		
	34 Batumerah ...	A suburb of Amboyna		Inhabitants of the Molucca Malay type —Mahomedans.
	35 Lariki, Asilulu, Wakasiho ...	in W. Amboyna		Mahomedans from Ternate.
	36 Saparua	An island east of Amboyna		Inhabitants of the brown Polynesian type and speaking the same language as those of Ceram, opposite.
	37 Awaiya ...	Villages on the S. of Ceram		Indigenes of Polynesian type, now christians.
	38 Camarian ...			
	39 Teluti and Hoya ...	Villages on the S. coast of Ceram		Mixed brown Papuan or Polynesian and Malay type; Mahomedans.
	40 Ahtiago and Tobo ...			
	41 Ahtiago... ..	Indigenes inland from Ahtiao		Alfuro of brown Papuan or Polynesian type—Pagans.

42 Gah	E. Ceram	Alfuro of Ceram.
43 Wahai	N. Coast of Ceram	Inhabitants of the N. Coast of Ceram, of mixed race, speak several dialects of this language: Mahomedans
44 Goram	Small islands E. of Ceram	Of mixed race: Mahomedans.
45 Matabello ...	Do. S.E. do	Brown Papuan or Polynesian race. Pagans.
46 Teor	Do. S.E. of Matabello	Do. do.
47 Ke Islands ...	...	On the W. of the Aru Islands, true black Papuans; Pagans.
48 Aru do. ...	...	W. of N. Guinea True Papuans.
49 Mysol Coast ...	...	N. of Ceram, semi-civilized Papuans, with mixture of Moluccan Malays.
50 Mysol interior.	...	True Papuans; Pagans.
51 Dorey	N. Coast of N. Guinea	Do. do.
52 Teto ...		Intermediate between the true and the brown Papuans —Pagans.
53 Vaiqueno in E. Timor		
54 Brissi in W. Timor ...		
55 Savu ...		Islands W. of Timor, of mixed race, with apparently much of the hindu typ.
56 Rotti ...		
57 Allor ...		Islands between Flores and Timor, inhabitants of dark Papuan type.
58 Solor ...		
59 Bajau or Sea Gypsies ...		A roaming tribe of fishermen of Malayan type all over the Archipelago.

Wallace, Vol. II. p. 292 to 295.

Mr. Crawfurd, (*Malay Gram. and Dic. Vol. I. p. vii.*) considers that a certain connexion of more or less extent exists between most of the languages which prevail from Madagascar to Easter Island in the Pacific, and from Formosa, on the coast of China to New Zealand. Thus over 200 degrees of longitude and seventy of latitude, or over a fifth part of earth's surface. In this are the innumerable islands of the Indian Archipelago, from Sumatra to New Guinea, the great group of the Philippines, the Islands of the North and South Pacific, and Madagascar. It is inhabited by many different and distinct races of men, as the Malayan, the brown Polynesian, the insular negro of several varieties, and the African of Madagascar. Of these, the state of civilization is so various that some are abject savages, while others have made a respectable progress in the useful arts, and

have even attained some knowledge of letters. He is of opinion that the leading race in the Archipelago is one and the same, but the languages are many, with more or less intermixture of some principal ones throughout. In Borneo, he says, there are at least 40 languages. In Celebes and its islands at least 10; in Flores 6; in Sumbawa 3; in Sumatra and its islands not fewer than 10; and even in civilized Java with its islands, 3. It is the same in the Philippine islands, and in Lucon alone, there are three. He says, that in the Eastern Archipelago, no languages exist derived from a common stock, or standing to each other in the relation of sisterhood, as Italian, Spanish, and French, do to each other; or as Gaelic does to Irish, or Armorican to Welsh, or Scotch to English. The only dialects that exist are of the Malay and Javanese languages, but they consist of little more than differences in pronunciation, or the more or less frequent use of a few words. In the Polynesian Islands alone, real dialects of a common tongue do exist, but there the number of words common to such dialects, and to the languages of the Archipelago, is so trifling that it refutes at once the notion of a common origin. In Malay, the most familiar words for the head the shoulder, the face, a limb, a hair or pile, brother, house, elephant, the sun, the day, to speak and to talk, are all Sanskrit. In Javanese, Sanskrit furnishes words for the head, the shoulders, the throat, the hand, the face, father, brother, son, daughter, woman, house, buffalo, elephant, with synonymes for the hog and dog, the sun, the moon, the sea, and a mountain. In the language of Bali, the name for the sun in most familiar use is Sanskrit, and a word of the same language is the only one in use for the numeral ten. It is on the same principle that Mr. Crawfurd accounts for the existence of a similar class of Malayan words in the Tagala of the Philippine although the whole number of Malayan words does not exceed one-fiftieth part of the language. Head, brain, hand, finger, elbow, hair, feather, child, sea, moon, rain, to speak, to die, to give, to love, are examples.

Some personal pronouns are found in the Polynesian dialects, where, in a vocabulary of five thousand words a hundred Malayan terms do not exist. A sentence of Malay can be constructed without the assistance of Javanese words, or of Javanese without the help of Malay words. These two languages can be written or spoken without the least difficulty, without a word of Sanskrit or Arabic. The Malay and Javanese, although a large proportion of their words be in common, are distinct languages, and their Sanskrit and Arabic elements are extrinsic and unessential. When this test is applied to the Polynesian languages we find an opposite result. A sentence in the

Maori and Tahitan can be written in words common to both, and without the help of one word of the Malayan which they contain, just as a sentence of Welsh or Irish can be constructed without the help of Latin, although of this language they contain, at least, as large a proportion of words as the Maori or Tahitan do of Malayan. Mr. Crawfurd is of opinion that the Malay and Javanese languages furnish the stock of the wide spread words which are common to so many tongues in the Archipelago and which have been chiefly derived from the languages of the two most civilized and adventurous nations of the Archipelago—the Malays and Javanese; and he uses the word Malayan for whatever is common to these two people. In physical form, the people speaking the wide spread Malay tongue, may thus be sketched. The average stature of the men is about five feet three inches, and of the women three inches less. They are, in fact as compared to the Chinese, the Hindus, the inhabitants of Western Asia, and Europeans, a short race. The face is lozenge-shaped, the forehead flat, the cheek bones high, the mouth large, the lips thin, the hair of the head black, coarse, lank, abundant,—that of all other parts of the body, beard included, very scanty; the skin is soft, tawny, darker than that of the Chinese, but fairer than that of any genuine hindu, and never black; the lower limbs are heavy and the whole person squab and wanting in agility. With shades of difference, not to be fixed in words, this, he says, with the exception of a few negroes, is a description which applies to all the inhabitants of Sumatra, the Peninsula, Java, Borneo, Celebes, the Moluccas, Timur, and the whole Philippine group. By any standard of beauty which can be taken, from the Ganges to the Pillars of Hercules, the Malayan must be pronounced as a homely race. The cradle of the Malay race was the plains of Menang-kabau in the interior of Sumatra from whence they emigrated and pushed their conquests, or formed settlements, to their present extensive limits. They formed colonies in the Malay peninsula and in Borneo, the former probably and the latter certainly occupied before their arrival by rude tribes of the same race of men who could offer no effectual resistance. In the remoter islands or in those occupied by powerful and civilized nations, the Malays appear only as settlers, and not colonists, as in Java and the principal islands of the Philippine Archipelago.

The Malay peninsula, called Tannah Malaya or land of the Malays, with the exception of a few diminutive negro mountaineers, is occupied by Malays or by men of the same race, for the several wild tribes in the interior, although not calling themselves Malays, speak the Malay language, and have the same physical form as the Malays, although not calling themselves by this name, and their language contains many words that are not Malay.

Nearly the whole of the coast of Borneo is occupied by Malays who are supposed to have first emigrated to that island about the date of the reign of the Saxon king Athelstan.

The Malay tongue is now, and was, when Europeans first visited the Archipelago, the common language of intercourse between the native nations among themselves, and between these and foreigners. It is in the Archipelago what French is in western Europe, Italian in eastern, Arabic in western Asia, and Urdu in India. All nations who hold intercourse of business with strangers must understand it, and all strangers must acquire it. This is the case in Sumatra, where other languages are also vernacular, in Java, in Celebes, in the Moluccas, in Timur, and in the Philippine group. Mr. Crawfurd attributes the spread of this language to the enterprising or roving character of the people whose native tongue it is, as also its own softness of sound and simplicity of structure and consequent facility of acquirement. He adds that although Malayan civilization in all probability, sprang up in the interior parts of Sumatra, as Malay tradition alleges, still that is not above fifty miles from the coasts, with which many rivers communicate and the Malays must be considered as essentially a maritime people.

In Sumatra and the groups of islands on its western coast, in addition to the Malay, there are at least nine other languages, five of which, the Ache or Achin on the north-western end of this island, the Batak or Batta, the Korinchi east of the Batak, the Rajang or Rejang and the Lampung, are cultivated and written tongues. There are also several rude languages among the scattered tribes on the mainland. The Batak or Batta nation lie to the east of the Malays, and furnish perhaps the only recorded example of a people acquainted with letters, who practice a modified cannabalism.

The Lampung people occupy the eastern end of Java, on the straits of Sunda and fronting the western extremity of Java.

In the groups of islands on the western coast of Sumatra, are several unwritten tongues, amongst which may be named that of the Pogy or Pagi islands, the language of the Nias, and that of Maros.

Many of the Malay race have become converts to mahomedanism. The earliest conversion recorded was that of the Achinese, the nearest people of the Archipelago to the continent of Asia. This was in 1206 of our era. The Malays of Malacca were not converted until 1276; the inhabitants of the Moluccas not until 1478, and the people of Celebes not until

1495, only the year before Vasco de Gama passed the Cape of Good Hope. Thus the earliest conversion of these islanders took place 574 years after the death of Mahomed and long after the first zeal of his followers had evaporated. To this day there are a few mountaineers in Java still professing a kind of hinduism, and the Javanese retain numerous of their old pagan superstitions and have added those of their subsequent religion. They people the air, the woods and rivers, with various classes of spirits. They have the praying—or fleeting ghosts; the barkas-a-han, kabukamale and wewe, evil spirits; and the damit and dadungawu or tutelary spirits. They now consider the hindu gods of their former belief not as imaginary beings but as real demons, and have added the jan of the Arabs.

The games of the Indian Islanders are chiefly sedentary.

Java, an island of 40,000 square miles in extent, and by far the most fertile of the Archipelago contained in 1850, 1,000,000 of inhabitants. In the eastern and central parts there may be said to be three Javanese languages,—the popular, the polite (which is a kind of facetitious dialect of it), and an ancient tongue, found only in old books and ancient inscriptions. The modern and popular language, as well as the polite dialect, is written in a peculiar character, of which the substantive letters amount to twenty. In Java, in addition to the Javanese, is the Sunda language, which is spoken over about one-third of the island extending from Cheribon across the island down to its western extremity. This tract is more mountainous than that inhabited by the Javanese, and the people somewhat less advanced in civilization, but possessing the same amiable and docile character as that nation.

The industrious, peaceful and numerous people who speak the Madurese language with its dialect the Sumenap, occupy the island of Madura, divided from Java by a strait and form in some districts the bulk of the population on the opposite shores of Java, to which, depopulated by long wars for the past two hundred years, they have been emigrating.

In the adjacent island of Bali, which is small but fertile, well cultivated and populous, is the Balinese, with its ceremonial dialect and sacred language, and it is one of the most improved languages of the Archipelago.

The fourth language, which Mr. Crawfurd considers to have a strong affinity with the Javanese, is that of Lombok, a fertile and populous island, divided from Bali by a narrow strait. This is the termination in an easterly direction, of the group of tongues which begins with Sumatra. According to Mr. Logan, Javan has a much broader, more forcible asperate and primitive phonology than Malay, and the Javan group embraces Sundan, Maduran, (with its dialect Bawian) and Bali.

Borneo, is an island of about three times the extent of Britain. In 1824, out of the forty wild tribes in its interior, eight had adopted mahomedanism and the Malay language. Amongst these were the Dyak race of Sugalam who long since abandoned the cruel practice of head hunting. The many languages of this island belong to the same class of languages as the Malay, and Javanese and the aboriginal inhabitants of Borneo are all of the same race with the Malays and Javanese. The inhabitants are divided into numerous distinct tribes, each, it is stated, speaking a separate language, and Mr. Crawfurd has seen the names of at least sixty of these small nations who have no common name by which to distinguish themselves from the people of other regions. The greater part of the coast of Borneo is rather dotted than peopled by Malay settlements, according to the Malays themselves, the result of migrations from Sumatra dating as far back as thirty generations. A small portion of the eastern coast is occupied by settlements of the Bugi of Celebes of more recent date. The aboriginal inhabitants are thus, in a great measure, locked up in the interior, and precluded from access to that commerce with strangers which might civilize them. The Malays and natives of Celebes, by their superior civilization and power, domineer over the rude aborigines, without, however, being able to penetrate into the interior, or to dispossess them of their land. Nine vocabularies have been collected, the most extensive by Mr. Robert Burns who resided there, and it is that of the most numerous, advanced, and powerful tribe in the island, *the Kayan* or Kyan, whose possessions extend from the northern to the southern coast. No native tribe of Borneo has ever invented letters. The Kyan tribes in the interior, on the Kapuas, are said to be cannibals eating the flesh of their enemies. They prize heads like the Dyak race. They carry spits in the scabbards of their swords. The Dyaks of Jang-kang also are said to be cannibals. They live between Sangow and Sadong, on the Sakiam, a branch of the Sadong river. The Jang-kang people eat Malays or Dyaks or any one else whom they kill in war, and they kill their own sick if near death and eat them. Whilst a party of this people were staying at Sang-kang, one of them fell out of a mango tree and broke his arm, besides being otherwise much hurt, and his companions cut his throat and ate him up—(*Voyage of the Mæander in J. I. Arch., April and May* 1853.) The Jang-kang Dyaks are said to eat only the tongue, brain, and muscles of the leg. The men of this tribe file down their front teeth to a point, like the teeth of a saw. They

cut off their beards. There are numerous Dyak tribes settled on the Kapuas river, the principal stream on the west coast of Borneo and which is supposed to take its rise in the Batang Lupar range. Almost every tribe has its distinct language. All the houses in a Kampong are erected on posts ten or twelve feet high and are all under one roof, with only a slight partition separating the families. Dyak, in Malay Dya, is a term applied to the aborigines of Borneo, the Malay settlements being on the coasts. The Sultan resides at Brunei on the N. W. coast. The Dyaks live far inland and are divided into numerous tribes under separate chiefs, and until lately were constantly at war with each other and with the Malay settlers. In complexion, shape and features, they resemble Chinese. They are more muscular than the Malays of Borneo. They subsist on the natural products of the forests, wild roots, fruits, &c. and obtain rice in their forays. The Malays build their houses 18 or 20 feet high to avoid the Dyak spears. The Dyaks in their forays descend the rivers in the ebb tide and surround a village at night and rush on it plundering and slaying, set it on fire and return with the flood with their plunder and the heads they have acquired. These are smoked and hung up in their houses from the rafters, where sometimes 100 heads are to be seen suspended. A man could not obtain a wife until he had slain a few people and could show a head or two. They use the spear, bow, shield, club, and sumpetan with poisoned arrows, but those near the coast have fire arms. A few tribes have settled in the Malay villages, and have become civilized and evince gentleness and kindness in their manners.—*Jour. Ind. Arch.*

In Celebes, the Trans-Javan or Timorian band, and the Moluccas, is a large and important class of Indonesians, who graduate between the Anam type, the Burman and the Negrito. The most prevalent head or that of the predominant race is ovoid, but it is somewhat Burman in nose, eye and colour. The great island of Celebes may be considered the centre of a group of languages, which, although agreeing with those heretofore described, in simplicity of grammatical structure, differs very widely from them in phonetic character although spoken by the same race of men. Celebes is intersected by the equator, leaving a small portion of it in the northern and the mass in the southern hemisphere. Its greatest length is about 500 miles, but its greatest breadth does not exceed 100; and in some places it is hardly one-third of this width. Celebes may be considered to be the focus of an original and independent civilization which probably sprung up amongst the most advanced of the nations which occupy it, called by themselves Wugi, and by the Malays, and after them by Europeans, Bugi or in the plural Bugis. In material civilization the Bugi are equal to the Malay.

Of the languages of Celebes, the next in importance to the Bugi is the Macassar. The people who speak this tongue inhabit the same peninsula. They call themselves and their language Mankasara, and hence the Makasar or Mankasar, of the Malays, whence our name. Besides Bugi and Macassar, the two principal languages, there are three other languages of Celebes written in the same character, or, at least, occasionally written in it; the Mandar, the Manado, and the Gorongtalu. The Mandar is spoken by a people on that side of the south-western peninsula, which fronts Borneo.

The island of *Sumbawa*, the third in a direct line east of Java, about three times the extent of Bali or Lombok, and divided by a deep bay into two peninsulas, has three languages, the Sumbawa, the Bima, and the Tambora. The natives of Sumbawa are little inferior in cultivation to the most improved nations of Celebes. The Sumbawa and Bima languages are written in the Bugi character, but there exists in this island a singular and curious obsolete alphabet. It is ascribed to the Bima nation, but the characters do not generally correspond with the simple sounds of the Bima language as exhibited in the specimen given of it.

The large island of Flores, the fifth in a line east from Java, due south of Celebes, and of volcanic formation, affords the first example of a race of men seemingly intermediate between the Malay and Papuan, or Negro, but partaking far more of the physical form of the former than of the latter. The complexion is a good deal darker than that of the Malay, the nose flatter, the mouth wider, and the lips thicker. The hair is not lank as in the Malay; but buckles, without frizzling as in the Papuan. The stature is the same as that of the Malay, that is short and squab. According to the statements made to Mr. Crawfurd by Bugi traders, themselves settlers in the island, Flores is inhabited by six different nations, speaking as many different languages; the Ende, the Mangarai, the Kio, the Roka, the Konga, and the Galeteng, names derived from the principal places of their residence.—*Crawfurd's Malay Grammar and Dictionary, Vol. I. p. xciv.*

Timur is a word which means the east, and was probably imposed on this island by the Malays, to whose language it belongs, because this was the extreme limit of their ordinary commercial voyages to the south-east. Timur is about three times the extent of Jamaica. Its principal inhabitants are of the Malayan race, but it contains also Papuans or Negroes, and tribes of the intermediate race. The two languages of Timur are the Manatoto and the Ti-

muri, the first spoken at the north-east end of the island, and the last used by many of the tribes as a common medium of intercourse. No alphabet has ever been invented in Timur; but judging by the specimens of its languages, the vowels are the same as those of the Malay and Javanese.

From Timur to New Guinea, there runs a long chain of islets, forming, as it were, a wall or barrier to the south-eastern portion of the Archipelago. In these islets the inhabitants are of the same race with the Malays, and speak many languages. By far the most ample and authentic account of them has been given by Mr. Winsor Earl, who, after a long experience of the countries in which they are spoken makes the following observations. "In the south-eastern parts of the Indian Archipelago, where opportunities of social intercourse between the various petty tribes are of rare occurrence, every island, every detached group of villages, has its own peculiar dialect which is often unintelligible, even to the tribes in its immediate neighbourhood. In some of the larger islands, Timur, for example, these tribes are so numerous, and the country occupied by many of them so extensive, that it becomes impossible to form even an approximate estimate of their number." Of one language, the prevailing one, among several languages of the island of Kisa, one of the Sarawati group in the chain of islets already mentioned, Mr. Earl furnished a vocabulary of 330 words. The Kisa is an unwritten tongue, but its vowels are the same as those of the Malay and Javanese.

The Spice Islands in the Molucca and Banda seas, consist of many islands and numerous languages. Next to Java of which they form a sub-government, the Moluccas are the most important of the Dutch possessions in India. The islands to which this term is applied are Amboyna, Banda, Ternate, Tidore and smaller islands in their neighbourhood. The islands are small, volcanic, unproductive in grain, but fertile in fine spices. But the ruinous policy of the Dutch nation in their greed to secure a monopoly of this class of products, led them for years, to root up and destroy, at a great cost, often by force of arms, every nutmeg or clove tree not required for the production of that quantity of spices which they calculated they could dispose of. Rosingain, near Banda, was almost abandoned after the extirpation of its spice trees, its people emigrating to the neighbouring islands in search of a livelihood. The people are of the Malayan race, short, squab and darker in complexion than the Malays or Javanese. The Amboynese are of a middling height and well formed. They are gentle, very sober, brave, easily managed, and make good mounted and foot soldiers and a considerable number of them have embraced christianity. Banda is very unhealthy, and is subject to frightful earthquakes. When first discovered by Europeans, the inhabitants had made considerable advance in civilization, but one still much inferior to that of the Malays and Javanese. Sir Stamford Raffles has furnished specimens of three of the languages of this furthest east portion, viz., those of Ceram, correctly Serang, of Ternate, correctly Tarnati, and of Saparuwa, one of the Banda isles. Of the language of Ceram, nine of the words are Malay, two Javanese, 17 are common to these two languages. Ceram Laut is the great place to which the Bugi carry the Papuan slaves whom they steal from New Guinea.

The great group of the Philippines, although contiguous to the proper Indian Archipelago, differs materially in climate and the manners of its inhabitants. It extends over fifteen degrees from near latitude 5° to 20° N., and consists of many islands of which only Lucon and Mindanao are of great size. The bulk of the people are of the same tawny complexioned, lank haired, short and squab race, as the principal inhabitants of the western portion of the Indian Archipelago. The focus of the aboriginal civilization of the Philippines, as might be expected, has been the main island of the group, Lucon. This is a corruption of the Malay and Javanese word lasung, meaning a rice-mortar. The Spaniards are said to have asked the name of the island, and the natives, who certainly had none, thinking they meant a rice-mortar, which was before the speakers at the time, answered accordingly. In the Philippines are many separate nations or tribes speaking distinct languages, unintelligible to each other. The principal languages of Lucon are the Tagala, the Pampanga, the Pangasinan, and the Iloco, spoken at present by a population of 2,250,000; while the Bisaya has a wide currency among the southern islands of the group, Leyte, Zebu, Negros, and Panay, containing 1,200,000 people. Mr. Crawfurd tells us that it does not appear, from a comparison of the phonetic character and grammatical structure of the Tagala, with those of Malay and Javanese, that there is any ground for fancying them to be one and the same language, or languages sprung from a common parent, and only diversified by the effects of time and distance, and that an examination of the Bisaya Dictionary gives similar results.

The great islands of Mindanao, Palawang, and the Sulu group of islets, forming the southern limits of the Philippine Archipelago, contain many nations and tribes speaking many languages of which little has been published. Mr. Crawfurd, on the information

given by Mr. Dalrymple, informs us that even in the little group of the Sulu islands, a great many different languages are spoken, and he gives a short specimen of 88 words of one of those most current,

Sulu has for many years been the market where the Lanun and other pirates disposed of much of their plunder, and in former times itself was decidedly piratical. The mahomedan religion has made much progress in Mindanao and the Sulu islands, as has the Malay language, the usual channel through which it has at all times been propagated over the islands of the Indian Archipelago. Mr. Crawfurd remarks that whether the principal languages of the Philippines be separate and distinct tongues or mere dialects of a common language, is a question not easy to determine. Certainly, the phonetic character of the Tagala, the Bisaya, the Pampangan, and Ilоco are, sound for sound or letter for letter, the same. Words of the Malayan languages are to be found in the language of the aboriginal inhabitants of Formosa, or Taiwan; and as this large island, about half as big as Ireland, stretches as far north as the 25° of latitude this is the extreme limit in a northerly direction to which they have reached. The aborigines of Formosa are short in stature, of tawny complexions and lank hair. Although inhabiting a great and fertile island, affording to all appearance a fair opportunity of development, they never made any progress in civilization, and at present seem to live in a state of barbarism. They are thought by Mr. Crawfurd to belong to, or much to resemble, the brown complexioned race of the Archipelago of whom the Malays are the type.

The islands of the Pacific extend from the east of New Guinea and the Philippines, to within two thousand five hundred miles of the western coast of America, and from about the 22° of north to the 47° of south latitude. The languages spoken over this vast area are, probably, nearly as numerous as the islands themselves. The language, with variations, is spoken by the same race of men from the Fiji group west to Easter Island eastward, and from the Sandwich islands north to the New Zealand islands south. It has been called the Polynesian. The whole number of Malayan words in the Maori dialect of the Polynesian. as they are exhibited in William's Dictionary, only amount to 85.—*Crawfurd Malay Gram. and Dic. Vol. i. pp.* 1, *to cxli. Mr. Logan in Journals Indian Archipelago from* 1848 *to* 1858.

Notwithstanding the numerous languages in the Archipelago, the written characters are only eight or at most nine in number. The Javanese alphabet like all others in the Archipelago is written from left to right, each letter is distinct and unconnected, and the writing is perpendicular and not slanting. It is the character used for the Javanese proper, the Sunda, the Bali, and it is believed the Lombok and including Palembang in Sumatra, it is current among twelve millions of population. But in prior times, other characters to the extent of twelve in number, have prevailed in Java.

In Sumatra, beginning from the west, the first evidence of a native written character is among the Batak, and it is singular that a nation of cannibals should possess the knowledge of letters. There was assuredly nothing of the kind in Europe or continental Asia until long after men had ceased to eat each other. The form of the Batak letters is horizontal.

The Korinchi alphabet, among the people of this name in Sumatra, who border on Menangkabau, has 29 characters and consists of horizontal or slightly raised scratchings.

The Rejang, is the alphabet of Lemba and Pasummah on the western side of Sumatra. It consists of 23 substantive characters, formed of upright scratches or strokes, and on the whole it is more complete than either the Batak or Korinchi.

The Lampung nation, which occupies that portion of the south-western side of Sumatra which lies opposite to Java, divided from it only by the straits of Sunda, has its own peculiar alphabet, which consists of 19 substantive letters with double or treble consonants making them up to 44. It has a great deal of that angular, linear, and meagre form which characterizes the other Sumatran alphabets.

The Achin and Malay of Sumatra are written in the Arabic character.

The Bima alphabet formerly in use amongst the Bima people in the island of Sumbawa, east of Sumatra and Java, has now given way to the alphabets of the Celebes.

In Celebes, are two distinct alphabets, one of them the Bugi, at present in use over the whole island, and which extends to Bouton and Sumbawa and wherever the Bugi nation have settled or colonized. The modern Bugi has 23 substantive characters consisting mostly of small segments of circles; running horizontally. The Bugi letters have no resemblance to those of Sumatra, or Java, or even to the obsolete alphabet of Sumbawa. The other alphabet of Celebes, is now obsolete.

The ninth and last alphabet of the Archipelago is the Philippine, that of the Tagala nation of the great island of Lucon or Luconia, and consists of 13 characters. It is the only one existing in the whole of this group, and seems at one time to have been used among the civilized tribes of the neighbouring islands having spread even to Magindanao and Sulu. The forms of the letters are rather bold and

more complex than that of the Sumatran alphabets.

In the Archipelago, thus, are nine distinct alphabets, every one of which appears to be a separate and a native invention. But they are not only distinct from each other, they differ equally from all foreign alphabets. They are the produce of five large islands only, out of the innumerable ones which compose the Archipelago. The most fertile and civilized island, Java, has produced the most perfect alphabet, and that which has acquired the widest diffusion. The entire great group of the Philippines has produced, and that in its greatest and most fertile island only, a single alphabet; even this one is less perfect than the alphabets of the western nations, in proportion as the Phillippine islanders, when first seen by Europeans, were in a lower state of civilization than the nations of the west of the Archipelago.

The Malayan peninsula and Borneo, extensive as they are, have never given rise to an indigenous civilization, sufficient to raise their inhabitants beyond the condition of small and miserable communities, and hence no indigenous alphabet can be traced to them. Their more civilized inhabitants are invariably stranger emigrants. This must be owing to the absence of a certain kind of fertility in the land, available to the rude and feeble efforts of a native industry, such as elsewhere give rise to a concentrated population, to leisure and to letters.

No kind of native writing can be traced to the Spice Islands which, notwithstanding their rich native productions, are incapable of yielding corn, iron, or cattle, the rough staples of early civilization, and without the presence of which, letters have never been invented or existed. In the great island of New Guinea, with its savage negro population, and with the same deficiencies, the presence of any kind of writing is not reasonably to be looked for.

No trace of a written character has been found in the wide extent of the islands of the Pacific. Most of them are probably too small to have furnished a population, at once sufficiently numerous and concentrated, to generate the amount of civilization requisite for the purpose. In the great islands of New Zealand, with their comparatively energetic race of inhabitants, the discovery of letters would, most probably, have been made, as among some rude nations of Sumatra, had the civilization necessary not been precluded by the absence, as in the smaller islands, of the larger animals for labour, and of all the cereal grasses for food.—*J. I. Arch. Dec.* 1848, *p.* 774.

The *Ladrones* were the first islands seen by Magellan. From these he sailed to the Philippines where, in the island of Mactan near Zebu, he was killed, as also was Barbosa. Magellan's companions then visited Timor in 1522 and returned to Lisbon, making the first circumnavigation of the globe. Of these islands the grand Ladrone, called by the Chinese Tyman-Shan, is in latitude 20° 56′ N. longitude 113° 44′ E. 12 miles east of Macao and 29 miles east of Canton factories. It is steep and bold and 2 miles in circumference. On its west side is the Little Ladrone. The Ladrones or pirates who infest the Archipelago consist wholly of the inhabitants of the free mahommedan states in Sumatra, Lingin, Borneo, Magindano, and Sulu; those natives who have remained uncontaminated by the doctrines of the Arabs never being known to engage in the like pursuits. The Europeans who were unfortunate enough to fall into their hands were generally murdered, while the natives who compose the crews of the captured vessels are sold for slaves. The term is of Portuguese origin and is applied by the Portuguese to the Chinese pirates, who commenced to gain power by the close of the 18th century.—*Mr. Earl, p.* 42.

Adi or Ai Island, near New Guinea, is the Pulo Adi of the Malays, Wessels Eylandt of the Dutch, and is in Lat. 4. 19′ S. Long. 143° 47′ E. (East Point) Modera, is about 25 miles in length lying to the N. N. E. of the great Ke, distant about 60 miles, and is the south-westernmost of a group of high islands which, until lately, were considered as forming a part of New Guinea. The inhabitants are Papuans, and as they do not bear a high character among their neighbours, they are rarely visited except by traders from Goram and Ceram Laut, who have found means to conciliate them. The sea is unfathomable at a short distance from the island, but there are several indifferent anchorages on the north side. No vessel should attempt to visit the island for purposes of trade without previously obtaining a pilot at Goram, who will also act as interpreter, the natives not being acquainted with the Malayan language. Wild nutmegs, trepang and tortoise-shell are to be obtained here, but not in sufficient quantities to tempt a European vessel to visit the island for purposes of trade, particularly as these articles can be obtained more readily at some of the adjacent ports of New Guinea. Red calico, parang or chopping knives, coarse cotton shawls and handkerchiefs, with iron, Java tobacco, muskets and gun-powder, are the principal articles in demand. The chief traffic is in slaves which are distributed among the neighbouring islands of the Archipelago, and are sometimes carried as far as Bali and Celebes. This probably accounts for the deficiency of other articles of export. Pulo Adi is separated from the large island of which Cape Katemoun forms the S.

W. extremity, by a strait 8 miles wide, which seems to be full of dangers, and should only be ventured upon with the greatest caution.—*Jour. Ind. Arch.*

Gelbe, is an island between N. Guinea and Gilolo, in the Eastern Archipelago, and not far from Gilolo. It is occupied by the Negro-race, with nose flat: the lips thick and projecting, the complexion a dark olive, the eyes deep seated, and, on an average the facial angle 77°, but as high as 81°. In Gebbe and Waigiou and in some parts of the coast of N, Guinea the complexion is lighter and the peculiar texture of the negro hair is absent. M. Du Perry and M. Preycinct have thus described the negroes of Gebbe. In Gebbe, Waigiou and in some parts also of the coast of New Guinea, the Malayan race may have become intermixed with the negro, as the complexion is lighter and the peculiar texture of the negro hair altered or obliterated. The language spoken at Waigiou is entirely Papuan being that which is used on all the coasts of Mysol, Salvatty the N. W. of Guinea and the islands in the Great Geelvink Bay Waigiou, Guebe, Poppa, Obi, Batchian between New Guinea and the Moluccas as well as the South and East peninsulas of Gilolo possess no original tribes but are inhabited by people who are evidently mongrels and wanderers.—*Wallace*, II. 216 and 217.

Japan. Sir J. F. Davis thinks, that the Japanese resemble their Chinese neighbours:—"They go as far as they dare, until a check occurs. The Japanese language is much mixed with Chinese. It is not monosyllabic but agglutinative, supplying subfixes to modify the idea. The priests of the buddhist religion employ the Chinese, but their poetry is in the pure Japanese. There exists among them both the Mongolian and Malayan types, and it is not improbable that a wave of Mongols has passed over the primitive Malayan race of the country and left the two races now inhabiting it. The Japanese at present therefore seem to be of two or three races. The United States' expedition, from analogies in the language, formed an opinion that they are of the Tartar family. Mr. C. F. Fahs regards the people of Luchu as identical with the Japanese, and asserts that they have many characteristics which distinguish them alike from the Malay and Chinese—such as the absence of the long angular form of the internal canthus and the presence of a thick black beard. Dr. Prichard considers the Japanese to belong to the same type as the Chinese, but Dr. Pickering maintains that they are Malayas—while Dr. Latham follows Siebold in regarding them as of two distinct types of physical formation. The prevalent belief is that there are three types of people, in Japan, —the field labourers have broad faces, brown hair, with an occasional tinge of red; flat noses, large mouths and a comparatively light complexion. The fishers of the sea coast have prominent features, with their noses inclining to the aqualine: hair black and crisp, wavy with a tendency to curl. The nobles are majestic in deportment and more resemble Europeans. One of the races is described as having an oval head and oval face, rounded frontal bones and a high forehead, with a mild and amiable expressions of countenance. The complexion is light olive with eyes slightly oblique, large and animated, long eyelashes, and clustering eyebrows, heavy and arched, the cheek bones are moderately prominent, chest broad and largely developed. In Siam one of these races of the Japanese are the most esteemed for their courage, and the kings of Siam have always employed them as their principal force in preference to the Malays. It would seem that the Japanese of all classes, look upon their wives as upon a faithful servant; a Japanese is never known to beat his wife. It is a custom amongst some Japanese to take a woman a few weeks on trial before deciding upon whether to marry her or not. The Japanese marriage ceremony is very simple. The bride and bridegroom drink wine with each other three times, exchanging cups with each other every time, in the presence of a few select friends; after which the young lady gets her teeth blackened, and she is married, for better and for worse. *Manfarlane. Geo. and His. of Japan, p.* 110. See *Bowring's Siam, Vol. I. p.* 97.

Galapagos Islands, almost every indigenous living thing is peculiar to them. Admiral Fitzroy mentions that while one side of them is covered with verdure, the other aspects are barren and parched.—*Wallace, p.* 10.

Beyond the Fiji the brown Polynesian race or some intermediate type extends over the Pacific. The descriptions of these latter, agree exactly with the characters of the brown indegenes of Gilolo and Ceram.—*Wallace*, II. 277.

The population of the Sandwich Island about 75,000 or 80,000 is now in a very different condition from what it was thirty years ago, the inhabitants, from having been wild and uncivilized, are now all nominally christians. The male population are a good height, athletic, and well proportioned; but neither men nor women are prepossessing in appearance although they have the reputation of being good tempered and not easily aroused into anger. The ruins of an old temple are still to be seen about six miles from Honolulu, near Diamond Hill. It is said to have been built by Ka-me-ha-meha the first, after the conquest of the island. It is called Heiau. Here, in the days of heathenism, were offered human sacri-

fices. The victim was chosen either by the priest or king. The messenger of death entered his abode while he slept, and he met his end by strangling. He was then dragged off as an offering to the sanguinary god. *William's The Cruise of the Pearl, pp.* 34-41.

The Loochoo or Lieucheu Islands, lie to the N. E. of the Patchu group and consist of one large island surrounded by smaller ones, the large island being of considerable size and well peopled. It extends from lat 26° 3′ and 26° 53′ N. and long. 127° 34′ and 128° 25′ E being 58 miles long and about 10 or 12 miles broad. In language and physical form, the Luchu islanders resemble the Japanese, their buddhism being more imperfect and their manners more simple. The people in the small islands between the Luchu group and Formosa, are Japanese rather than Malay.—*Dr. Latham's Ethnology.*

Formosa Dr. Collingwood (*Trans. Ethn. Soc. N. S. Vol. vi. p.* 139 speaking of the Kebalan of Formosa, to whom he showed a copy of the 'Illustrated London News,' tells us that he found it impossible to interest them by pointing out the most striking illustrations, with they did not appear to comprehend. *The Formosa*, people are called by the Chinese Tai-lokok, their hair is short and fringed on the forehead; behind it hangs loose. The language of Formosa or Tai-wan according to M de Rosner appears to be a branch of the Oceanic.—*Adams, p.* 240.

Corea, Korea; *Kao-li*, is the Chinese name of Corea. The people use rice, barley meal flour of millet. The Koreans were driven out of East Tartary into the peninsula which they now occupy. They have since been conquered by the Japanese. Their country was subsequently invaded by the Mongols, on which occasion the Siogour Yoritomo defeated Kablai Khan. *The Koreans*, have flat faces, oblique eyes, broad cheek-bones, strong black hair, and scanty beard, they are strongly made, their skin varies from tawny or yellow to brown, wheat or straw color, and reddish yellow. They have a mixture of the Chinese and Japanese physical features. Their religion is buddhist; their alphabet and language differ from the Chinese. The Mantchu call the Koreans Solgo. There exists probably two populations intermixed.—*Latham. Adams.*

Tungus, a general name applied to a population common to a vast area in Siberia and China. Their physiognomy connects it with the tribes of Northern Asia in general, and their language forms a transition between the monosyllabic and agglutinate forms of speech. The Tungus, under the name Mantshu, constitute the dominant population of China itself. The tribes under Chinese rule, in Mantshuria, on the watershed of the Amu or Sagalin, are termed Mantshu. The Mantshu proper have a literature with an alphabet modified from the Mongol. They are agricultural and industrial.

Daurian, a Tungus race dwelling on the Upper Amur, all well made, especially the women. The secretaries of the mandarins who are sent to this part, are privileged by a letter from the khan to select any women or young girls whom they may fancy, whenever love prompts them. Mr. Ravenstein says that he frequently was present when the best looking were taken away in a cart. Some men whose wives had been selected in this manner consider it a special favor to have such fine gentlemen as brothers in-law. Others, though discontented are compelled to conceal their chagrin for fear of punishment and disgrace.—*Latham Ravenstein's Russians, p.* 365.

Seghalin, Seghalien or *Tarakai*, long believed to be a peninsula, is an island lying between 54° 24′ and 45° 54′ 2″ N. L, and E. L. 141° 40′ and 144° 46. It is about 600 miles in length and from 20 to 100 broad. It is well wooded and fertile, and coal is found in many places, especially about Jonquiere Bay. Two-thirds of the northern part belong to Russia, and is peopled by Ghilak.

Aino.—The aboriginal races of Yezo, whose severe treatment by the Japanese, has led them to other countries. They occupy the southern part of the island of Seghalin, which is in possession of the Japanese. The Aino are of short stature with broad faces of the Mongol type. They are a timid race, their limbs are hairy, they have bushy beards and long tangled hair, large heads and clumsy figures, the expression of their faces is that of good nature combined with stupidity. According to M. Rosney their language is dissimilar to Japanese, and that spoken in the Kuriles and in the island of Yesso, are also different from Japanese.

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